Critical Release Notice

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

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

Bookmark Color Legend

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

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

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

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

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

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

Publication History

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

December 2004

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

Volume 1-12
No changes

Volume 13
Added Virtual Office Worker (VOW) by A00002011

Volume 14-16
No changes

Volume 17
Universal Access to Call Forwarding (UCFW) changes to AMA billing by CR Q00982215

Volume 18-23
No changes

Volume 24
Added OSSAIN XA-Core Data Messaging Capacity Enhancements by A00005160

Volume 25
No changes

September 2004

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

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

Volume 2-3
No changes

Volume 4
Modified – Datafilling Trunk Signaling (ISUP Hop Counter) by CR Q00760514-10

Volume 5-10
No changes

Volume 11
Modified – Datafilling MDC Minimum (Call Pickup) by CR Q00879738

Volume 12
Modified – Datafilling MDC MSAC (Do Not Disturb) by A00002196

Volume 13-15
No changes

Volume 16
Modified – Datafilling ACD Base (Base automatic call distribution) by CR Q00812364

Volume 17
Modified – Datafilling RES Advanced Custom Calling (900 FP) by CR Q00834222
Modified – Datafilling RES Advanced Custom Calling (CSMI) by CR Q00683891
Modified – Datafilling RES Advanced Custom Calling (CWAS) by CR Q00891675-01
Modified – Datafilling RES Advanced Custom Calling (Enhanced CSMI) by CR Q00683891

Volume 18
No changes

Volume 19
Modified – Datafilling RES Service Enablers (SLE) by CR Q00760256

Volume 20
Modified – Datafilling Emergency Number Services (E911 Wireless ALI Interface) by CR Q00856825

Volume 21-24
No changes

Volume 25
Modified – Datafilling Unbundling (UNBN OPTRANS and EA) by A00002765

March 2004

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

Volume 1- 9
No changes

Volume 10
Changes due to CR Q00757372, which clarifies the applicability of the AUDTRMT option. The changes are in sections:

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

Volume 11-16
No changes

Volume 17
Modified - Call Screening, Monitoring, and Intercept (CSMI) for Q00659151
Modified - RES Simultaneous Ringing for Q00715967.
Modified - Usage Sensitive Three-way Calling (U3WC) for Q00703423-03.

Volume 18
Changes to Chapter 1 - Datafilling RES Display Functionality and Privacy, Anonymous Caller Rejection (ACRJ) as follows:

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

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

Volume 19
Changes due to CR Q00735537, which shows the interaction of various services with SOC RES00011. The changes are in Chapter 1 – Datafilling RES non-display services, and the affected services are:

Distinctive Ringing/Call Waiting (DRCW)
Selective Call Acceptance (SCA)
Selective Call Forwarding (SCF)
Selective Call Rejection (SCJ)

Volume 20
Changes due to CR Q00757372, which clarifies the applicability of the AUDTRMT option. The changes are in section:

2 Datafilling Emergency Number Services, E911 PRI PSAP Delivery

Volume 21-25
No changes

September 2003

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

Volume 1
New - Panther support for third-party RMs
Modified - E911 trunk groups

Volume 2-11
No changes

Volume 12
Modified - Query Functional Station Grouping

Volume 13-14
No changes

Volume 15
Modified - VMX Interface

Volume 16
No changes

Volume 17
Modified - Call Screening, Monitoring, and Intercept (CSMI)
Modified - Enhanced CSMI
Modified - Long Distance Alerting
Modified - Long Distance Alerting Enhancement (LDAE)
Modified - Service Order Simplification for MADN Extension Bridging

Volume 18
Modified - Call Logging (CALLOG) Modified - Universal Voice Messaging
Modified - Voice Mail Easy Access (VMEA)

Volume 19
Modified - CMS AR Screening of Private Calls (CASOP)
Modified - In-Session Activation (ISA)

Volume 20
Modified - DMS Integrated E911 PSAP Functionality
Modified - E911 Incoming Wireless Calls
Modified - E911 Incoming Wireless Calls (MF)
Modified - E911 ISUP Parameter Enhancements

Volume 20 (continued)
Modified - E911 ISUP Trunking
Modified - E911 Tandem
Modified - E911 Translations Robustness
Modified - VFG Support for E911 (LOC and/or ISUP/ANI Call)

Volume 21-25
No changes

June 2003

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

New Critical Release Notice added.

Volume 1-25
No changes

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North American DMS-100

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LET0015 and up Standard 14.02 May 2001

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1 Introduction to Automatic Call Distribution

Understanding Automatic Call Distribution translations

Automatic Call Distribution (ACD) is a set of feature packages. The base of the ACD design is the Meridian Digital Centrex (MDC) software. This package provides call distribution from a DMS-100 central office. A single directory number (DN) is assigned to a group of answering positions and not to a single line. The ACD allows distribution of a large number of incoming calls to a group of available agent positions.

The ACD extends the abilities of the DMS-100 Uniform Call Distribution (UCD) feature. The ACD package adds supervisory positions and provides statistics of each agent to improve UCD features. Group and system reports are available. The ACD operates separately from UCD. The ACD does not depend on UCD software modules or datafill.

Supervisory abilities allow the supervisor to monitor the quality of service provided to incoming callers. These abilities allow the supervisor to perform the following:

- observe agents during call handling
- monitor the current status of each agent position
- display the status of the incoming call queue

The status of the incoming call queue includes the current number of calls in queue. The status of the incoming call queue includes the wait period of the call in queue the longest. The supervisor has access to ACD configuration and status information from a maintenance and administration position (MAP) terminal.

This document describes the four functionalities associated with ACD:

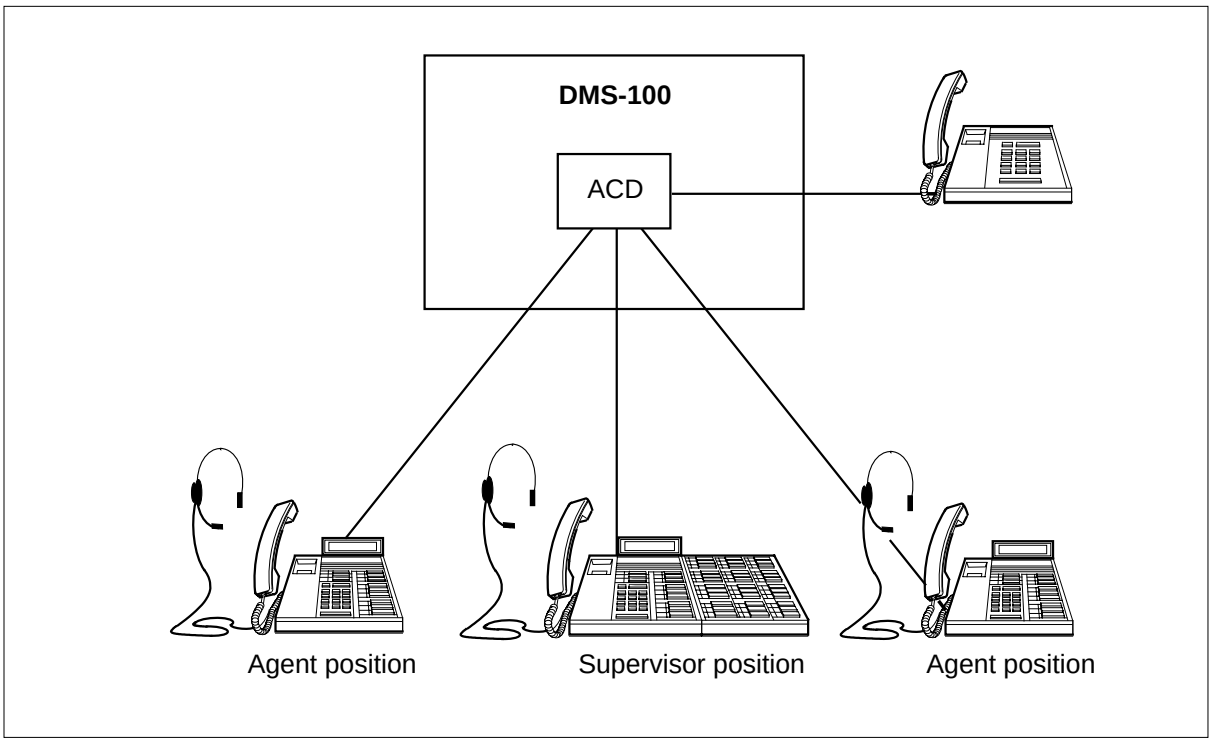
- Base ACD
- Network ACD (NACD)

- ACD Management Information System (ACDMIS)
- CompuCALL

Base ACD

The Base ACD is a set of feature packages that distribute large numbers of incoming calls. These calls are placed to a minimum of one central DNs in a fixed group of agent positions. The result is a call management system. This system is acceptable for service industries where a group of agents answer a large number of incoming calls. A sample Base ACD configuration appears in the following figure.

Figure 1-1 Sample Base ACD configuration



The Base ACD has the following abilities:

- call distribution
- load management.

Call distribution

The ACD distributes calls to agent positions on a first-in, first-out basis. To perform this operation, the ACD associates a minimum of one ACDDN with a group of agent and supervisor positions. An ACDDN is a primary DN and a maximum of 16 auxiliary DNs. This association forms an ACD group. In an ACD group, agent positions link to a supervisor position to form an ACD subgroup.

The ACD provides:

- the ACDDNs, which can receive large numbers of incoming calls at the same time
- equal distribution, where calls are distributed in an ACD group to the agent that is idle the longest
- call priority allocation and call queue handling, for use when all agents in an ACD group are busy
- queue size and wait time monitoring. When calls exceed maximum thresholds, the ADC can overflow incoming calls to other ACD groups, DNs, or to a recorded announcement
- agent-to-supervisor interconnection. Allows the following operations:
  - — agents can quickly call the immediate supervisor to assist in difficult conditions
  - — a supervisor can monitor an agent that answers ACD calls

Load management

The ACD load management provides the ACD administrator with the tools to manage the incoming call load and the available answering resources.

Management of the ACD load requires the following:

- performance monitoring to detect when adjustments are required
- up-to-date information on the current ACD configuration.
- the capability to implement necessary changes to the ACD configuration.

The following load management commands provide these ACD abilities:

- ACDSHOW
- LOADMGMT

The ACDSHOW and LOADMGMT commands allow the ACD administrators to use available ACD resources.

ACDSHOW commands. The ACDSHOW commands allow ACD administrators to display up-to-date data on the current ACD configuration.

Use the ACDSHOW commands to:

- monitor the current queue sizes and call-wait times for each group of ACD agents
- display the current ACD setup for ACD groups. This setup includes:
  - — agents and supervisors in each group
  - — call overflow routes
  - — threshold and night service routes
  - — audio group assigned to provide callers a recorded announcement before the reroute of the calls to the night service or threshold route
- verify the implementation of load management changes

LOADMGMT commands. The LOADMGMT commands allow ACD administrators to change the ACD setup. Administrators base this change on the information that the ACDSHOW commands display.

The LOADMGMT commands perform the following:

- reduce the current queue sizes and call-wait times for each ACD group. This action minimizes the loss or abandonment of calls while in an incoming queue.
- increase the current queue sizes and call-wait times to reduce the number of calls the system passes to overflow routes
- adjust the routes to which the system redirects calls when the destination group cannot answer the call. For example, when the group is busy or goes off duty. This ability makes sure that a loss of calls does not occur.
- reassign agents to other groups or subgroups to equalize the workload of specified groups
- reassign DNs from busy ACD groups to other groups that are not as busy, to provide faster service to callers
- change the announcement that an incoming ACD caller receives
- activate or deactivate the login ID of a single agent or to block login IDs

ACD directory numbers

An ACDDN is not a normal line DN, but a unique number to receive ACD calls. An ACDDN can be a correct DN to a maximum of seven digits in length, in the numbering plan of the user.

An ACD group has a primary ACDDN and a maximum of 16 auxiliary DNs. The primary ACDDN has two call priorities. Each auxiliary DN has a single call priority.

Call priorities. When the agents in an ACD group are busy, the system bases the queue of calls on priority. The system directs the call to the appropriate incoming call queue for that ACD group.

The ACD has four priority levels. These levels range from 0 for high priority to 3 for low priority. The determination of priority occurs through datafill.

- The system allocates one of two priorities to calls to a primary DN:
  - — line priority - allocated to local ACD calls. The ACD calls originate from lines that the DMS-100 Centrex switch serves.
  - — trunk priority - allocated to long distance ACD calls. The ACD calls are calls received over trunks from other switches. Trunk calls are normally entered for a higher priority than line calls. Local calls from trunks have the trunk priority.
- Calls to an auxiliary DN are allocated the single priority rating associated with that DN.
- Automatic priority promotion makes sure that low-priority calls are answered. The system always presents high-priority calls to idle agents before low-priority calls. A low-priority call can remain unanswered for a long time when there are many incoming high-priority calls. With automatic priority promotion, low-priority calls receive a promotion to higher priority queues after a specified time. The datafill defines the wait time.

ACD queues

Incoming calls to an ACDDN are queued according to the priority of the DN. The system distributes calls in a queue to ACD agent positions on a first-in, first-out basis.

ACD agent queues. In each ACD group, there are four queues of agent positions:

- idle - agents are available to receive calls
- busy - agents are engaged in calls
- not ready - agents are temporarily not available to receive calls
- make busy - agents activate the Make Busy key. Agents continue to be active on ACD calls.

Incoming call queues. Four incoming call queues are associated with each ACD group. The assignment of a different priority for each queue occurs. When agents are not available to answer the call, the system places the call in a queue. The system removes calls from a queue as agents become available. When calls are not queued, the agent idle for the longest time receives the incoming call.

The assignment of three thresholds to the queues associated with each ACD group can occur. The three thresholds range from 5 to 2400. These thresholds can represent the number of calls in the queue. These thresholds can represent the wait time of the call at the head of the queue. The user can monitor the queue thresholds through a Disp Queue key. Entry of the Disp Queue key occurs on an ACD agent set, a supervisor set, or the two sets.

Basic incoming call queue overflow. Base ACD provides the ability to reroute calls to an overflow route in the following events:

- when an ACD queue is full
- when calls exceed the parameters
- when all agents are logged out, as in night service.

Incoming calls can overflow to any of the following:

- another ACDDN in the same or a different customer group
- the DN of a non-ACD station in the same or a different customer group
- a trunk that goes to another ACD or private branch exchange (PBX) system
- a customized announcement
- a controlled interflow route

Time delayed queue overflow. Time delayed queue overflow allows calls that wait in queue to overflow to another ACD group. This process occurs after the expiration of a specified wait time.

Enhanced ACD overflow. The specification of a maximum of four ACD groups as overflow groups for one ACD group can occur. The same DMS-100 Centrex switch must serve the ACD group and the four overflow groups. This DMS-100 does not serve these groups when NACD is implemented.

When the incoming-call queue for an ACD group is full, this feature looks ahead to the next overflow group in table ACDRTE. The Ovflinq option is in table ACDGRP. This table controls the maximum amount of calls that the feature can place in the logical incoming queue. This option determines when the ACD group can handle the overflowed call. This option directs the call to an available agent. When an available agent is not available, the option directs the call to the logical in queue. The system routes the call to the first ACD group that can accept the call. The system system does not not attempt to send the call to all four groups. The call remains in the queue of the original group. The system logically places the call in the first group that has available agents or in queue slots. The system does not search additional overflow routes when the system places the call in one of the four overflow routes. The original ACD group or the ACD group that the call is logically queued in can answer the call.

When all of the ACD groups are not available, the system routes the call to the specified overflow destination.

The call can terminate on a group when:

- calls do not exceed the call queue threshold
- calls do not exceed the maximum call-queued wait time
- the group is not in night service

Single group call queues

A call can arrive at an ACD group when the agents are not idle. When this event occurs, the system places the call in the incoming call queue. The system places the call in accordance to priority and order of arrival. The amount of time a call is in the queue can affect the priority of the call. The size of the queue affects the priority of the call. The system removes calls from the queue as agents become available to answer the calls.

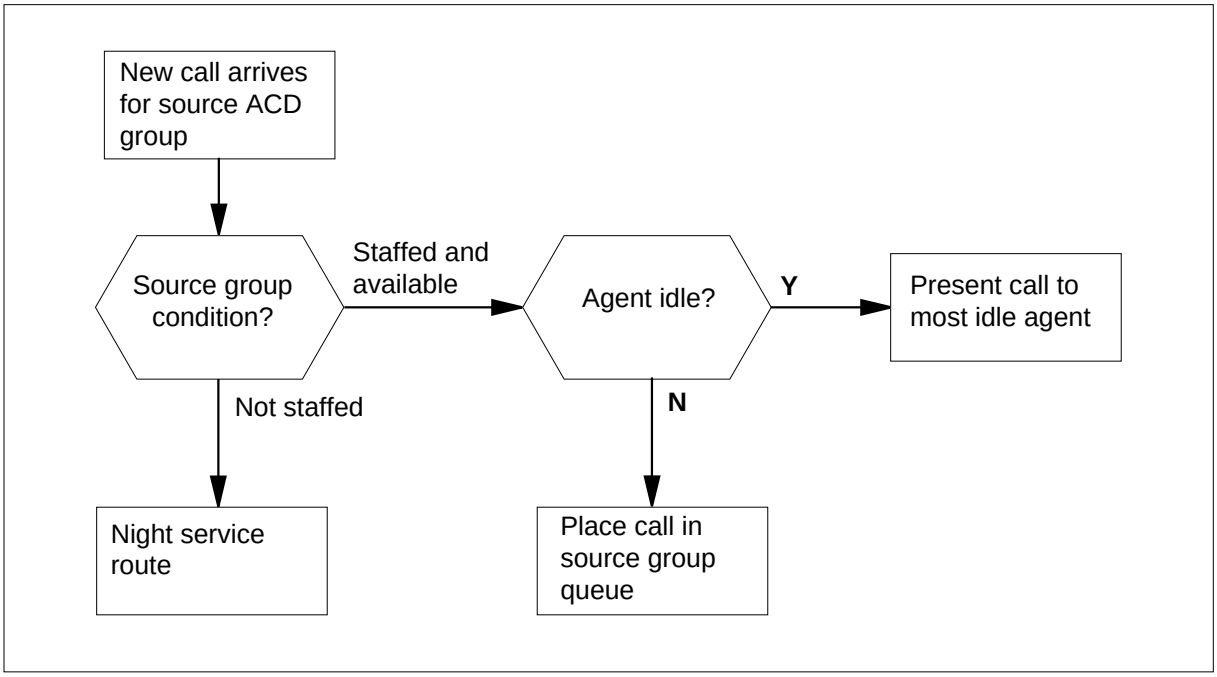
Basic incoming call queue overflow. Each customer can specify the maximum number of calls that the system can queue in the incoming call queue. The number of calls in the queue can exceed this limit. WHen this event occurs, the system routes additional calls to a another destination that the customer defines.

The customer can specify the maximum amount of time that a call must wait in the incoming call queue. The wait time occurs before an agent answers the call. The wait time of the call at the head of the queue can exceed that limit. When this event occurs, the system sends additional calls to the destination that the customer defines.

The following figure illustrates the basic incoming call queue. An overflow occurs when the calls exceed the maximum queue size or the maximum wait time. The system can route overflow calls to the following destinations:

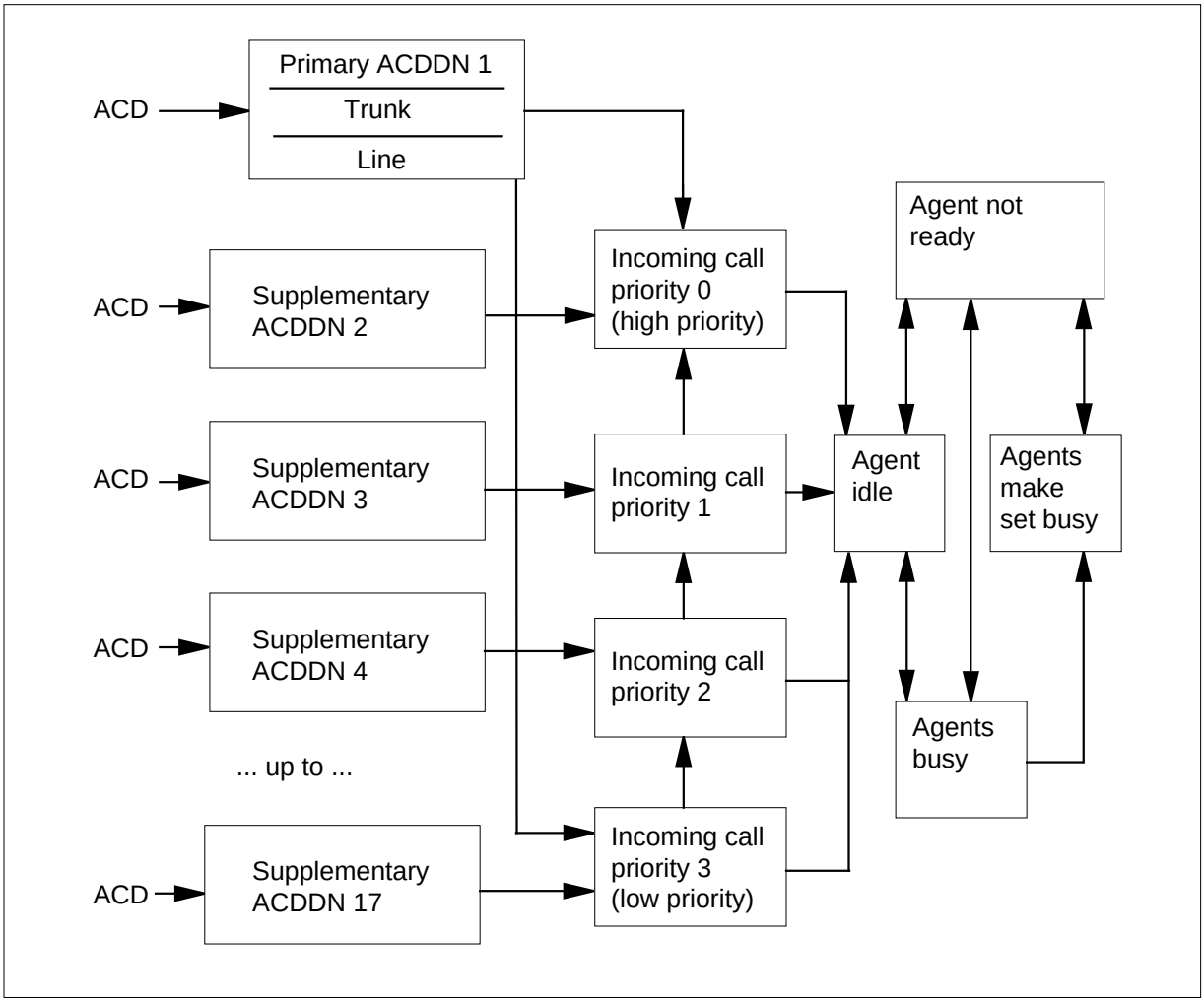
- another ACDDN in the same or different customer group
- the DN of a non-ACD station
- a trunk to another ACD system or PBX
- a customized announcement
- a busy tone

Figure 1-2 Basic incoming call queue



Priority promotion. Priority promotion advances the priority number of a call after a specified time. This action minimizes the time a call remains on the queue. Agents answer calls by priority and the order in which the system receives the calls. Agents answer high priority calls before the low priority calls. This priority sequence can increase the amount of time before an agent answers a low priority call. This event occurs even when the low priority call arrives before the high priority call. With the priority promotion option, all calls reach priority 0 when the agents do not answer the calls. A specified time limit is present for the agents to answer a call. When calls reach priority 0, the agents answer calls in the order in which the system calls receives the calls. The way the system assigns priorities to ACD calls appears in following figure. A description of how the priority promotion feature can increase the priority of a low priority call appears in the figure.

Figure 1-3 Priority promotion

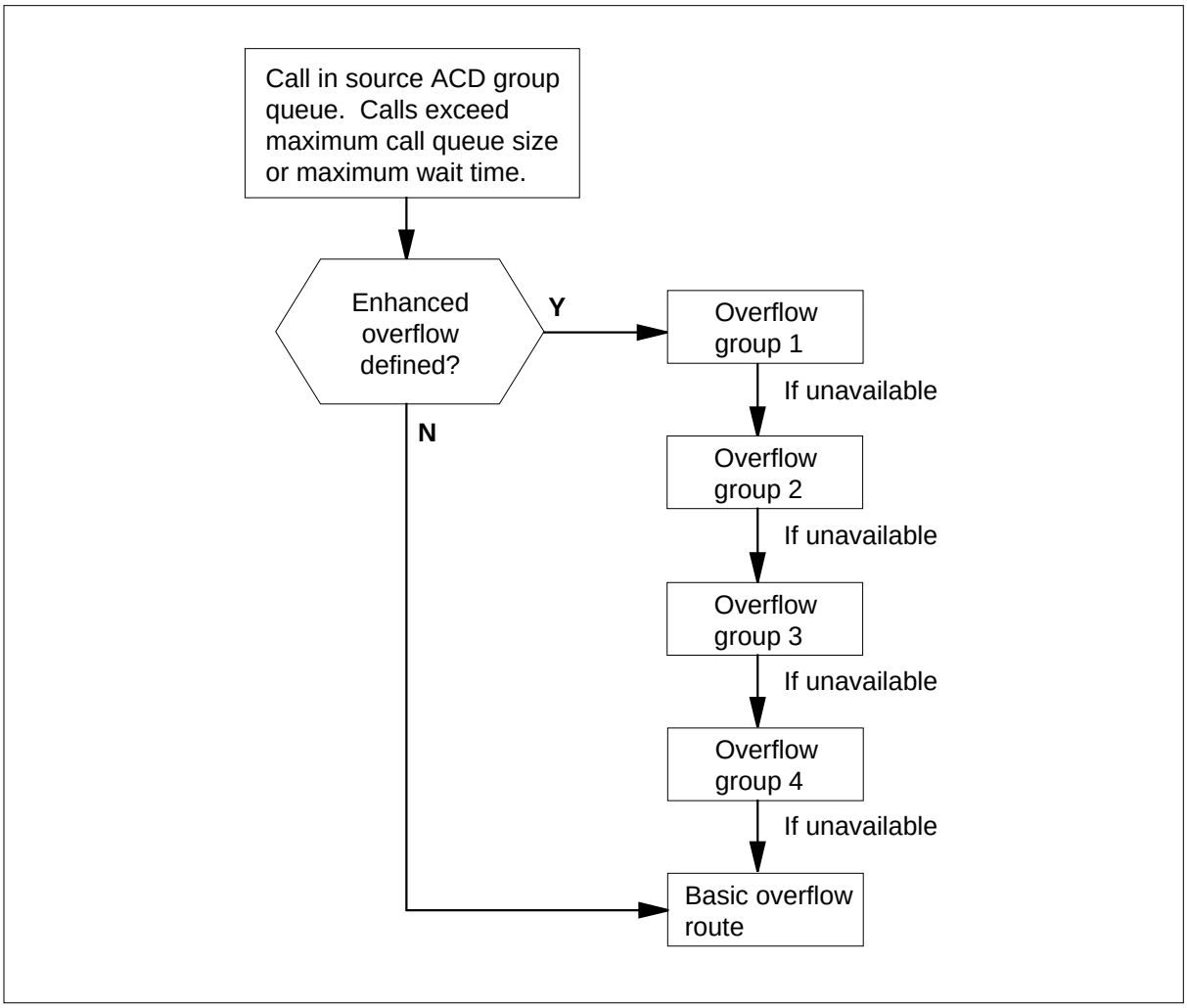


Enhanced queue overflow. Basic call queue overflow allows the system to route overflow calls to a single destination. Enhanced overflow allows the customer to define a maximum of four ACD groups as overflow groups. The system routes calls to these groups when calls exceed the maximum queue size or maximum wait time. The ACD overflow groups must reside on the same DMS-100 switch. When an overflow occurs in the incoming call queue, the switch examines each of the four overflow groups in order. The call terminates at the first group that has idle agents or that does not exceed the MAXCQSIZ or MAXWAIT time.

A call can terminate to an overflow ACD groups that has the time-delayed overflow option (TMDELOFL). When this event occurs, the call is subject to the time delay overflow route for that ACD group. This condition occurs when the time delay overflow timer expires.

A call that terminates at an enhanced overflow group carries the original calling priority. The enhanced overflow call queue appears in the following figure.

Figure 1-4 Enhanced overflow queue



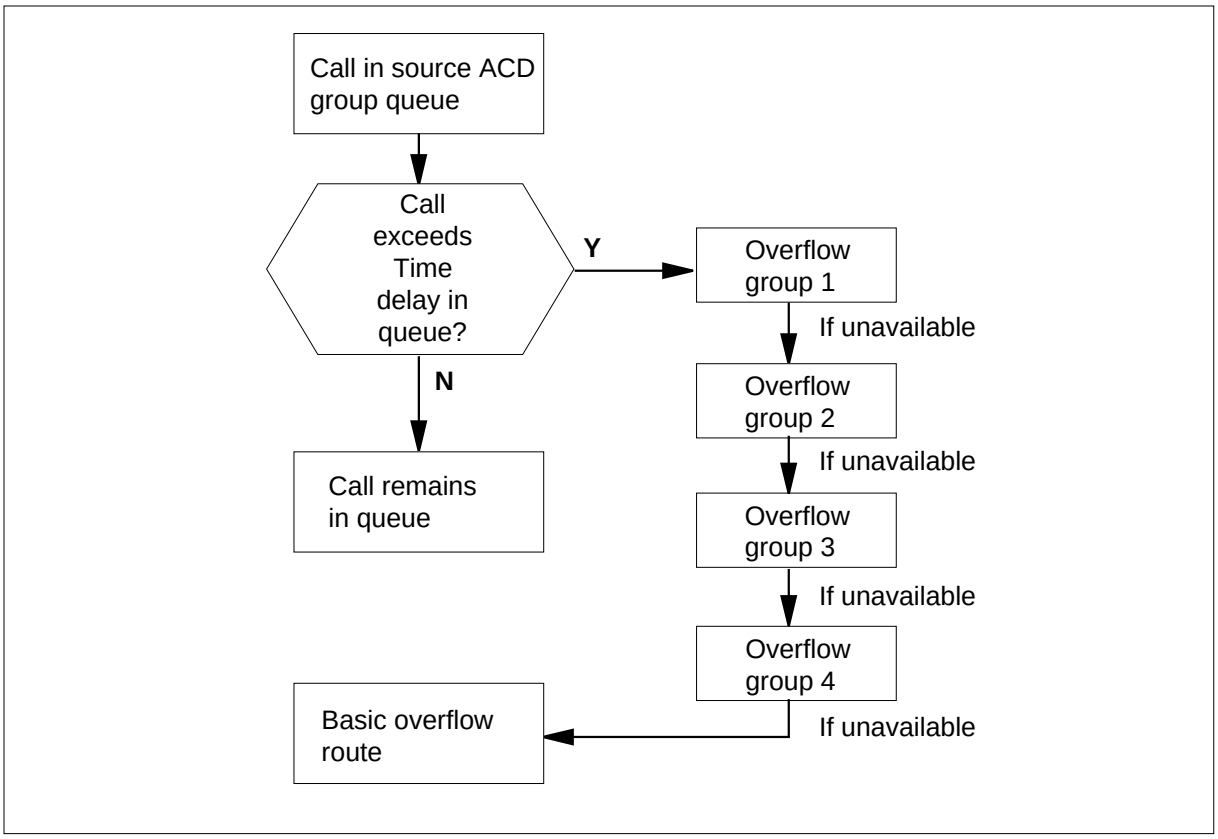
Time-delayed overflow queue. The time-delayed overflow queue allows a call that waits in queue to overflow. The overflow occurs after the specified time expires. Time-delayed overflow requires the enhanced overflow feature. This feature applies to the calls in the queue or priority 0 calls. The feature can apply to priority 0 calls. When this event occurs, the timing interval can be set to begin when the call enters the queue. The timing can be set to begin when the call reaches priority 0.

The time delay overflow timer can expire without agents or queue slots available in the overflow route. When this event occurs, the call remains in the original ACD group. One of the overflow ACD groups can have the overflow

in queue option (OVFLINQ). When this event occurs, the system can logically queue the calls on the ACD group. This action occurs while the calls remain queued at the original ACD group. A queue relates to the actual call, and a logical queue relates to a request to answer a call. The ACD group with the first available agent receives the call. The system can logically queue an ACD call in one overflow group.

When the system selects a call to overflow to another group, the original groups or the overflow groups can answer the call. The first group available determines which group answers the call. The time-delayed overflow call queue appears in the following figure.

Figure 1-5 Time-delayed overflow queue



NACD

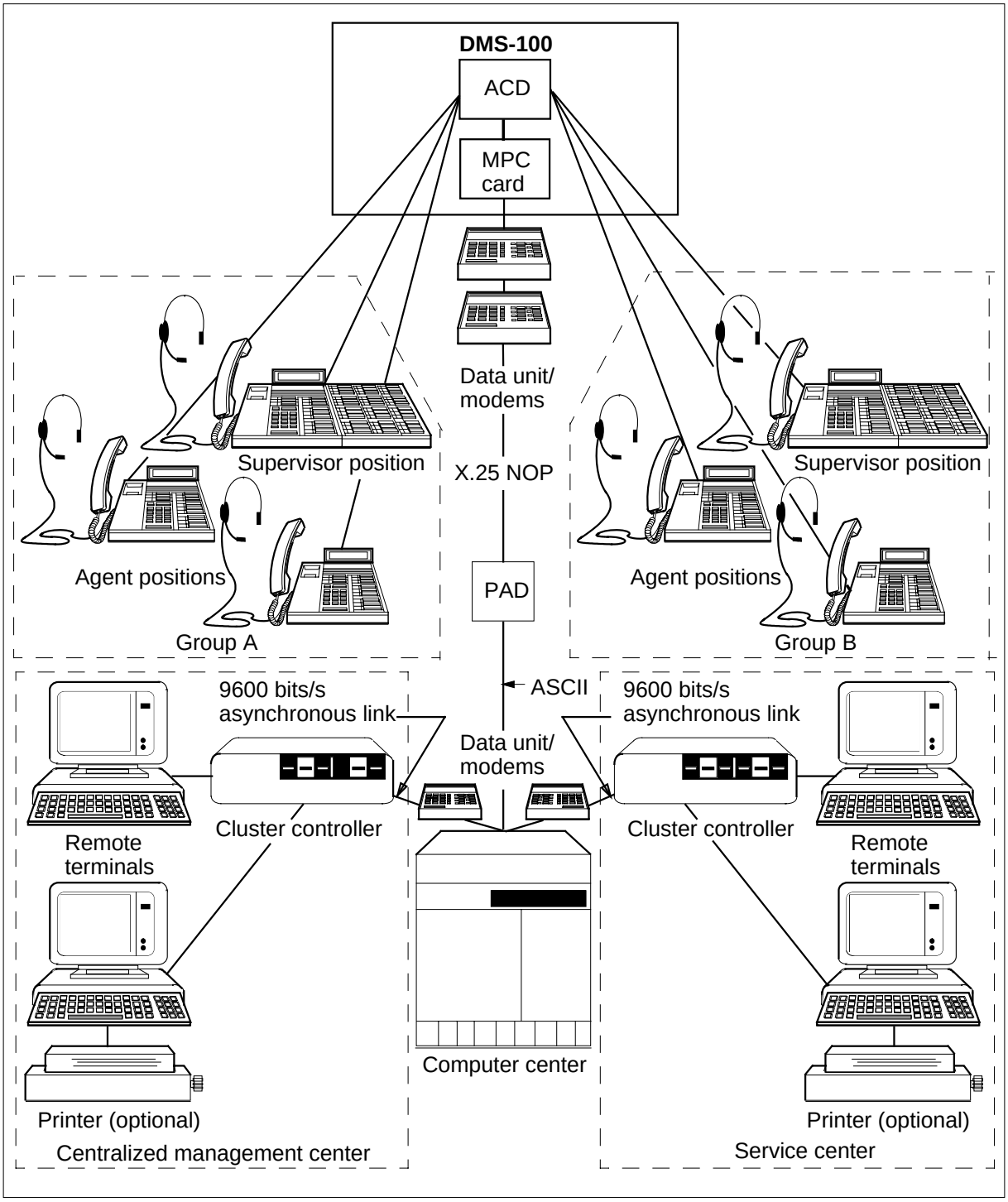
The NACD is a set of features that increases the power of ACD. With NACD, the ACD groups of a user can reside on more than one DMS-100 switch. The system presents calls to the queue that can answer the calls in the least amount of time. The system presents the calls in accordance with guidelines of speed versus cost. The user defines these guidelines.

The configuration of the NACD can be single-node or multinode.

Single-node configurations

The NACD configuration can be single-node for users with agents and callers that are near. The requirements of these users and exceed the capabilities that Base ACD software provides. For example, the user can require more than 1024 ACD groups. With NACD, a maximum of 49 ACD groups can be networked to create a supergroup with a maximum of 4000 agents. An ACD group has a maximum of 1024 agents each. A single network operations protocol (NOP) link handles the call processing messages that each of the ACD groups generates. This link occurs between the DMS-100 and the computer center. A single-node NACD configuration appears in the following figure.

Figure 1-6 Sample single-node NACD configuration

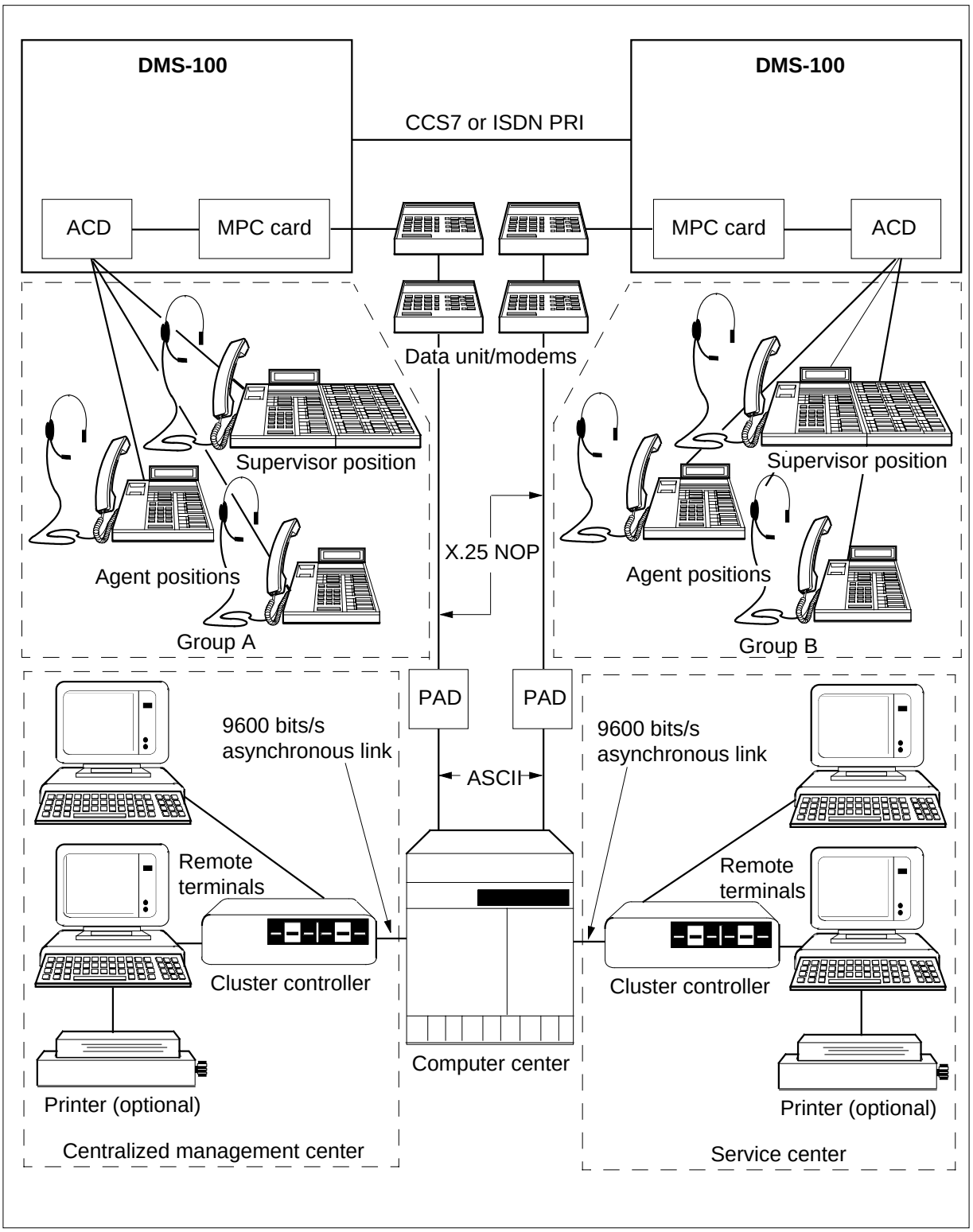


Multinode configurations

With multinode configurations, supergroups can allow over 12,000 agents. These agents can be in different locations. Different DMS-100s serve the

agents. The system treats agents as a single large group or as separate groups that provide overflow cover for one another. Each time a group receives a call, the DMS-100 that serves the group evaluates the state of all groups in the network. This process minimizes the transmission costs to route the call between switches. This process determines which group can answer the fastest. A multinode NACD configuration appears in the following figure.

Figure 1-7 Sample multinode NACD configuration



Call queues

The NACD allows real-time queue control with continuous adjustment. The ACD groups in a network can be on one DMS node or multiple DMS nodes. When this event occurs, each group is aware of the state of the other groups in the network. The DMS that owns the groups uses this information. The DMS uses this information to route incoming calls to the group that can answer in the least amount of time. The system routes these calls in accordance with transmission cost and answering speed guidelines that the user sets.

The system assigns priorities to NACD calls, with calls that come into a call handling group-one or multiple ACD groups.

Normal events in which the system handles calls follow:

- the system immediately routes the call to the best group. Additional networking does not occur.
- the system immediately routes the call to the best group, with the ability of additional networking when calls meet or exceed parameters. The user defines these parameters.
- the system directs the call to the source group. Additional networking can occur after calls meet parameters that the user defines.

> ***Note:*** Base ACD calls can overflow to other groups in the same DMS switch. NACD calls can overflow or network to other groups in other DMS switches.

Physical queue. The DMS-100 determines which group receives an incoming call. This group can be the called group. The system places the call in the physical call queue of that group until an agent is available.

Overflow out queue. The system overflows calls that wait beyond a specified time in the queue of one group to another group. At the expiration of the timer, the system logically places the call in the overflow out queue of the original group. While the call is in this queue, the DMS-100 searches for the next group to receive the overflow call. The call remains in the queue of the original group.

Overflow in queue. The DMS-100 determines the next group to receive the overflowed call. The system removes the call from the overflow out queue for the original group. The system logically places the call in the overflow in queue for the new group. The call remains in this group until an agent is available in the new group. The call remains in the queue of the original group. The call stays in this group until the first available agent in one of the two groups answers the call.

Elastic queue. The maximum number of calls in the incoming call queue for an NACD group cannot exceed the set values in the MAXCQSIZ (maximum call queue size) and the MAXWAIT (maximum wait time) fields. These fields are set in table ACDGRP. The following event is the exception to this limit.. An NACD group can reach the maximum incoming call queue size or maximum wait time. When this event occurs, the resource index (RI) is set to 0. This value is broadcast to the other NACD groups in the network. An NACD group can overflow a call to NACDGRP1. This event occurs after the call reaches the maximum call queue size or maximum wait time. An example of an NACD group is NACDGRP2. This overflow occurs before the other groups receive the broadcast. When this process occurs, the overflow call is queued at NACDGRP1. NACDGRP1 must accept the call, because the system can overflow a call one time. This action causes the call queue to exceed the maximum call queue size for a time. This characteristic allows the incoming call queue to have the ability to extend.

Availability measures for NACD

The availability measures for NACD appear in the following sections.

Resource index. Each DMS-100 switch in an ACD network continuously calculates a resource index (RI) for each ACD group the switch serves. The RI indicates the current traffic load. The switch applies the following factors to an algorithm to determine the RI:

- number of agents in the ACD group
- number of free agents
- number of calls now in queue
- maximum allowed size of the queue
- average wait time for a call
- average hold time for a call

Preference weighting factor. The preference weighting factor (PWF) is a parameter that users define. The PWF influences the overflow treatment a call receives. The DMS-100 switches in an ACD network store a PWF value for each ACD group that indicates overflow treatment desirability levels. The PWFs range from 0 to 32 767. A PWF of 0 indicates that overflow cannot occur. A PWF of 32 767 indicates pure networking.

> ***Note:*** In pure networking, calls do not wait in an incoming call queue. The switch automatically determines the best group to send the call to.

Call queuing and overflow treatment

An ACD group can receive an RI value from another ACD group. When this event occurs, the DMS-100 combines the RI with the PWF for that group. This procedure results in a single value that determines where to logically or

physically queue a call. This value is the desirability measure (DM). The switch calculates the DM for each group each time an ACD group receives an RI in a load traffic state update. Each ACD group calculates a current RI and combines the RI with a PWF. This process results in a DM for that ACD group. Each ACD group stores the values locally and are referenced to determine the best ACD group to receive an overflow call.

Note: When the RI or the PWF is 0, the DM sets to 0.

Queue and delay thresholds

Queue and delay thresholds are parameters that users define. The parameters specify when a call must receive network overflow treatment. A network manager can manipulate these values to arrange for one of four treatments of incoming calls:

- local agents can answer calls
- calls can receive immediate network treatment
- the system can direct calls in a proportionate design through the PWF
- calls can be queued for local agents first, and receive network treatment when a wait time elapses

Types of NACD overflow

There three types of NACD overflow follow:

- immediate overflow
- time delayed queue overflow
- priority promotion

Immediate overflow. The system can overflow an incoming call to an NACD group to another NACD group. This process occurs when the call exceeds the parameters when the call attempts to terminate on the original group.

Time delayed queue overflow. This capability allows the system to reroute calls that wait more than a set period of time. The system reroutes these call from one nodal queue of the ACD group to a second ACD group. An agent is not always free in the second ACD group. When an agent is not free, agents in the first or second group can answer the call. The call remains queued at the original group and logically queued at the overflow group.

Priority promotion. When the system places a call in a queue, a call remains in the queue at original priority for a specified period of time. When this time elapses, the system can escalate the call to the next higher priority through priority promotion. When a period of time passes and an agent does not answer a call, the call reaches priority 0. Priority is the highest priority. In most events, when a call reaches priority 0, the system logically queues the call

to the overflow out queue. The system logically queues the call to the group that can answer the call in the least amount of time.

Network call queues

The NACD ties together a maximum of 48 ACD groups in a network to cover the overflow of separate groups. Queues for NACD calls differ from the queues for calls with Base ACD. With NACD, the operating company determines when an incoming call receives network treatment. The system bases the presentation of calls to groups on the parameters in the datafill. The system can present calls to the following:

- the intended group
- another group in the network that can answer the call based on availability measures
- the intended group first. When the intended group does not answer the calls, the system presents calls to the network of groups.

Availability measures

Two availability measures determine which group in the network is the best group to receive a networked/overflowed call. The group with the highest desirability measure is the best group to receive a networked call. This desirability measure is the sum of two basic parts:

- resource index (RI)
- preference weighting factor (PWF)

Resource index. The system continuously calculates the RI figure. The system calculates the RI in two ways. When there are idle agents in the ACD group, the algorithm is:

```
RI = 2500 + (NUMIDLE x no. of idle agents) + queue size +

(no. of active agents / 26) + (idle time x TIMEIDLE)
```

When the ACD group does not have idle agents, the algorithm is:

```
RI = 2500 - [(number of physical calls + 1) (SRVRATE)] -
SRVRATE/no. active agents
```

The operating company can set and alter datafill fields NUMIDLE, TIMEIDLE and SRVRATE in table NACDGRP.

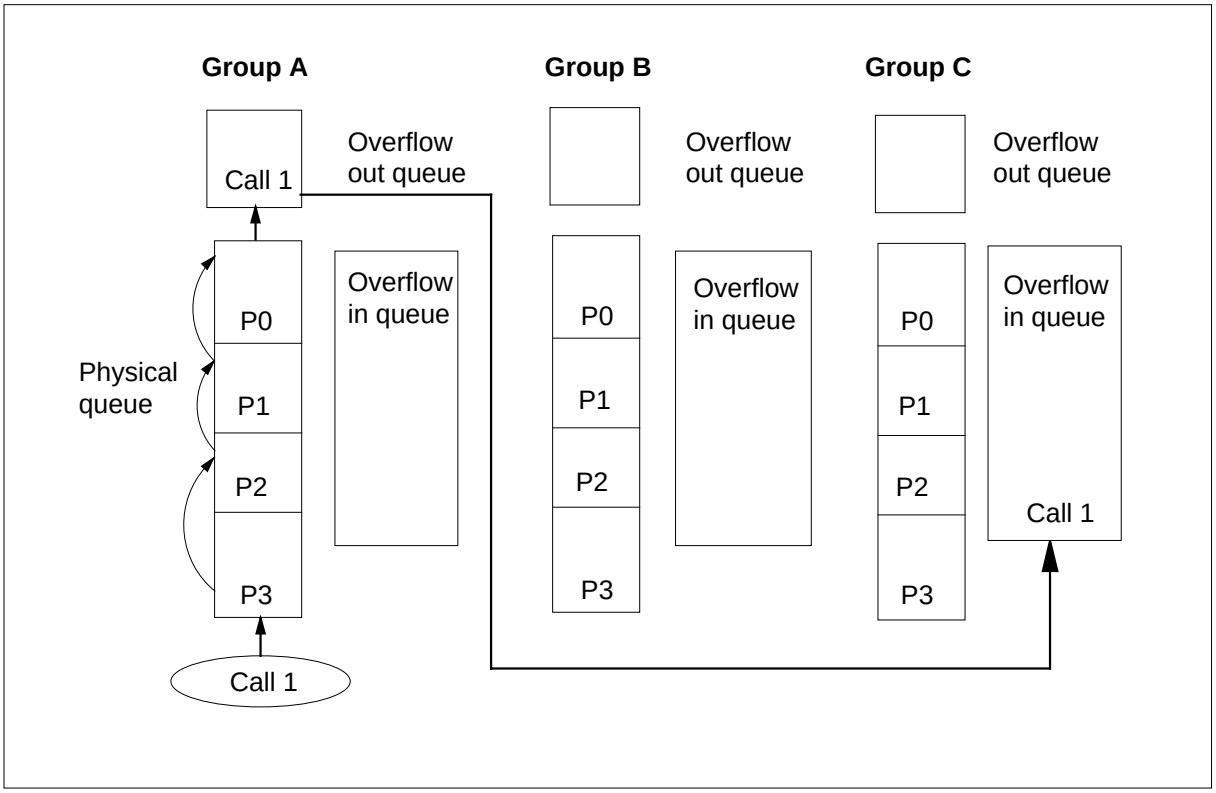
Preference weighting factor. The operating company assigns the PWF value to each group in the network. The PWF indicates the desirability of routing calls to a particular group.

Network queuing

The queuing in NACD involves routing overflow calls from one group to another group in the network. In the following figure, Group A has priority promotion assigned to the queue. This promotion moves call 1 from priority 3 to the head of the queue as the timers expire. When the timer expires at priority 0, the call overflows to the specified overflow route. In this example, the system overflows the call to the overflow in queue for Group C. Group C can reside on the same switch as Group A, or Group C is on another node in the network. The following figure is one example of network queue handling. There are many procedures to configure NACD queuing. The DMS-100 system passes calls from one group to another through the following three queues:

- physical queues
- overflow out queues
- overflow in queues

Figure 1-8 Example of NACD queuing



Physical queue. The DMS-100 system determines which group receives an incoming call. The system places the call in that physical call queue of the group until an agent is available. This group can be the called group.

Overflow out queue. Calls that wait beyond a specified time in the physical queue of one group can overflow to another group. At the expiration of the timer, the system logically places the call in the overflow out queue for the original group. While the call is in this queue, the DMS-100 switch searches for the next group to receive the overflow call. The call remains in the physical queue of the original group.

Overflow in queue. The switch determines the next group to receive the overflowed call. The system logically places the call in the overflow in queue for the new group. This event occurs when agents are not available agents in the new group. The call remains in the physical queue of the original group. The first available agent in one of the two groups answers the call.

The operating company decides which calls each group must answer first. The operating company can choose to answer the following first:

- operating company calls
- the overflow-in calls
- the oldest call

Elastic queue. The maximum number of calls in the incoming call queue for an NACD group cannot exceed set values. These values are set in the MAXCQSIZ and the MAXWAIT fields in table ACDGRP. The following event is the exception to this limit. When an NACD group reaches the maximum incoming call queue size or maximum wait time, the RI is set to 0. This value is broadcast to the other NACD groups in the network. An example of an NACD group is NACDGRP1. An NACD group can overflow a call to NACDGRP1. An example of an NACD group is NACDGRP2. This overflow occurs after the call reaches the maximum queue size or maximum wait time. This process occurs before the other groups receive the broadcast. When this action occurs, the system queues the overflowed call at NACDGRP1. NACDGRP1 must accept the call, because the system can overflow a call one time. This action causes the call queue to exceed the maximum call queue size for a time. This characteristic gives the incoming call queue an ability to extend.

ACDMIS

The ACDMIS is a report-generation system. The ACDMIS operates on a downstream processor (DSP). A data link connects the DSP to the DMS-100 Centrex switch.

The ACDMIS provides the user with the following:

- management reports - near real-time displays and printed reports that display ACD traffic loads and the levels of service provided
- remote load management - configuration change and agent reassignment commands. These commands allow load and resources to match to prevent the loss of calls or to redistribute the work load.

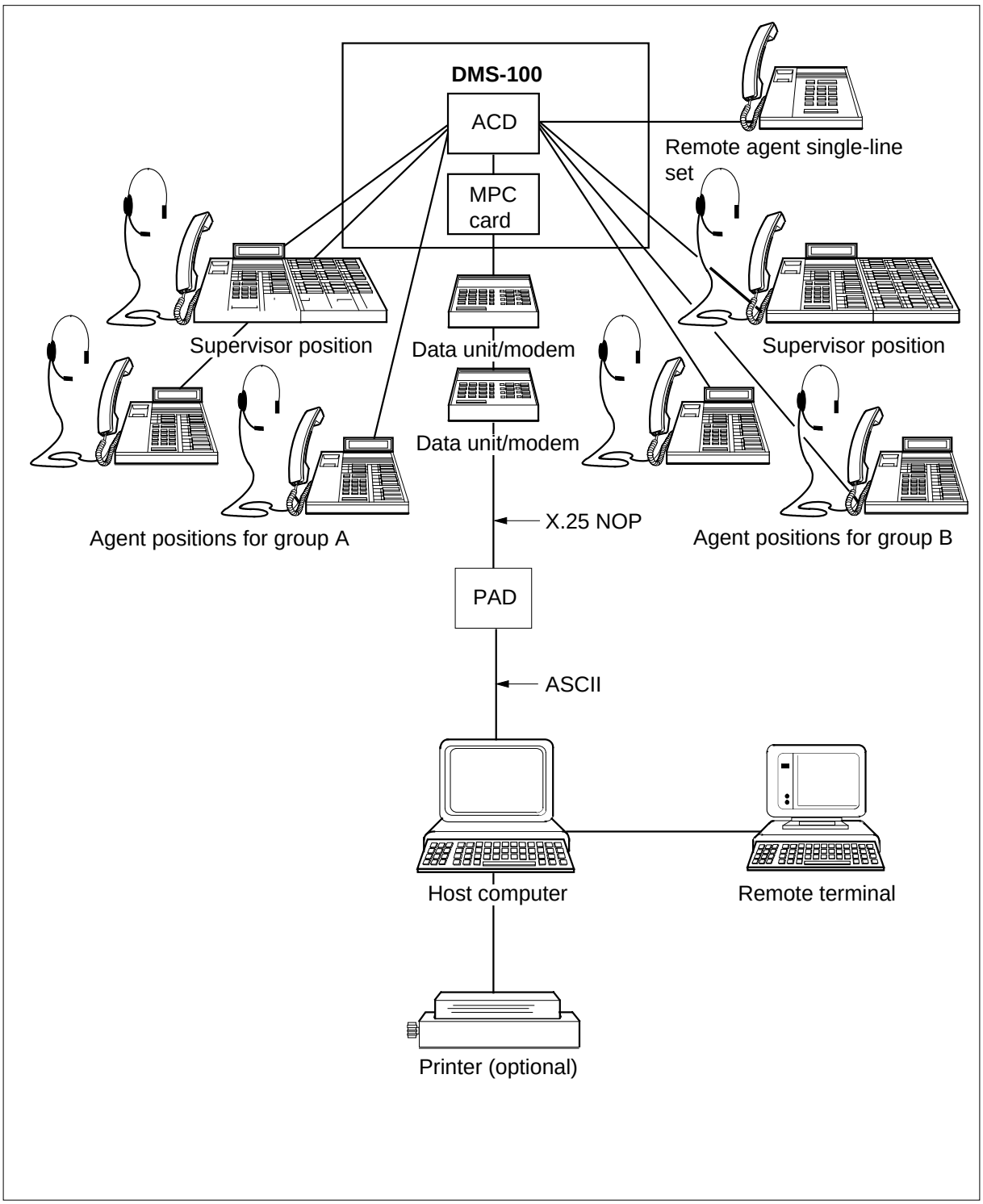
The configuration of the ACDMIS can be a single-user/supervisor system or a multiple-user/supervisor system.

Single-user/supervisor system

A sample ACDMIS with a configuration for use by a single supervisor appears in the following figure. Several ACD groups connect to the DMS-100 switch. As the system or agents queues, answers or releases calls, the switch generates event messages. The switch transmits these messages through the data link to the DSP. The user/supervisor from the DSP monitors the ACD group activity. The printer that connect to the DSP generates these reports. An optional LED display can connect to the DSP. The LED display mounts on the wall where the display is visible to the agents that a specified area contains. A supervisor uses the LED display to communicate with agents while the agents remain in the positions. Agents continue to work without interruption. Messages appear for 2 s before the next message in the sequence appears. Each display supports several messages. An example of a message in the display is the number of calls in queue. With this information, supervisors and agents can determine the best times to go on break.

A supervisor can enter remote load management commands from the DSP to reconfigure group and agent parameters. The system sends these commands back upstream through the data link to the DMS.

Figure 1-9 Sample single-user/supervisor ACDMIS configuration



Multiple-user/supervisor system

An ACDMIS with a configuration for use by more than one user/supervisor appears in the following figure. Several ACD groups connect to the DMS-100 at the central office. As the system or agents queue, answer or release calls, the DMS generates event messages. The DMS transmits these messages through the data link to the DSP.

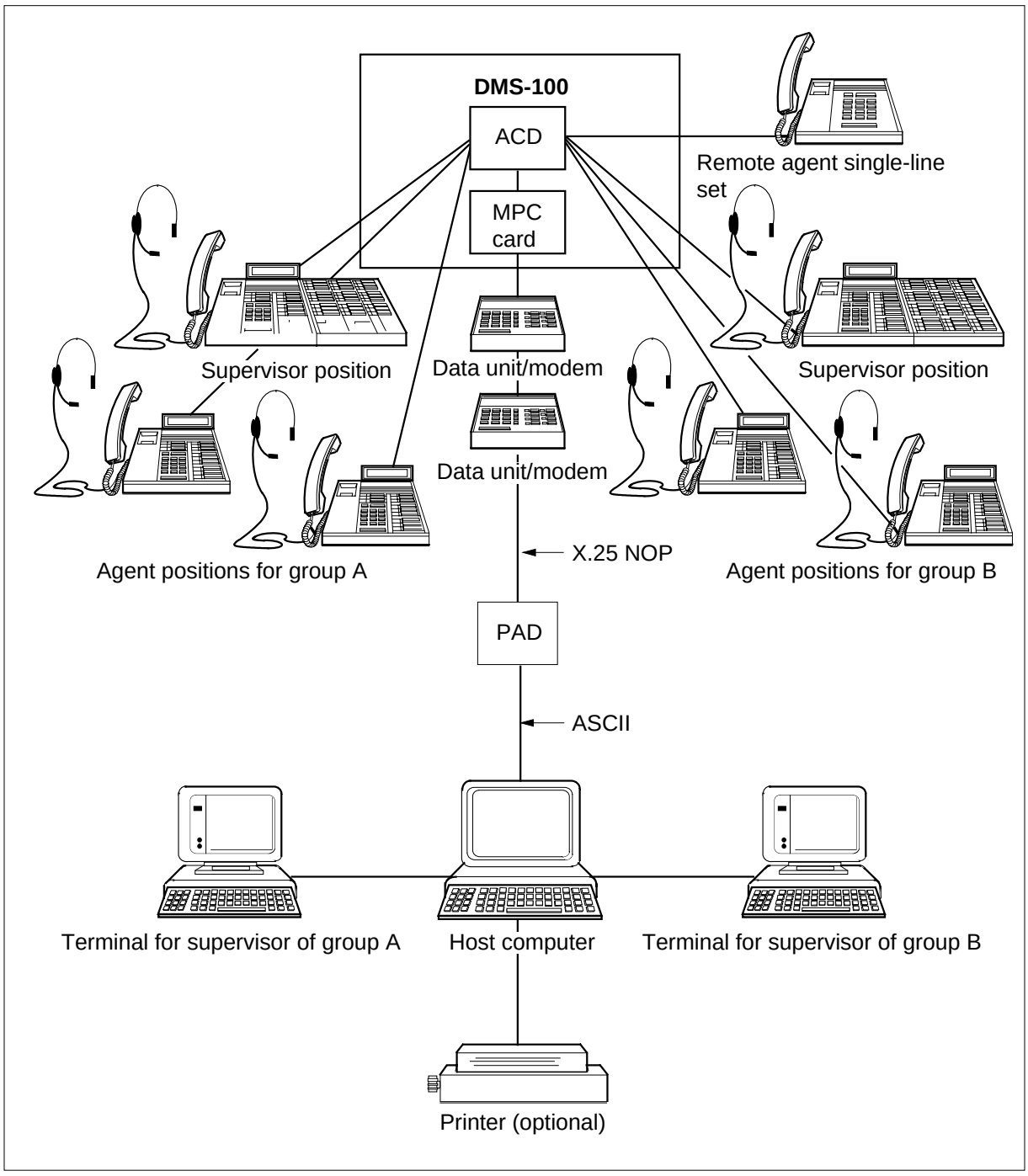
A maximum of 11 supervisor terminals can connect to the DSP. Each supervisor position operates over the same data link that serves the DSP.

Supervisors can monitor the ACD group activity from the DSP and from the supervisor terminals. Report printers can connect to the DSP and to each supervisor terminal. A maximum of ten optional LED displays can connect to a multiple-user/supervisor system.

As with the single-user/supervisor system, any supervisor can reconfigure group and agent parameters. Reconfiguration occurs when supervisors enter remote load management commands from a terminal.

Note: More than one ACDMIS application is present. An ACDMIS configuration appears in the following figure. This figure and the ACDMIS information that this section presents represent one example of an ACDMIS application.

Figure 1-10 Sample multiple-user/supervisor ACDMIS configuration



ACD reports

The generation of reports requires ACD configuration and call activity information. The system receives this information over the data link as:

- the ACD data messages - details of the current ACD configuration sent to the ACDMIS
  - — after a request for this type of information
  - — after the establishment of an information exchange session
  - — after the process of a load management change
- the ACD event messages - sent from the DMS-100 ACD processor to the ACDMIS as the system and agents queue, answer and release calls

Operating company personnel use an ACDMIS terminal to:

- access displays of up-to-date configuration information
- generate near real-time displays of call handling activity
- define and generate statistical reports for any time period that covers the aspects of ACD activity. This activity includes the following:
  - — the number of calls the ACD handles
  - — the number of overflow calls
  - — average wait times
  - — individual agent activity

Remote load management

Remote load management allows the entry of LOADMGMT commands from an ACDMIS terminal. The system converts the inputs to load management request messages. The system forwards the messages to the DMS-100 Centrex switch over the data link.

Meridian Digital Centrex interface to ACDMIS

The MDC interface to ACDMIS is the information flow between the ACD operation and ACD report-generation activities.

In addition to ACD data messages and event messages, the DMS-100 MDC interface to ACDMIS supports the following information transfers:

- load management request messages. Generation of these messages occurs when operating company personnel load management CHANGE or REASSIGN commands. Load these commands on the ACDMIS terminal.

These messages pass to DMS-100 ACD load management for implementation.

- load management event messages. The DMS-100 ACD load management sends these messages to notify ACDMIS of a change to the ACD configuration.

CompuCALL

CompuCALL provides an intelligent link between a host computer of an end user and a DMS-100 switch. This link allows an operating company to coordinate information in the database with incoming and outgoing telephone calls. This process allows a subscriber to receive a telephone call and related information on a data screen at the same time. Switch-to-host messages that provide information about the call and caller allow this process to occur.

CompuCALL activates coordinated voice and data delivery (CVD). The CVD combines the switch presentation of the voice call with the host computer display of call-related information at the agent position.

Applications use the X.25 switch computer application interface (SCAI) link to communicate with the host computer. The multi-protocol controller (MPC) card provides the SCAI link.

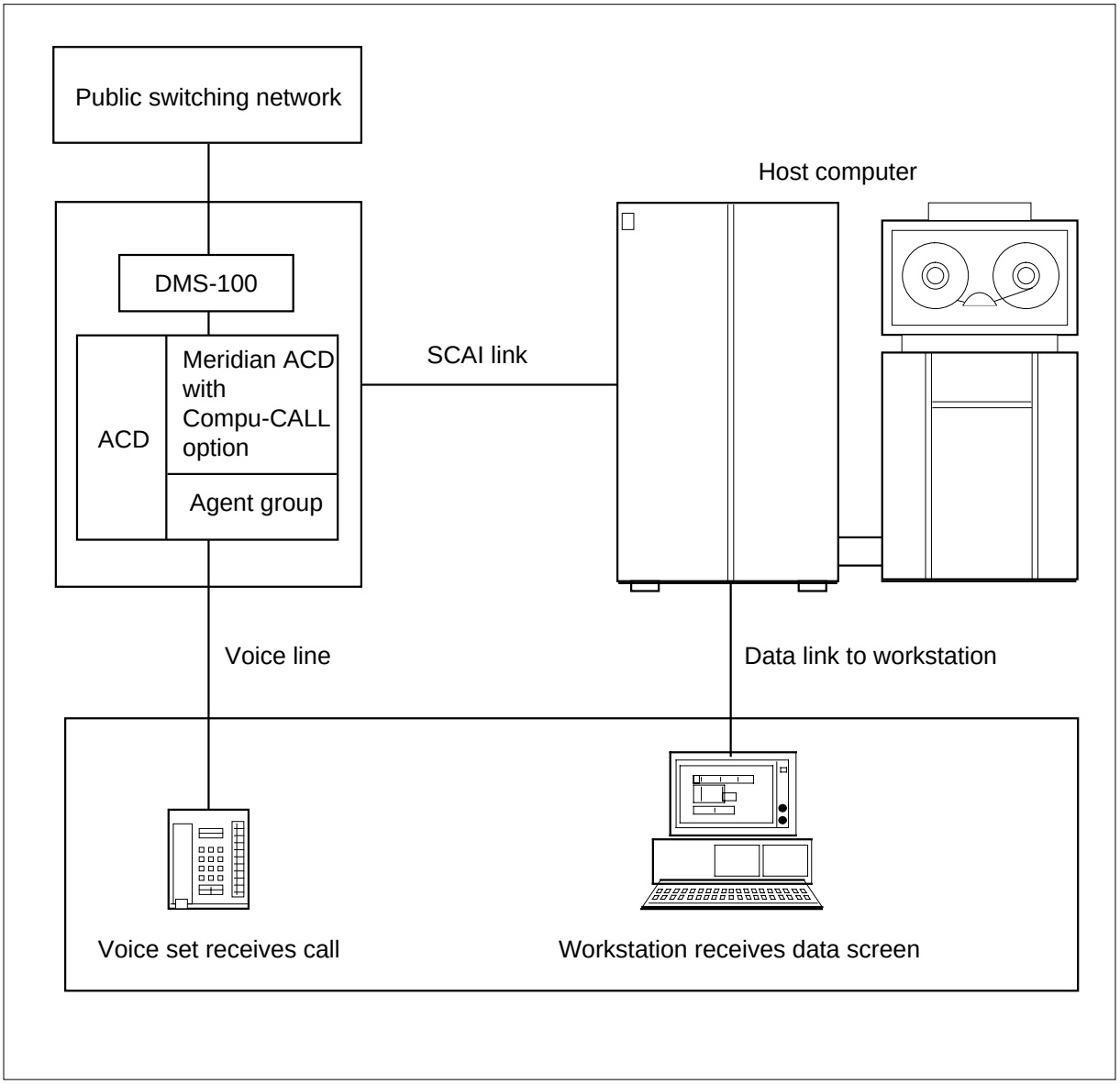
CompuCALL can service many different industries. These industries include the following:

- hospitals
- hotels
- universities
- insurance firms
- government agencies
- banks
- financial institutions
- department stores
- small businesses

Uses for CompuCALL include telemarketing, order entry, message desk, help desk and emergency services.

A diagram of the CompuCALL configuration appears in the following figure.

Figure 1-11 CompuCALL system configuration



Communication process

The host computer sends messages to the DMS-100 switch to associate or set up a session between the computer and the switch. When the host establishes this application-level session, the SCAI link allows the switch and host to exchange call information.

To establish the session, the host computer must specify the following set of parameters:

- network node ID. The DMS datafill determines the network node ID. The SCAI group requires the network node ID.
- service ID. The service ID identifies the set up context for that session. The DMS datafill determines the service ID.
- service version. The service version refers to the BCS release. The DMS datafill determines the service version.
- business group ID. The DMS datafill determines the business group ID. The SCAI group requires the business group ID.
- application ID. The host computer computer determines the application ID.
- password. The DMS datafill determines the password. The SCAI group requires the password.

The operating company defines an SCAI group and associates with a set of SCAI links and services.

The host computer can log off or drop the X.25 link to terminate this communication session. Use the log off method to terminate this session.

Service functionality

Service functionality has three categories of capabilities:

- CVD for ACD
- third-party call control (TPCC)
- call redirection

Coordinated voice and data. This capability refers to a combination. The switch presentation of the call combines with the host computer display of call related information at the agent position. The switch presentation and the host computer display occur at the same time. The following SCAI messages make up this category:

- DV_Call_Queued_U
- DV_Call_Offered_U
- DV_Call_Answered_U
- DV_Call_Released_U
- DV_Call_Unheld_U

Third-party call control. This capability allows access to telephone functions through a data terminal keyboard. This category has the following SCAI messages:

- DV_Make_Call
- DV_Add_Party
- DV_Transfer_Party
- DV_Drop_Party
- DV_Conference_Party
- DV_Answer_Call
- DV_Hold_Call
- DV_Unhold_Call
- DV_Release_Call

Redirect capability. This capability allows the host computer of the subscriber to redirect calls. The following SCAI messages make up this category:

- DV_Call_Received_C
- DV_Call_Redirect

Session management

Session management allows the establishment and termination of a client session on CompuCALL

Session management includes the following capabilities:

- host application logon and logoff (DV_Appl_Logon and DV_Appl_Logoff message)
- host application notification when the switch forces application log off
- host application specified for each session DN association

Operation, administration, and maintenance

The operation, administration, and maintenance (OA&M) service allows the operating company to offer a service. This service makes sure of the accuracy of the active CompuCALL session. The operating company must use this service with the session management service.

Continuity test. When a session establishes between the host application and the DMS-100 application, the host uses a continuity test message for verification purposes. The host uses this message to verify the application-to-application logical and physical connection. To allow early problem detection, the host application can send this message to the switch. This event occurs when the host application does not receive messages from

the switch for a specified period of time. The customer defines a host parameter to determine the frequency of this message. The system must not send this message more than one time every 2 min to avoid traffic on the link.

The switch can send this continuity test message to the host when the switch operator must verify the connection. Manual action as a service or maintenance procedure can initiate this test. The operating company can schedule this test through datafill to run automatically.

Security password. The user assigns each SCAI group a password. You can attempt to use a password that is not correct to associate a session to a specified link. When this event occurs, the system generates an SCAI100 log. The SCAI100 log indicates the login failure. After three successive attempts the password that is not correct, the system generates an SCAI101 log. The SCAI101 log indicates the password attempt failures.

Meridian Automatic Call Distribution with CompuCALL Option

Meridian Automatic Call Distribution (MACD) with CompuCALL Option allows the switching system to communicate with a call center business computer. This communication helps to provide improved call-processing services. As a result, voice telephony is a part of the computer database of the subscriber.

Telephone sets for ACD

The ACD agents and supervisors use an electronic telephone. This electronic telephone is an M5212 ACD set.

> ***Note:*** The operating company can use a standard Meridian business set (MBS) with an ACD system. For best operation, equip agents and supervisors with ACD sets.

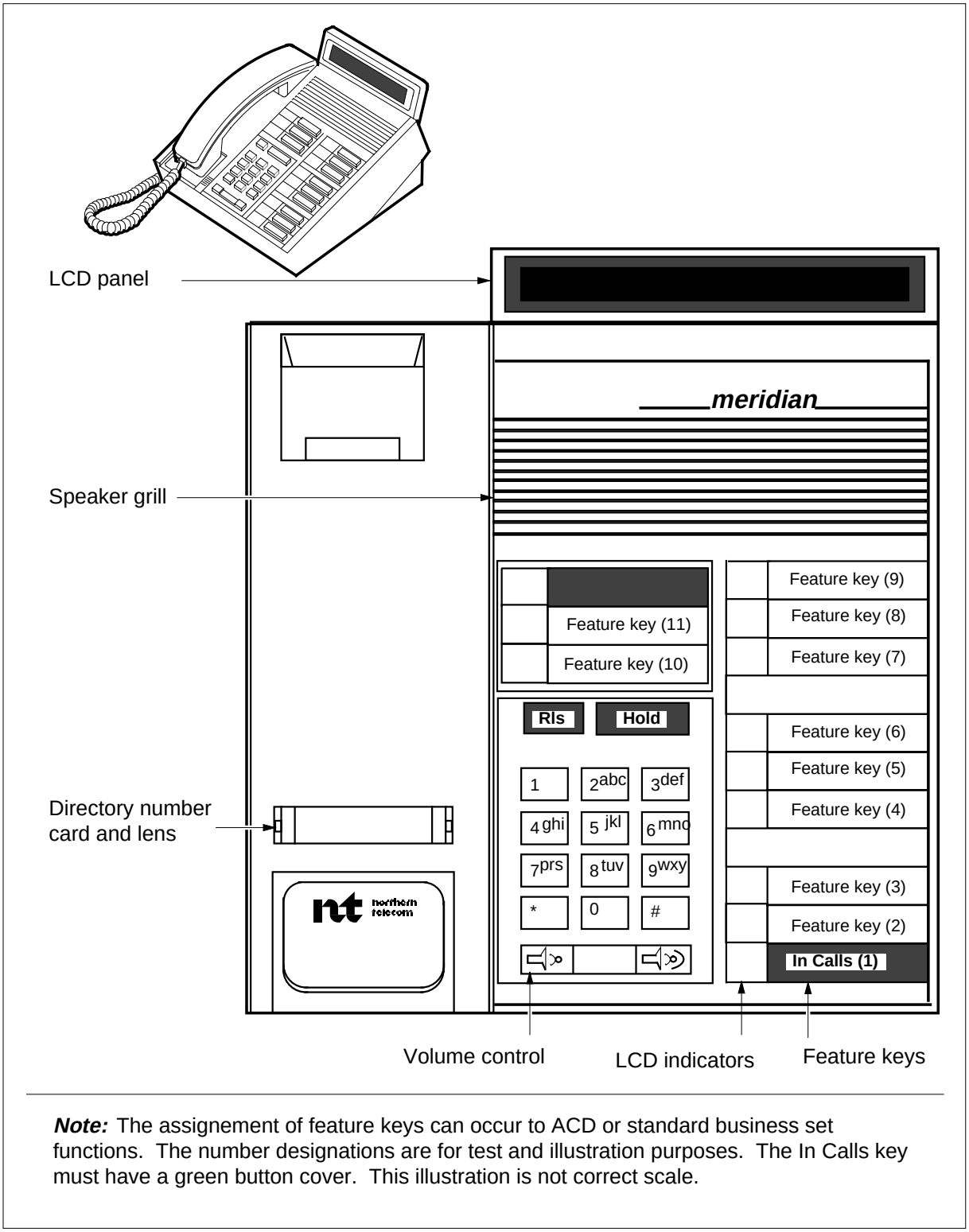
An M5212 ACD set is an MBS with display customized for ACD use by the following:

- the addition of two headphone jacks. The ACD agent or supervisor uses one jack for for hands-free call answering. The second jack allows an observer to monitor the conversation of a caller.
- assignment of key number one as the In Calls key, through which the system presents incoming ACD calls to the agent. The set of an agent requires this key assignment. The In Calls key is the distinguishing feature key for an agent position. The assignment of one In Calls key can occur on each ACD set.
- assignment of other keys with features for ACD operation use.

The ACD set can have one to three M518 (18-button) add-on units, or one M536 (36-button) add-on unit. The ACD set can have a group of one M536

and one M518 add-on unit. An M5212 ACD set, with the In Calls key as key number one, appears in the following figure.

Figure 1-12 ACD agent telephone set



Note: The assignement of feature keys can occur to ACD or standard business set functions. The number designations are for test and illustration purposes. The In Calls key must have a green button cover. This illustration is not correct scale.

ACD set description

An ACD set has the following parts:

- 12-button keypad
- 11 buttons with associated liquid crystal display (LCD) indicators for the assignment to features of line appearances
- one button for mute handset off/on
- 2 by 24 line alphanumeric display
- two modular ports for headset support
- hold, release, and volume control keys

An LCD indicator next to a feature key or DN indicates the state of the feature or DN. The indicator can represent the following four states:

- On - Solid black diamond appears on the LCD indicator
- Off - LCD indicator is blank
- Flash - Black diamond LCD indicator turns on and off at rate of 60 times for each minute
- Wink - Black diamond LCD indicator turns on and off at rate of 120 times for each minute

Hold key and autohold

Press the Hold key to hold an active ACD or non-ACD call for a short duration. Press another feature key to place the active calls on autohold. An ACD call can be on hold or autohold. In this event, press the In Calls key to return the call to the active state.

When an ACD call is on hold, the In Calls key is busy. The system cannot receive additional incoming calls. A non-ACD call can be active. In this event, press the In Calls key to answer an ACD call and put the non-ACD call on autohold.

Release key

Press the Release key to perform the same function as going on-hook. This action turns off the lamp associated with the released call.

Volume control

One key with two toggle positions controls the loudness of a sound that transmits through the speaker, headset, or handset. These tones include ringing dial tone, busy tone and on-hook monitoring. Tap or continuously press the key at the right side to increase the volume. Tap or continuously press the key at the left side to decrease the volume. Use the handset on-hook to control the headset volume. Use the handset off-hook to control the handset

volume. Control of the volume settings for the headset and handset are separate.

A change in volume settings causes a volume bar for the active path to appear on the lower line of the alphanumeric display.

ACD structure

A single DMS-100 switch supports a maximum of 1024 ACD groups. Each ACD group can have a maximum of 1024 answering positions. An MDC customer group in the DMS-100 can have more than one ACD group.

Subgroup use occurs when more than one supervisor attaches to an ACD group. Each ACD group can have one or more subgroups to allow supervisory capabilities. These capabilities include monitoring and reporting of the ACD group in the ACDMIS. A subgroup has all the answering positions associated with a specified supervisor position. An ACD group can have a maximum of 255 subgroups.

The ACDMIS pools have subpools to provide security. The ACG requires the subpools when multiple ACD customers use the same data stream to report information to the DSP. The system uses subpools when one ACD customer is on a data stream. The system groups all ACD groups that belong to an ACD customer to form a subpool. This action occurs because these subpools create edges between ACD customers.

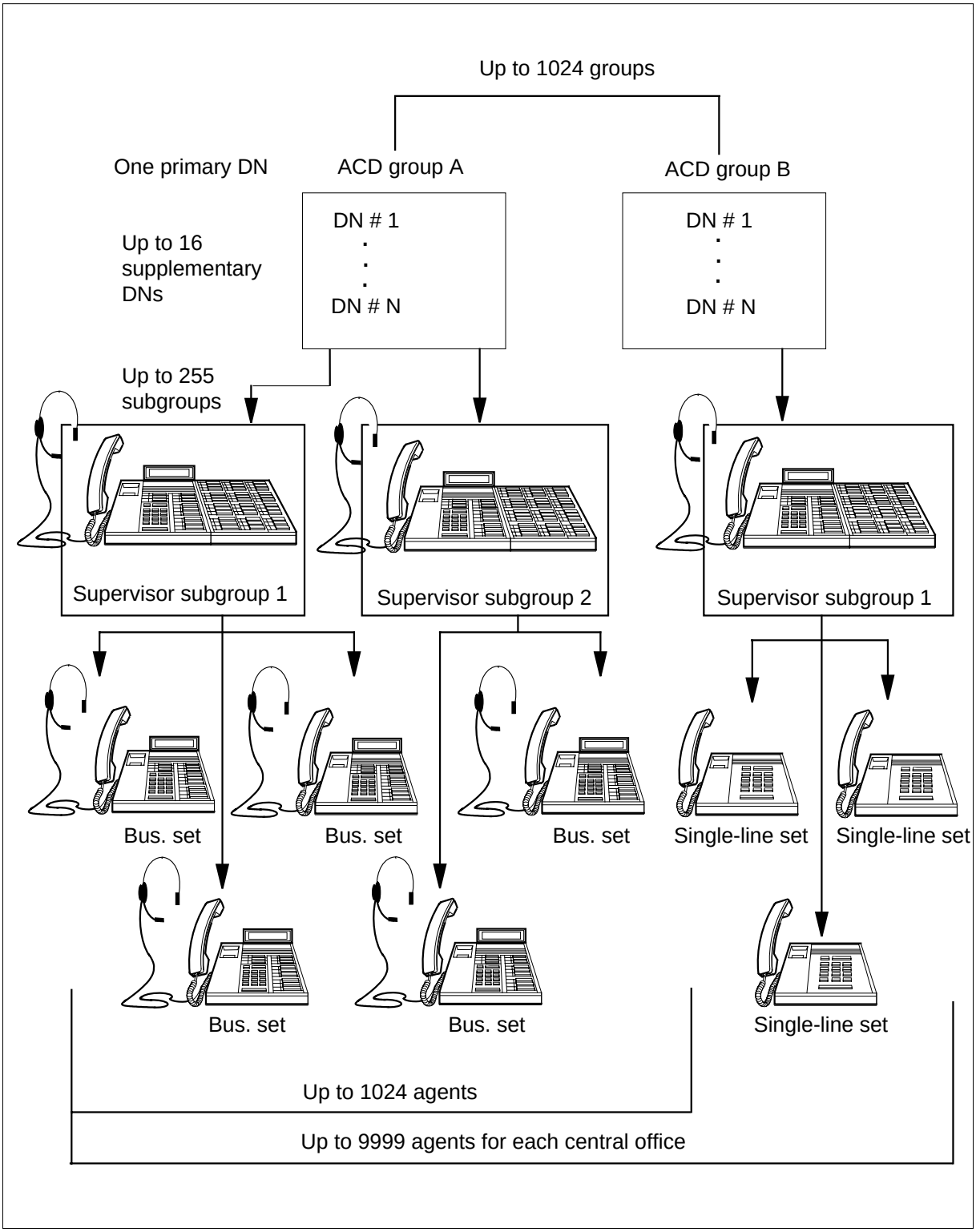
The DMS-100 system uses the following four agent queues to track the ACD agent availability:

- not ready
- make set busy
- busy
- idle

Call activity and activation of the ACD Not Ready key or Make Busy key determine the movement of agents from queue to queue.

The relationship between ACD groups, subgroups and separate answering positions appears in the following figure.

Figure 1-13 ACD structure



Signaling for Automatic Call Distribution

This section describes signaling protocols for ACD. This section describes the following four ACD parts:

- Base ACD
- NACD
- ACDMIS
- CompuCall

Signaling protocols for Base ACD

The ACD 500/2500 sets use standard plain ordinary telephone service (POTS) signaling. The MBS uses amplitude shift keying (ASK) out-of-band signaling. The MBS transmits the ASK signal at 7000 Hz. This signaling requires that the MBS terminate on nonloaded cable.

Signaling protocols for NACD

The NACD uses Common Channel Signaling No. 7 (CCS7) or primary rate interface (PRI) signaling.

CCS7 signaling

In a telephone network, the signaling that telephone switches perform controls voice communication. The CCS7 uses two paths to transmit telephone calls. In CCS7 signaling, the signaling components travel on signaling links. The voice and data components travel on voice trunks. A signaling link can support a large number of voice trunks without an overload. The CCS7 performs call setup, dialing and provides supervisory signals for call order and billing. The CCS7 provides the ability to query online databases. The NACD uses CCS7 integrated services digital network user part (ISUP)/transaction capability application part (TCAP) protocols to route calls between switches.

PRI signaling

The NACD uses PRI signaling to connect one NACD switch to another NACD switch. Integrated services digital network (ISDN) uses time-division multiplexed digital channels to carry information. The ISDN PRI contains B-channels and D-channels. The B-channels carry circuit-switched voice or data between the DMS-100 and the next node. The D-channels carry call control messages associated with the B-channels.

Signaling protocols for ACDMIS

The ACDMIS uses the X.25 protocol to connect the MPC card to the DSP.

Signaling protocols for CompuCALL

This section describes the following:

- the X.25 signaling protocol that the CompuCALL data link requires
- the relationship between X.25 and the open system interconnection (OSI) model for data communications
- how CompuCALL relates to the signaling layers of the OSI model

The X.25 signaling protocol provides data-based communications for CompuCALL. This communication occurs between a DMS-100 Family switch and a call center computer. The data is packet-switched, synchronous and two-way. In the CompuCALL link, X.25 conforms to an OSI model. The International Organization for Standardization (ISO) developed this OSI model. The ISO bases the ISO developments in Paris.

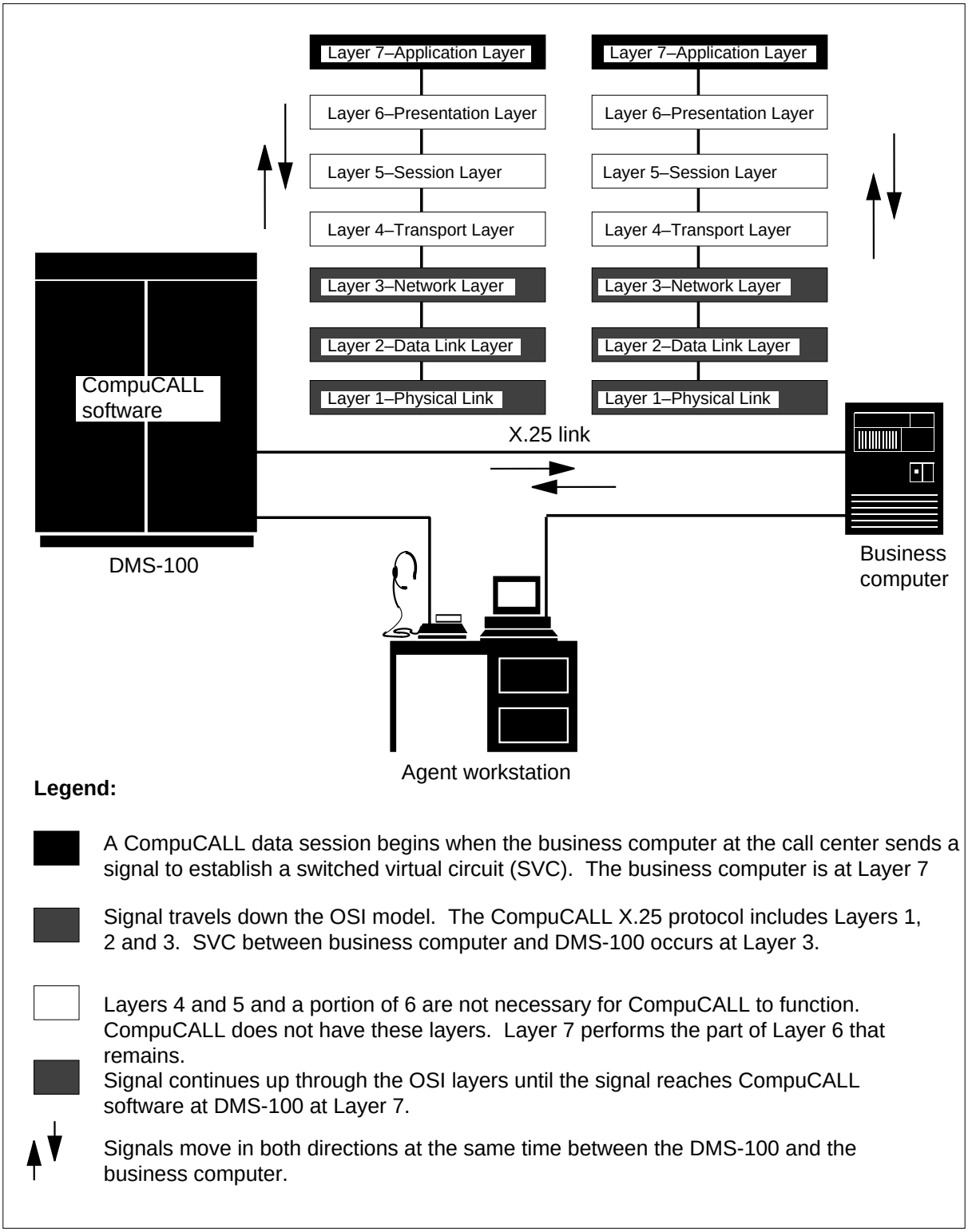
X.25 and the OSI model

The seven-layer OSI model results in a standard international design framework. Different types of computers or computers from different vendors can now communicate over any network.

For CompuCALL, Northern Telecom agrees to follow the OSI standard. This agreement provides a method of communication between the DMS-100 Family switch and the business computer of a subscriber. This method of communication is easy to recognize. The business computer can originate from a vendor that uses the public packet switching network. This agreement reflects the decision of Northern Telecom to open network architecture. This agreement encourages customers to develop CompuCALL-related software and associated products for business computers.

The X.25 protocol includes the first three layers of the OSI model. The International Telephone and Telegraph Consultative Committee (CCITT) established standards for X.25 and the first three layers of the OSI model. Northern Telecom conforms to these standards. The relationship between CompuCALL and the signaling layers of the OSI model appears in the following figure.

Figure 1-14 CompuCALL signaling and the OSI model



Legend:

A CompuCALL data session begins when the business computer at the call center sends a signal to establish a switched virtual circuit (SVC). The business computer is at Layer 7

Signal travels down the OSI model. The CompuCALL X.25 protocol includes Layers 1, 2 and 3. SVC between business computer and DMS-100 occurs at Layer 3.

Layers 4 and 5 and a portion of 6 are not necessary for CompuCALL to function. CompuCALL does not have these layers. Layer 7 performs the part of Layer 6 that remains.

Signal continues up through the OSI layers until the signal reaches CompuCALL software at DMS-100 at Layer 7.

Signals move in both directions at the same time between the DMS-100 and the business computer.

CompuCALL and the OSI layers

A description of the characteristics of each of the seven layers of the OSI model follows. The description includes the activity of CompuCALL at each of the layers. The description starts at Layer 7, where the business computer begins to establish a CompuCALL data session.

Layer 7-Application Layer. CompuCALL complies to the ISO standards for Layer 7. This layer provides users with access to the OSI environment and distributed information services.

The OSI layers of CompuCALL have two Application Layers. One layer is on the switch side. The other layer is on the business computer side.

On the switch side, Layer 7 has the CompuCALL software in the DMS-100 switch. The switch-side of Layer 7 has the following CompuCALL software packages:

- ISI Coordinated Voice and Data
- Third-Party Call Control
- Voice Processing Integration

These packages provide CompuCALL with X.25 signaling, utility software and capabilities.

Meridian ACD CompuCALL Options is the CompuCALL service that the central office switch provides. Another name for this service in OSI terminology is an application process (AP). An AP is an element of an open system. The AP helps process information that an AP process in another open system sends or receives.

On the business computer side, the AP at Layer 7 has the business application software. The AP has the application program interface (API) software that allows the business computer to transmit and receive telecommunications signals. The software package that is the AP for the business computer performs a complete set of functions. Telemarketing is an example of these functions.

The AP on the switch side and the AP on the business computer side must communicate with each other as peers. This condition must occur for successful communication. The establishment of a switched virtual circuit (SVC) must occur between the business computer and the DMS-100 Family switch to allow this communication.

Use of an SVC to establish a CompuCALL session. Another name for an SVC is a handshake. A business computer initiates an X.25 call request. The establishment of an SVC occurs when the DMS-100 Family switch uses an

X.25 call acceptance message to accept the request. This process begins with a request at Layer 7. The establishment of the SVC occurs at Layer 3. The switch reports any connection success or failure to Layer 7.

When the switch sets up a data session, the switch sends the CompuCALL message: DV_APPL_Logon.

The DMS-100 Family switch acceptance message is: RETURN_RESULT.

When the switch does not accept, the message is: RETURN_ERROR REJECT. This message indicates the DMS-100 Family switch does not recognize the message.

Additional CompuCALL messages that relate to the operation of the data session are as follows:

- DV_DN_ASSOCIATE - The business computer application uses this message to identify which call center DNs receive data about incoming calls.
- DV_APPL_LOGOFF - The business computer uses this message to end an established application session.
- DV_APPL_CONTINUITY_TEST - The business computer or the switch initiate this message. This message tests the logical connection between applications.

Note: For CompuCALL messages, the DV stands for data and voice.

With BCS35, the number of SVCs for communication between the business computer and the DMS-100 switch increases from 1 to 8. This change increases SVC redundancy and increases flexibility of use in SVCs. These modifications provide greater reliability. Each link can have one SVC. The new functionality provides CompuCALL with multiple links. On the DMS side, each of these links connects to the MPC.

Remote Operation Service Element (ROSE). The ROSE is a language that specifies how to handle a data call and what information the data call contains. The CompuCALL messages, like the DV_APPL_Logon message, are ROSE encoded.

The ROSE supports an interactive communication between the AP software set on the DMS-100 Family switch and the AP software set on the call center computer.

Separate software packages or features that the AP contains are application entities (AEs). On the business computer side, separate application software and API software are AEs. The AE uses the ROSE language to perform

operations. The AE uses the ROSE language to send and receive and information at the business computer or at the switch.

The ROSE language appears in the form of one of the following five request or reply messages:

- RO_INVOKE - This message requests the performance of an operation.
- RO_RESULT - This message reports the successful performance of an operation.
- RO_ERROR - This message reports the performance an operation is not successful.
- RO_REJECT_U - This message rejects a request or reply when a problem with the request occurs.
- RO_REJECT_P - This message provides information about a problem in the lower layers of the OSI model.

Note: The RO in each ROSE message indicates remote operation.

CompuCALL messages. The following messages provide CompuCALL service:

- DV_Add_Party - This message allows the business computer to initiate a consult call for a specified agent position.
- DV_Answer_Call - This message allows the business computer to answer an incoming call for the specified called agent.
- DV_Call_Answered_U - The system provides information that relates to incoming calls to the business computer when the agent answers the ACD call.
- DV_Call_Offered_U - The system provides information that relates to incoming ACD calls to the business computer after the selection of an agent to handle the call. This action allows the business computer to provide coordinated voice and data delivery to the agent.
- DV_Call_Queued_U - The system provides information that relates to incoming calls to the business computer. This event occurs when the system places the call in the incoming call queue. This action provides the business computer with additional time to generate the screen display.
- DV_Call_Received_C - The system provides information that relates to calls to the business computer when the switch receives the ACD call. The switch waits for the business computer reply to indicate when call redirection is required.

- DV_Call_Redirect - This message provides the business computer with the ability to redirect an ACD call to another primary or auxiliary ACD DN or non-ACD DN. The DNs are on one of the following:
  - — the same switch
  - — a different switch
  - — a specified ACD line in the same customer group on the same switch
- DV_Call_Released_U - This message informs the business computer when the agent disconnects from an inbound or outbound ACD call. This message informs the business computer when an ACD call receives redirection, overflows, or the caller abandons the call.
- DV_Call_Unheld_U - This message informs the business computer that an ACD agent uses the DN key to take a call off hold. The agent must use the CompuCALL application to place the call on hold.
- DV_Conference_Party - This message allows the business computer to initiate a conference call with the held and consult calls. The business computer performs this action for a specified agent position.
- DV_Drop_Party - This message allows the business computer to request the release of a consult call and reconnection to the second party. The business computer performs this action for a specified agent position.
- DV_Hold_Call - This message allows the business computer to place an active, connected ACD call on hold. The business computer performs this action for a specified agent.
- DV_Make_Call - This message allows a business computer to initiate an outbound ACD call. This action occurs for a specified agent position. The switch alerts the agent with a distinctive ringing tone when the switch originates an outbound call for the agent. The switch can set up an outbound call for the agent. This event occurs after the switch verifies the authorization code, account code, or the two codes.
- DV_Release_Call - This message allows the business computer to release an active ACD call for an agent. When the agent is in a DV_Make_Call, this message can release the agent before completion of the call.
- DV_Resource_Query - This message allows the call center to obtain information from the business computer on the status of CompuCALL calls. This information includes the length of the ACD queue and the availability of agents answering telephones. Call centers can use this information to improve call handling. For example, the program of a voice processing unit can provide callers an indication of the wait time. The unit can allow the caller to leave a message for a return call from the call center.

- DV_Transfer_Party - This message allows the business computer to transfer a call for a specified agent position.
- DV_Unhold_Call - This message allows the business computer to unhold a call when CompuCALL places the call on hold. CompuCALL hold and unhold are not interchangeable with hold functions with a set base design. When the agent uses the business set to place a call on hold, DV_Unhold_Call cannot unhold the call.

A two-way CompuCALL session between APs at Layer 7 requires support from the lower layers of the OSI model.

Layer 6-Presentation Layer. The Presentation Layer masks the differences that originate from different systems with different data formats. Data formats can have different character codes.

Layer 6 activity causes transparent communication on the Application Layer. This type of communication uses a separate syntax to transfer data.

Part of Layer 6 is implemented at Layer 7 as part of the ROSE procedures. CompuCALL does not implement the rest of Layer 6 because CompuCALL does not require this part to function.

Layer 5-Session Layer. The Session Layer provides the control structure or dialog management for communication. This layer establishes, manages and terminates data transfer sessions that occur at Layer 4.

The system does not support Layer 5 and Layer 4 because CompuCALL does not require these layers to function. Messages pass through these layers and sublayers of Level 6 to the next supported level. These layers and sublayers are not supported.

Layer 4-Transport Layer. The Transport Layer provides transfer of data in and between networks in a transparent method. This layer uses error recovery and flow control to achieve reliability.

Layer 3-Network Layer. The upper layers gain independence from data transmission and switching technologies that connect systems. This independence occurs because the Network Layer determines data transfer. Layer 3 is the Packet Layer. This layer establishes, maintains and terminates connections. This layer provides the ability to encode and route transmission messages. The establishment of SVC occurs at this layer. The MPC implements Layer 3 and Layer 2.

Layer 3 characteristics include:

- packet size of 128 bytes
- packet window of seven for point-to-point configuration or two for network configuration
- a base logical channel number of one
- a logical group number of 0
- packet layer parameter conformity to 1984 ISO standards

Layer 2-Data Link Layer. The Data Link Layer is the Frame Layer. This layer allows the reliable transfer of information across the link. This layer sends data frames with the necessary synchronization, error control and flow control.

At Layer 2, CompuCALL uses the following three types of frames for X.25 signaling:

- information frames (I-frames)
- supervisory control sequences (S-frames)
- command/response frames that do not have numbers (U-frames)

Each of these X.25 frames includes the following:

- a start-of-message flag
- address information
- control information
- data for transmission
- error control bytes
- an end-of-message flag

Note: The business computer acts as a data terminal equipment (DTE). The business computer acts as a DTE in a DTE/DTE or DTE/data circuit-terminating equipment (DCE) mode with the DMS-100 Family switch.

Layer 1-Physical Link. The Physical Link handles the mechanical, electrical, functional and procedure characteristics. These characteristics are required to send data over a line. For CompuCALL, the physical link is the copper wire between the DMS-100 Family switch and the business computer.

Note: The business computer must function as the DTE at the physical level. The DTE uses the transmission system through DCE, like a data unit or a synchronous modem. Protocols for Layer 1 specify the exact operation

of the interface between the DTE and DCE. These protocols maintain the ability of each DTE-DCE pair to interact.

Preparing to datafill Automatic Call Distribution

The preparations required to enter ACD customer group information appear in the following section.

Datafilling CompuCALL

To determine the data entry sequence for CompuCALL and associated applications, refer to the specified application that uses CompuCALL in this document.

Collecting end-user data

Use the following forms as datasheets to collect the data required to complete the datafill for ACD.

Figure 1-15 Datasheets for ACD customer group information

Customer group information			
Automatic Call Distribution (ACD) group *Complete 1 form for each ACD group required.*	**Table name**	**Field or subfield name**	**Value**
ACD group name _____	ACDGRP	ACDNAME	1–16 alphanumeric characters
Customer group name _____		CUSTGRP	1–16 alphanumeric characters
Ring duration before rerouting call _____		ACDRNGTH	0, 12–60 seconds
Route for overflow calls _____ _____		THROUTE INDEX	OFRT, IBNRTE 1–1023 indices
Route for night service calls _____ _____		NSROUTE INDEX	OFRT, IBNRTE 1–1023 indices
Priority promotion time for calls queued _____		PRIOPRO	0–255 seconds
Delay billing to incoming calls (circle one) Y or N		DBG	Y or N
Maximum queue size _____		MAXCQSIZ	0–511 calls
Maximum waiting time _____		MAXWAIT	0–1800 seconds

Figure 1-16 Datasheets for ACD customer group information (continued)

Customer group information (continued)

Automatic Call Distribution (ACD) group		Table name	Field or subfield name	Value	Default
☐ ACD Management Information System (ACDMIS)		ACDGRP	ACDMIS	Y or N	N
Pool	_____		POOL	1–16 characters	
Subpool	_____		SUBPOOL	1–16 characters	
ACDVFG	Y or N		ACDVFG	Y or N	
MIS options (circle one)	walk-away		MISOPTS	WALKAWAY DEFLOB NORIMIS	
Line of business value	default line of business		LOBVAL	3 numeric digits	
☐ Multistage queue ststus	_____		MSQS	Y or N	N
Threshold one value	_____		T1	1 – 2400 seconds/calls	
Threshold two value	_____		T2	1 – 2400 seconds/calls	
Threshold three value	_____		T3	1 – 2400 seconds/calls	
Status that the queue size or wait time determines (circle one)	(call queue) (wait time)		CHOICE	CALLQ or WAIT	
Signal distribution point associated with this ACD group (circle one)	Y or N		SDSEL	Y or N	
Hardware location of signal distribution card	_____		SDGRP1	0–511	
Number of signal distribution card	_____		SDSPT1	0–6	
Hardware location of signal distribution card	_____		SDGRP2	0–511	
Number of signal distribution card	_____		SDPT2	0–6	
Hardware location of signal distribution card	_____		SDGRP3	0–511	
Number of signal distribution card	_____		SDPT3	0–6	
Additional display at call presentation (circle one)	Y or N		DISPLAY	Y or N	
Real-time updates interval	_____		DINTRVL	0–180 seconds	
Queue status on a lamp	Y or N		LAMP	Y or N	
Lamp interval	_____		LINTRVL	5–180 seconds	

Figure 1-17 Datasheets for ACD customer group information (continued)

Customer group information (continued)				
Automatic Call Distribution (ACD) group	**Table name**	**Field or subfield name**	**Value**	**Default**
☐ Distinctive ringing	ACDGRP	DISTRING	NONE, INBOUND OUTBOUND, BOTH	NONE
☐ Warning tone when agents are observed		OBSWTONE	Y or N	
☐ Forced route clearing night service		FRCNGTSV	Y or N	N
Clearing route		CLRTE	Y or N	
		TABNAME	IBNRTE or OFRT	
		INDEX	0–1023 indices	
☐ ACDDN name/number display _____		OPTIONS	ACDDISP	
Number of ACDDN digits displayed		DISPDIGS	0–7 digits	
☐ Announcement/music to calls queued		OPTIONS	AUDIO	
Wait time before ANNC/MUSIC _____		RANTH	0, 6–60 seconds	
Ringing prior to ANNC/MUSIC (circle one) Y or N		RINGING	Y or N	
Audio group where ANNC/MUSIC is defined ___		AUDIOGRP	AUDIO1–AUDIO512	
☐ Management report interface		OPTIONS	MGTRPT	
☐ Queue status lamp		OPTIONS	QSL	
Number of signal distribution group_____		SDGRPNO	0–511	
Number of signal distribution point _____		SDPOINT	0–6	

Figure 1-18 Datasheets for ACD customer group information (continued)

Customer group information (continued)				
Automatic Call Distribution (ACD) group	**Table name**	**Field or subfield name**	**Value**	**Default**
☐ Supervisor activate/deactivate call routing of newly arriving calls _____	ACDGRP	OPTIONS	CIFROUTE	
Destination of calls rerouted_____		TABNAME	IBNRTE or OFRT	
		INDEX	1–1023 indices	
☐ Load management by direct access to the DMS		OPTIONS	ACDADMIN	
Specify administrative group number to partition supervisor's access _____		ADMINGRP	1–255	
☐ No immediate cutoff when not ready is activated		OPTIONS	NONIMCUT	
☐ Time delay deflection		OPTIONS	TMDELOFL	
Time allowed to wait before overflow ___		TIME	0–1800 seconds	
Types of calls allowed to overflow (circle one) All priority calls / Only priority 0 calls		OFLTYPE	ALLPRIO / PRI0ONLY	
If only priority 0 calls are allowed to overflow: timing starts immediately or when calls are placed in the priority 0 queue (circle one)		START	P0ONLY or IMMEDIAT	
☐ Incoming overflow queue _____		OPTIONS	OVFLINQ	
Service first _____ OVFLIN, P0FIRST, OLDEST (choose one)		SERVICE	OVFLIN, P0FIRST OLDEST	
Maximum overflow queue size_____		MAXVQSIZ	0–511 calls	
Maximum value queue limit _____		MAXVQLMT	Y or N	
		VQLMT	0–511 calls	

Figure 1-19 Datasheets for ACD customer group information (continued)

Customer group information (continued)			
Automatic Call Distribution (ACD) group	**Table name**	**Field or subfield name**	**Value**
☐ Maximum value to which call queue can be changed by way of load management	ACDGRP	OPTIONS	MAXCQLMT
Call queue limit _____		CQLMT	0–511 calls
☐ Call transfer to In Calls key		OPTIONS	ACDXFER
Call transfer queue size		CTQSIZE	0–42 calls
Call transfer recall Y or N		CTRECALL	Y or N
Call transfer recall time		XFERTMR	12–120 seconds
☐ Call transfer with time		OPTIONS	TIMECXR
☐ Queue calls to an ACD group with all agents in make set busy		OPTIONS	QTOMSB
☐ Extended agent observe only to ACD calls on In Calls key		OPTIONS	OBSREST

Figure 1-20 Datasheets for ACD customer group information (continued)

Customer group information (continued)			
Automatic Call Distribution (ACD) group	**Table name**	**Field or subfield name**	**Value**
☐ Variable wrap-up time for agents Default wrap-up time _____	ACDGRP	OPTIONS DWRPTIME	VARWRAP 1–900 seconds
☐ Not ready functionality for secondary directory number		OPTIONS	NRONSDN
☐ Call park to an ACD agent Call recalled to agent who initiated call park Y or N Recall time		OPTIONS CPRECALL CPKRTMR	ACDCPK Y or N 12–240 seconds
☐ Original group announcement		OPTIONS	ORGANN
☐ ACD set as an ACD public safety answering point (PSAP) Anonymous calls terminate at the PSAP Y or N		OPTIONS ANONCALL	ACDPSAP Y or N
☐ SCAI call redirection on an ACD group basis Response message timer _____ Network class of service _____ Billing directory number _____		OPTIONS MSGTO NCOS BILLDN	SCAIREDIR 1–30 seconds 0–511 0–11 digits

Figure 1-21 Datasheets for ACD customer group information (continued)

Customer group information (continued)			
Automatic Call Distribution (ACD) group	**Table name**	**Field or subfield name**	**Value**
☐ Valid table entries for an ACD group Route value _____ _____	ACDRTE	OPTION RTE_TABLE INDEX	TABEN IBNRTE OR OFRT (up to 10) 1–1023 indices
☐ Audio groups _____ _____ _____ _____		OPTION AUDIO	AUDIO 1–8 audio groups from AUDIO1–AUDIO512
☐ Enhanced call overflow capability If yes, ACD groups to which calls are to overflow (maximum of 4) _____ _____ _____ _____		OPTION OVFLLIST	OVFL 1–16 characters
☐ Announcement given to calls that are rerouted due to overflow conditions		OPTION FOAUDGRP	FOAUDIO AUDIO1–AUDIO512
☐ Announcement given to incoming calls before being placed in the queue or being presented to an agent		OPTION FIAUDGRP	FIAUDIO AUDIO1–AUDIO512

Figure 1-22 Datasheets for ACD customer group information (continued)

Customer group information (continued)			
Automatic Call Distribution (ACD) group	**Table name**	**Field or subfield name**	**Value**
☐ Controlled interflow route to be taken when feature is activated	ACDRTE	OPTION TABNAME INDEX	CIFROUTE IBNRTE or OFRT 0–1023 indices
☐ Route taken when calls are overflowed because timer has expired Time delay threshold route timer _____		OPTION TABNAME INDEX TMDTHRTE_TIME	TMDTHRTE IBNRTE or OFRT 0–1023 indices 0–1800 seconds
☐ Announcement presented to calls that are received after night service has been activated		OPTION NSAUDGRP	NSAUDIO AUDIO1–AUDIO512
☐ ACD group requires subgroups _____ If yes, quantity of subgroups needed _____ Each subgroup defined in separate tuple	ACDSGRP	 SUBGROUP	 1–255
Capability to record all emergency calls Y or N Interface with recording equipment (circle one) Line or trunk LEN, CLLI, or LTID _____ Concurrent with connection to supervisor		CHOICE LEN CLLI TWOWAY	LINE, TRUNK, or NONE Numeric 1–16 characters Y or N

Figure 1-23 Datasheets for ACD customer group information (continued)

Customer group information (continued)				
Automatic Call Distribution (ACD) group		**Table name**	**Field or subfield name**	**Value**
ACDDN(s)	Priority level	DNROUTE	AREACODE	0–3 digits
Primary _____ Trunk _____ Line _____			OFCCODE	0–7 digits
			STNCODE	0–8 digits
Supplementary (1) _____	All calls _____		DNRESULT	FEAT
Supplementary (2) _____	All calls _____		FEAT	ACD
Supplementary (3) _____	All calls _____		ACDGRP	Alphanumeric
Supplementary (4) _____	All calls _____		DNTYPE	PRIM or SUPP
Supplementary (5) _____	All calls _____		TRUNK/LINE	0–3
Supplementary (6) _____	All calls _____		DNPRIO	0–3
Supplementary (7) _____	All calls _____			
Supplementary (8) _____	All calls _____			
Supplementary (9) _____	All calls _____			
Supplementary (10)_____	All calls _____			
Supplementary (11)_____	All calls _____			
Supplementary (12)_____	All calls _____			
Supplementary (13)_____	All calls _____			
Supplementary (14)_____	All calls _____			
Supplementary (15)_____	All calls _____			
Supplementary (16)_____	All calls _____			

Figure 1-24 Datasheets for ACD customer group information (continued)

Customer group information (continued)			
Automatic Call Distribution (ACD) group	**Table name**	**Field or subfield name**	**Value**
☐ ACDDN name _____	DNATTRS	DATA	PUBLIC or PRIVATE
		NETOPTS	NAME
		DNNAME	1–15 characters
☐ Enhanced ACD login	CUSTACD		
Customer group name _____		CUSTNAME	1–15 characters
Enhanced login options _____		OPTIONS	ENLOG
Partition number _____		PARTNO	0–256
Login table use Y = ACDENLOG N = ACDLOGIN		INUSE	Y or N
☐ ACD login	ACDLOGIN		
ACD login ID _____		LOGINID	0001–9999
Customer group associated? (circle one) Y or N		CUSTSEL CUSTGRP	Y or N 1–15 characters
Password required? (circle one) Y or N		PSWDSEL	Y or N
ACD login password _____		PSWD	0001–9999

Figure 1-25 Datasheets for ACD customer group information (continued)

Customer group information (continued)			
Automatic Call Distribution (ACD) group	**Table name**	**Field or subfield name**	**Value**
☐ ACD login	ACDENLOG		
Partition number		PARTNO	0–256
ACD login ID _____		LOGINID	0001–9999
Has agent been activated?		ACTIVATE	Y or N
Does switch check if the customer group associated with the login ID matches the customer group datafilled for the In Calls key of set the agent is logging in on?		CUSTSEL	Y or N
		CUSTGRP	1–16 characters
Password required during login?		PSWDSEL	Y or N
ACD login password _____		PSWD	0001–9999
☐ Variable wrap-up time for agents based on login ID?		OPTIONS	VARWRAP
Wrap-up time		WRPTIME	0–900 seconds
☐ Subpool pasword security enforced?		OPTIONS	MISGROUP
ACD group name _____		ACDGRP	1–16 characters
☐ Personal agent queue for calls queued at an agent position?		OPTIONS	PAQ
Personal agent queue size		PAQSIZE	0–42 calls

Figure 1-26 Datasheets for Network ACD information

ACD group information				
Network Automatic Call Distribution (NACD)		**Table name**	**Field or subfield name**	**Value**
ACD group name	_____	NACDGRP	ACDGRP	1–16 alphanumeric characters
Queue threshold	_____		QTHRESH	0–511 calls
Wait threshold time	_____		WTHRESH	0–1800 seconds
Preference weighting factor	_____		PWF	0–32,767
Best group (circle one)	Y or N		BESTGRP	Y or N
Service rate	_____		SRVRATE	0–600 seconds
Number of idle agents	_____		NUMIDLE	0–25
Time idle	_____		TIMEIDLE	0–600

Figure 1-27 Datasheets for Network ACD information (continued)

ACD group information (continued)			
Calls overflow to a local or remote ACD group (circle one) Local Remote *If local:* Local ACD group name Preference weighting factor (PWF) _____	**Table name**	**Field or subfield name**	**Value**
	NACDGRP	NTWKGRPS	LCL or REM
		LCLGRP	0–16 characters
		PWF	0–32,767
		REMGRP	0–16 characters
		PWF	0–32,767
Route calls to nodal threshold route when maximum call queue size or maximum wait time parameter has been exceeded.		OPTIONS	NETOVFL

Figure 1-28 Datasheets for Network ACD information (continued)

ACD group information (continued)

Network Automatic Call Distribution (NACD)

If remote:

ACD groups that will provide network service for this group:

Remote ACD group	Remote DN	Route	DMS/ NONDMS	RI (If non-DMS)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Table name	Field or subfield name	Value
REMNACD	REMGROUP	1–16 characters
	REMOTEDN	0–11 digits
	ROUTE	
	TABNAME	IBNRTEor OFRT
	INDEX	1–1023 indices
	OPTIONS	NONDMS
	TRGTRI	0–32,767

Figure 1-29 Datasheets for Network ACD information (continued)

ACD group information (continued)

Network Automatic Call Distribution (NACD)

ACD groups that will provide network service for this group:

Remote ACD group	Remote DN	Route	DMS/ NONDMS	RI (If non-DMS)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Table name	Field or subfield name	Value
REMNACD		

Functional groups for Automatic Call Distribution

The ACD functional groups require the DMS SuperNode Platform—BASE0001, TEL00001 and BAS00003. The following sections provide functional group names, order codes and additional requirements for ACD.

ACD Base, ACD00001

To operate, ACD Base requires the following functional groups:

- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007

CompuCALL, ACD00002

To operate, CompuCALL Base requires MDC Minimum, MDC00001.

ACD Networking, ACD00004

To operate, ACD Networking requires the following functional groups:

- ACD Base, ACD00001
- MDC Minimum, MDC00001

2 Datafilling ACD Base

The following chapter describes the ACD Base, ACD00001, functionality.

ACD Access Feature Grouping

Ordering codes

Functional group ordering code: ACD00001

Functionality ordering code: ACD00006

Release applicability

BCS32 and later versions

Requirements

The ACD Access Feature Grouping does not have requirements.

Description

The ACD Access Feature Grouping feature package allows the operating company to create templates for business sets. The operating company personnel defines ACD features on specified keys to create templates for business sets. The operating company uses the templates to program ACD agent or supervisor sets. A single Service Order system (SERVORD) command provides access to the templates.

ACD Service Order Enhancements

This feature enhances the feature key template. The feature key template allows an operating company to predefine the layout of ACD feature keys for business sets. The feature provides the ability to use a single SERVORD command to establish a new ACD agent or supervisor set.

Operating companies can use the current SERVORD commands NEW and ADO with the feature key template. Operating companies use the commands and template to enter a subset of ACD features for a business set.

Operation

To operate the feature package, feature key templates are created in Table KSETKEYS. These templates are not associated with the set. The templates provide a method for operating company personnel to use SERVORD to assign features to ACD sets. When this event occurs, the feature BLK, blank key, indicates that a key is not defined for that key number in the template. The SERVORD command uses the NEWACD command to assign the feature key template to a new ACD agent or supervisor set. A prompt appears for the template name. This prompt allows the operating company to assign all the feature keys immediately. Use SERVORD to modify, move, or delete a feature key that operating company personnel used a template to assign.

ACD Access Feature Grouping (continued)

Translations table flow

When operating company personnel use SERVORD to assign line features to an agent set, the template name is specified from Table KSETKEYS . The CLAIMSAGT template from the example data that appears in the following datafill example for Table KSETKEYS assigns the following business set features:

- key number 2 with ACD not ready
- key number 3 with call supervisor
- key number 4 with emergency key
- key number 5 with display queue status
- key number 6 with three-way calling
- key number 7 with ring again
- key number 8 with make set busy
- key number 9 with secondary directory number

The template begins with key number 2 because key number 1 is always assigned as the In Calls key.

Refer to the following table for sample data in table KSETKEYS.

Datafill example for ACD Access Feature Grouping

Datafill table	Example data
KSETKEYS	CLAIMSAG ACDAGENT M5212 (ACDNR) (CLSUP) (EMK) (DQS (3WC) (RAG) (MSB) (SDN) $

ACD Access Feature Grouping (continued)

Limits

The following limits apply to ACD Access Feature Grouping:

- The set types ACDAGENT and ACDSUPER that this feature package establishes only support the following set types and add-on modules:
  - M5212
  - M5209
  - M5312
  - M518
  - M536
  - M2009
  - M2112
  - M2018
  - M2317
  - M2008
  - M2616
  - M0022
  - ISDN key set
- Only one secondary directory number (SDN) feature code can associate with the feature key template.
- A maximum of five agent status lamp feature codes associate with the feature key template.

Interactions

A feature key template used to assign ACD features does not affect the internal order of line option data. Feature key templates are not associated with a set. Feature key templates provide a method for operating company personnel to use SERVORD to assign feature keys. All feature keys that feature key templates assign appear in tuples of Tables KSETLINE and KSETFEAT.

Activation/deactivation by the end user

ACD Access Feature Grouping does not require activation or deactivation by the end user.

Billing

ACD Access Feature Grouping does not affect billing.

ACD Access Feature Grouping (continued)

Station Message Detail Recording

The ACD Access Feature Grouping does not affect Station Message Detail Recording.

Datafilling office parameters

The ACD Access Feature Grouping feature package does not affect office parameters.

Datafill sequence

The tables that require datafill to implement ACD Access Feature Grouping appear in the following table. The tables appear in the correct entry order.

Datafill requirements for ACD Access Feature Grouping

Table	Purpose of table
KSETKEYS	Business Set Feature Keys Table. Defines feature key templates that operating company personnel can use with service order commands to assign dedicated keys to business sets.

Datafilling table KSETKEYS

Datafill for ACD Access Feature Grouping for table KSETKEYS appears in the following table. The fields that apply to ACD Access Feature Grouping appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table KSETKEYS (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
TEMPLATE		alphanumeric	Template name. Enter the 1- to 16-character name of the template.
SETINFO		see subfields	Business set information. This field contains subfields SETTYPE, KEYNUM, ACDSTYPE, and KEYNUM.
	SETTYPE	M5212, M518, M536, ACDAGENT, ACDSUPER	Set type. Enter M5212, M518, M536, ACDAGENT, or ACDSUPER.

ACD Access Feature Grouping (continued)

Datafilling table KSETKEYS (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	KEYNUM	12, 30, 48	Starting key number. Enter the key number associated with the first feature specified in the FEATLIST field. The features that appear in the following FEATLIST consecutive key numbers. Valid entries are 12, 30, and 48.
If ACDAGENT or ACDSUPER is entered for SETTYPE, subfields ACDSTYPE and KEYNUM appear:			
	ACDSTYPE	M5212, M518, M536	ACD set type. Enter M5212, M518, or M536.

ACD Access Feature Grouping (continued)

Datafilling table KSETKEYS (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	KEYNUM	1 to 69	Starting key number. Enter the key number associated with the first feature specified in the FEATLIST field. The features that appear in the following FEATLIST have consecutive key numbers. Valid entries are from 1 to 69.
FEATLIST		AAB, AAK, ACDNR, AMEK, ASL, AUD, BLK, CAG, CCV, CFX, CIF, CLSUP, CNF, CPU, CWT, CXR, DASK, DCPK, DQS, DQT, EBO, EMK, EMW, FAA, FXR, HLD INSPECT, LOB, LVM, MCH, MSB, MWIDC, MWQRY, MWT, NGTSRVCE, OBS, PF, PRK, PRL, PRV, QTD, RAG, RLS, SCL, SCS, SCU, SDN, 3WC	Feature list. Enter the list of features that define the feature key template. Valid entries are AAB, AAK, ACDNR, AMEK, ASL, AUD, BLK, CAG, CCV, CFX, CIF, CLSUP, CNF, CPU, CWT, CXR, DASK, DCPK, DQS, DQT, EBO, EMK, EMW, FAA, HLD INSPECT, LOB, LVM, MCH, MSB, MWIDC, MWQRY, MWT, NGTSRVCE, OBS, PF, PRK, PRL, PRV, QTD, RAG, RLS, SCL, SCS, SCU, SDN, and 3WC.

Datafill example for table KSETKEYS

The following example shows Sample datafill for the ACD Access Feature Grouping feature package in Table KSETKEYS appears in the following example. In this example, the SALESAGT template assigns an M5212 set feature:

- key number 2 with call supervisor
- key number 3 with ACD not ready

ACD Access Feature Grouping (continued)

- key number 4 with make set busy
- key number 5 with emergency key
- key number 6 with display queue status
- key number 7 with three-way calling
- key number 8 with ring again
- key number 9 with secondary directory number

MAP example for table KSETKEYS

```
 TEMPLATE     SETINFO
                                FEATLIST
_____________________________________________________
SALESAGT    ACDAGENT  M5212
                                (CLSUP) (ACDNR)
                 (MSB) (EMK) (DQT)
                                (3WC) (RAG) (SDN) $
```

Tools for verifying translations

The ACD Access Feature Grouping does not use tools for verifying translations.

SERVORD

The service order command NEWACD allows the operating company to establish a new ACD set with all the feature keys. This command uses a feature key template defined before in Table KSETKEYS.

SERVORD limits

The ACD Access Feature Grouping does not have SERVORD limits.

SERVORD prompts

The SERVORD prompts used to assign the ACD Access Feature Grouping feature package to a business set appear in the following table.

SERVORD prompts for ACD Access Feature Grouping (Sheet 1 of 3)

Prompt	Valid input	Explanation
DN	7 digits	Enter the directory number.
ACDSETTYPE	AGENT or SUPERVISOR	Enter the line class code.
LCC	Alphanumeric	Enter the line class code.

ACD Access Feature Grouping (continued)

SERVORD prompts for ACD Access Feature Grouping (Sheet 2 of 3)

Prompt	Valid input	Explanation
GROUP	1-16 alphanumeric characters	Enter the customer group for this ACD group.
SUBGRP	0-7	Enter the subgroup number of the customer group.
NCOS	0-511	Enter the network class of service for this station.
SNPA	3 digits	Enter the serving numbering plan area code for this station.
LATANAME	Alphanumeric	Enter the local access and transport area name.
LEN_OR_LTID	Alphanumeric	Enter the line equipment number (LEN) or logical terminal identifier of this station.
ACDGROUP	1-16 alphanumeric characters	Enter the ACD group to which this station belongs.
ACDSGRP	1-255	Enter the number of the ACD subgroup to which this station belongs.
INCALLSKEY	Y or N	Enter Y if an In Calls key on the set of the supervisor is to occur. A prompt appears for this field only when the NEWACD command is used for a supervisor set.
FORCING	Y or N	Enter Y for call forcing.
IDNUM	Y or N	Enter Y for an ID number for a supervisor set. A prompt appears for this field when the NEWACD command is used for a supervisor set. Set this field to Y to prompt POSID.
POSID	0001-9999	Enter the position ID number of the agent. Use a POSID for interactions with other ACD features.
TEMPLATE	1-16 characters or $	Enter the feature key template name that table KSETKEYS defines.

ACD Access Feature Grouping (continued)

SERVORD prompts for ACD Access Feature Grouping (Sheet 3 of 3)

Prompt	Valid input	Explanation
SDN	7 digits	Enter the secondary directory number. This prompt appears only when the feature key template contains SDN.
CLSUPDN	7 digits	Enter the call supervisor key directory number. This prompt appears if the feature key template contains CLSUP for an ACD agent set.
CAGDN	7 digits	Enter the Call Agent key directory number. This prompt appears if the feature key template contains CAG for a supervisor set.
AAKDN	7 digits	Enter the Ans Agent key directory number. This prompt appears if the feature key template contains AAK for a supervisor set.
AEMKDN	7 digits	Enter the Ans Emergency key directory number. This prompt appears if the feature key template contains AEMK for a supervisor set.
ASLLEN1-20	LEN number	Enter the agent status lamp LEN. This prompt appears if the feature key template contains ASL for a supervisor set.
OPTKEY	Alphanumeric or $	Enter the option key. Allows the capability to assign a feature or a feature with different default parameters separately to the set.

SERVORD example for implementing ACD Access Feature Grouping

How the NEWACD SERVORD command adds ACD Access Feature Grouping to an M5212 ACD set appears in the following SERVORD example.

ACD Access Feature Grouping (continued)

SERVORD example for ACD Access Feature Grouping in prompt mode

```
> SERVORD
SO:
>NEWACD
SONUMBER:NOW 90 04 19 PM
>
DN:
> 7221234
ACDSETTYPE:
> AGENT
LCC:
> M5212
GROUP:
> CUSTGRP5
SUBGRP:
> 4
NCOS:
>0
SNPA:
> 613
LATANAME:
> NILLATA
LTG: 0
> (CR)
LEN_OR_LTID
> 0 0 1 9
ACDGROUP:
>ACDGRP1
ACDSGRP:
> 3
FORCING:
> Y
IDNUM:
> Y
```

ACD Access Feature Grouping (end)

SERVORD example for ACD Access Feature Grouping in prompt mode (continued)

```
POSID:
>1000
TEMPLATE:
>AGENTTEMP
TEMPLATE:
> $
OPTKEY:
> $
COMMAND AS ENTERED:
NEWACD NOW 90 04 19 PM 7221234
AGENT M5212 CUSTGRP5 4 0 613
NILLATA 0 HOST 00 0 01 09 (ACDGRP1
3 Y Y 1000) (AGENTTEMP) $ $
```

SERVORD example for ACD Access Feature Grouping in no-prompt mode

```
> NEWACD $ 7221234 AGENT M5212 CUSTGRP5 4 0 613 NILLATA 0
 0 0 1 9 ACDGRP1 3 Y Y 1000 AGENTTEMP $ $
```

ACD Enhanced Walkaway

Ordering codes

Functional group ordering code: ACD00001

Functionality ordering code: ACD00020

Release applicability

Automatic Call Distribution (ACD) Enhanced Walkaway was introduced in NA011.

Prerequisites

This document includes all the data table information for this functionality. Complete use of this functionality can require software or hardware not described in this document.

Description

The ACD Enhanced Walkaway feature allows an ACD agent to change the walkaway reason without coming out of the Not Ready state. The Enhanced Walkaway feature builds on the Walkaway feature. The Walkaway feature adds the capability to describe a 3-digit code for the reason of not being ready.

To change the walkaway reason

- dial an access code from a secondary directory number (DN)
- indicate the reason for being not ready with a 3-digit code

ACD Enhanced Walkaway is optional and assigned by ACD group. If assigning the feature to the ACD group, the enhanced walkaway functionality is available to all agents in the ACD group.

Operation

The ACD Enhanced Walkaway feature activates when an agent dials a feature code from a secondary DN key. A 3-digit walkaway reason can be entered upon successful activation of the feature. The new walkaway reason reports to the Management Information System (MIS) in the agent position event message. The Agent SetAction message tells the host computer of the walkaway reason change if the agent or ACD group links with an Intelligent Call Management (ICM) session.

ACD Enhanced Walkaway (continued)

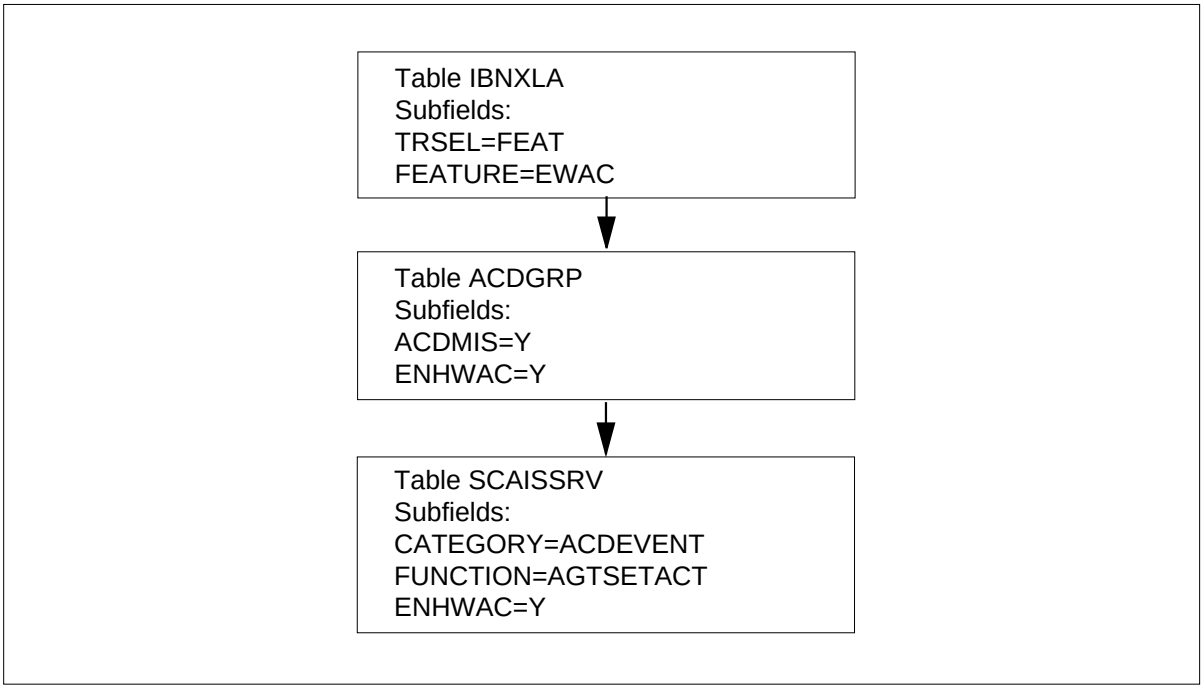
Translations table flow

The ACD Enhanced Walkaway translations tables are as follows:

- Integrated business network translation (IBNXLA)
- ACD group (ACDGRP)
- Switch computer application interface subservices (SCAISSRV)

This flowchart shows the ACD Enhanced Walkaway translation process.

Table flow for ACD Enhanced Walkaway



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

Datafill example for ACD Enhanced Walkaway

Datafill table	Example data
IBNXLA	BNRFEAT 49 FEAT N N EWAC
ACDGRP	ACDGRP1 BNR 12 OFRT 99 IBNRTE 99 2 N 20 20 Y MIS1 MIS1SUB N (WALKAWAY Y) $ N NONE N N $
SCAISSRV	TABLE: SCAISSRVSUBSERV SPROFILEACDEVENT15 ACDEVENT (AGTSETACT Y Y Y)$

ACD Enhanced Walkaway (continued)

Limitations and restrictions

The following limitations and restrictions apply to ACD Enhanced Walkaway:

- This feature is available only to Meridian Digital Centrex (MDC) lines.
- This feature is applies only to ACD on Meridian Business Sets (MBS) with ACD Not Ready (ACDNR) with Walkaway and at least one secondary DN assigned.
- When dialing # as the first digit during walkaway digit collection, digit collection does not abort immediately. The user can enter two more digits, but sends a default walkaway code to the management information system (MIS) and the host computer. If dialing # as the second digit during walkaway digit collection, digit collection aborts immediately and sends a default walkaway code to the MIS and the host computer.

Interactions

The following paragraphs describe the actions between ACD Enhanced Walkaway and other functionalities. In all the descriptions given here, the following applies:

- The ACD agent has an ACDNR key assigned to the set.
- The ACD agent has a secondary DN assigned to the set.
- The agent has the WALKAWAY option assigned in table ACDGRP and sets the sub-option ENHWAC to Y.
- Enter datafill for table IBNXLA with an access code for the ACD Enhanced Walkaway feature. The feature translator should be the customer group where the agent is.
- The agent links with an MIS and ICM session.

ACD Enhanced Walkaway (continued)

Multiple secondary dns

ACD Enhanced Walkaway links with multiple secondary DNs as follows:

1. The agent enters the enhanced walkaway activation code from one secondary DN on the set.

   Response:

   The agent receives a stutter dial tone and begins entering the walkaway digits.

2. After dialing part of the walkaway digits, the agent presses another secondary DN on the set.

   Response:

   Digit collection aborts and the first secondary DN lamp extinguishes. The second DN receives a dial tone. The default walkaway code reports to the MIS and the host computer.

ACD Enhanced Walkaway (continued)

Three Way Calling (3WC)

ACD Enhanced Walkaway links with 3WC as follows:

1. The agent presses the 3WC key during enhanced walkaway digit collection.

   Response:

   Digit collection ignores the 3WC feature activation.

Call Park (PRK)

ACD Enhanced Walkaway links with PRK as follows:

1. The agent presses the PRK key during enhanced walkaway digit collection.

   Response:

   Digit collection ignores the PRK function.

RELEASE and HOLD

ACD Enhanced Walkaway links with RELEASE and HOLD as follows:

1. The agent presses the RELEASE or HOLD key during enhanced walkaway digit collection.

   Response:

   Digit collection aborts and the secondary DN lamp extinguishes. The default walkaway code reports to the MIS and the host computer.

Make Set Busy (MSB)

ACD Enhanced Walkaway links with MSB as follows:

1. The agent presses the MSB key during enhanced walkaway digit collection.

   Response:

   The set goes into the MSB state. The MSB lamp lights. The ACDNR lamp remains lit.

2. The agent enters the walkaway digits.

   Response:

   After the agent dials three digits, a confirmation tone sounds and both the ACDNR and secondary DN lamps turn OFF. The default walkaway code reports to the MIS and the host computer.

ACD Enhanced Walkaway (continued)

Automatic Call Distribution Not-Ready (ACDNR)

ACD Enhanced Walkaway links with ACDNR as follows:

1. The agent presses the ACDNR key during enhanced walkaway digit collection.

   Response:

   Digit collection ignores ACDNR key activation.

Not Ready on Secondary Directory Number (NRONSDN)

ACD Enhanced Walkaway links with the NRONSDN option assigned in table ACDGRP as follows:

1. The agent is in idle state and presses secondary DN.

   Response:

   The ACDNR lamp turns solid without asking for a walkaway reason.

2. The agent dials the access code to activate enhanced walkaway functionality.

   Response:

   A stutter dial tone indicates the feature is active.

3. The agent enters the walkaway digits.

   Response:

   The agent receives a confirmation tone after dialing the three digits. The new walkaway code reports to the MIS and the host computer.

Variable Wrapup (VARWRAP)

ACD Enhanced Walkaway links with the VARWRAP option assigned in table ACDGRP as follows:

1. The agent goes onhook after completing a call on the INCALLS key.

   Response:

   The ACDNR key blinks for a duration described in table ACDGRP.

2. The agent presses the secondary DN in the wrapup duration and dials the access code to activate the enhanced walkaway functionality.

   Response:

   The enhanced walkaway functionality activation is not allowed during VARWRAP duration. The agent receives a reorder tone to indicate the feature is not active.

ACD Enhanced Walkaway (continued)

Non-immediate Cutoff (NONIMCUT)

ACD Enhanced Walkaway links with the NONIMCUT assigned in table ACDGRP as follows:

1. The agent is busy on a call on the INCALLS key. The agent presses the ACDNR key.

   Response:

   The ACDNR lamp flashes and the agent enters the walkaway reason. The call on primary DN is not changed.

2. After the ACDNR lamp becomes solid, the agent presses the secondary DN and dials the access code to activate the enhanced walkaway functionality.

   Response:

   A stutter dial tone indicates the feature is active. The agent can enter the three-digit walkaway reason. No message reports to the MIS or the host computer. The agent can make unlimited walkaway reason changes if the call is active on the INCALLS key and set to the ACDNR state.

   After call completion, the last walkaway reason reports to the MIS through the call-released message. The reason reports to the host computer through the dv-Agent-Not-Ready-U message if this message is in table SCAISSRV and the WALKAWAY parameter in this message is set to Y.

   For example, a call on the INCALLS key is put on hold and the agent activates the enhanced walkaway functionality from a secondary DN. After partially dialing the walkaway reason, the agent again presses the INCALLS key. This puts the call on hold and the secondary DN lamp blinks. The blinking indicates that digit collection is still active. The agent must press the secondary DN before the digit collection time-out occurs. If not, the secondary DN lamp turns off and the default walkaway code reports to the MIS and the host computer.

Line of Business (LOB)

The ACD Enhanced Walkaway feature links with the LOB feature and the NONIMCUT option assigned in table ACDGRP as follows:

1. The ACD agent is active on a call on its INCALLS key, presses the ACDNR key, and enters the first walkaway digits.

   Response:

   The blinking ACDNR lamp prompts the agent to enter walkaway digits. The primary DN call continues.

2. The agent presses the secondary DN.

ACD Enhanced Walkaway (continued)

Response:

The call on the primary DN placed on hold and INCALLS lamp starts blinking.

3. The agent dials the activation code for enhanced walkaway functionality.

   Response:

   A stutter tone indicates that feature is active and agent can enter the new walkaway digits.

4. The agent presses the LOB key while entering the walkaway digits.

   Response:

   Digit collection ignores LOB key activation

Emergency Key (EMK)

The ACD Enhanced Walkaway feature links with EMK feature and NONIMCUT option assigned in table ACDGRP as follows:

1. The ACD agent is active on a call on its INCALLS key, presses the ACDNR key, and enters the first walkaway digits.

   Response:

   The blinking ACDNR lamp prompts the agent to enter walkaway digits. The primary DN call continues.

2. The agent presses the secondary DN.

   Response:

   The call on primary DN placed on hold and the INCALLS lamp starts blinking.

3. The agent dials the activation code for enhanced walkaway functionality.

   Response:

   A stutter tone indicates that feature is active and the agent can now enter the new walkaway digits.

4. The agent presses the EMK key while entering the walkaway digits.

   Response:

   Digit collection ignores EMK key activation.

   Note: This feature interaction changes from the current ACDNR/WALKAWAY feature interaction with EMK.

ACD Enhanced Walkaway (continued)

Display Queue Threshold (DQT)

ACD Enhanced Walkaway links with DQT feature as follows:

1. The agent presses the DQT key during enhanced walkaway digit collection.

   Response:

   The queue information ignores the DQT feature activation and does not update the display. The digit collection continues and the entered digits report to the MIS and the host computer.

Agent Automatic Multistage Queue Status (MSQS) Display

ACD Enhanced Walkaway links with MSQS field datafilled in table ACDGRP as follows:

1. The agent is in the not ready state. The agent activates the ACD Enhanced Walkaway feature from the secondary DN.

   Response:

   The display does not update automatically while the digit collection is in progress.

Call Supervisor Key (CLSUP)

ACD Enhanced Walkaway links with the CLSUP as follows:

1. The agent presses the CLSUP key during enhanced walkaway digit collection.

   Response:

   Digit collection aborts and the default walkaway code reports to the MIS and the host computer.

Forced Agent Availability (FAA)

ACD Enhanced Walkaway links with FAA as follows:

1. The supervisor presses the FAA key for an agent who is in enhanced walkaway digit collection.

   Response:

   The FAA feature does not activate. The supervisor receives a reorder tone while the display will update with the message "FAA INVALID".

ACD Observe Agent (OBS)

ACD Enhanced Walkaway links with the OBS feature assigned to an ACD supervisor set which is also an agent as follows:

1. The supervisor presses the OBS key during enhanced walkaway digit

ACD Enhanced Walkaway (continued)

collection.

Response:

Digit collection aborts and the default walkaway code reports to the MIS and the host computer.

Display Agents Status Key (DASK)

ACD Enhanced Walkaway links with DASK key feature assigned to an ACD supervisor set which is also an agent as follows:

1. The supervisor presses the DASK key during enhanced walkaway digit collection.

   Response:

   Digit collection ignores the DASK feature activation.

Display Queue Status (DQS)

ACD Enhanced Walkaway links with the DQS feature key assigned to an ACD supervisor set which is also an agent as follows:

1. The supervisor presses the DQS key during enhanced walkaway digit collection.

   Response:

   Digit collection ignores the DQS feature activation.

Agent Status Lamp (ASL)

ACD Enhanced Walkaway links with the ASL feature key assigned to an ACD supervisor set as follows:

1. Assign the ASL option on the supervisor set against a secondary DN on an ACD agent set
2. Supervisor presses the ASL key when the agent goes offhook from the secondary DN.
3. The ACD agent dials the enhanced walkaway activation code followed by the walkaway digits on the secondary DN.

   Response:

   The supervisor display updates with the secondary DN number and *** displays in the field used for displaying the type of call.

ACD Enhanced Walkaway (continued)

Call Agent (CAG)

ACD Enhanced Walkaway links with the the CAG feature key assigned to an ACD supervisor set as follows:

1. The supervisor dials the secondary DN of an agent from the CAG key, while the agent dials the enhanced walkaway digits on the agent's secondary DN.

   Response:

   The supervisor receives a busy tone indicating the agent is busy on the secondary DN.

Computer-Assisted Signaling (CAS)

ACD Enhanced Walkaway links with the CAS feature as follows:

1. The agent receives a CAS feature message while dialing the enhanced walkaway digits on the secondary DN.

   Response:

   All CAS messages allow only the Release call message. Other CAS messages like Addparty, Hold, and Unhold receive a return error message.

   If receiving the Release call message during enhanced walkaway digit collection

   - digit collection aborts
   - default walkaway digits report to the MIS and the host computer

   If a DV_MAKE_CALL message is sent with the posid of an ACD agent as the originating address, while the agent is entering the enhanced walkaway digits from the secondary dn, then a Return Error message with reason make_call_mismatched_state reports back to the host computer.

Third Party Agent Control (TPAC)

ACD Enhanced Walkaway links with the TPAC as follows:

1. The host computer sends a set feature message to the switch to make the agent ready, while the agent is dialing the enhanced walkaway digits on the secondary DN.

   Response:

   The message is not allowed during walkaway digit collection. The switch sends a return error with the reason invalid_agtpos_state to the host computer.

2. The host computer sends a set feature message to the switch to make the agent not ready while the agent is dialing the enhanced walkaway digits on the secondary DN.

ACD Enhanced Walkaway (continued)

Response:

The message is not allowed during walkaway digit collection. The switch sends a return error with reason invalid_agtpos_state to the host computer.

3. The host computer sends a set feature message to the switch to log out the agent while the agent is dialing the enhanced walkaway digits on the secondary DN.

   Response:

   The MSB lamp turns ON and the agent logs out. The walkaway digit collection continues from the secondary DN and the ACDNR lamp remains ON. The ACDNR lamp turns OFF when walkaway digit collection is complete.

Activation/deactivation by the end user

Activation/deactivation of ACD Enhanced Walkaway by the end user

At your telephone

1. The ACD agent is in the idle state. Press the ACDNR key.

   Response:

   The ACDNR lamp blinks and asks the agent for walkaway digits.

2. The ACD agent starts dialing the walkaway reason. After the partial dialing of digits, press the secondary DN and dial the activation code for the enhanced walkaway functionality.

   Response:

   The walkaway digit collection on the ACDNR key aborts after pressing the secondary DN. After dialing the access code, a stutter tone indicates an active ACD Enhanced Walkaway feature.

3. Enter the new walkaway reason.

   Response:

   After dialing three digits, a confirmation tone sounds and the digits entered report to the MIS and the host computer.

Billing

ACD Enhanced Walkaway does not change billing.

Station Message Detail Recording

ACD Enhanced Walkaway does not change Station Message Detail Recording.

Datafilling office parameters

ACD Enhanced Walkaway does not change office parameters.

Datafill sequence

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

Datafill tables required for ACD Enhanced Walkaway

Table	Purpose of table
IBNXLA	Integrated Business Network (IBN) Translation. This table stores data for the translation of calls.
ACDGRP	Automatic Call Distribution (ACD) Group. This table associates ACD features with specific customer groups.
SCAISSRV	Switch Computer Application Interface Subservices. This table acts as a reference table for CompuCALL service categories.

Datafilling table IBNXLA

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

Datafilling table IBNXLA

Field	Subfield or refinement	Entry	Explanation and action
RESULT		see subfields	Result. This field consists of subfields TRSEL, ACR, SMDR, and FEATURE. ***Note:*** This feature only affects subfield TRSEL.
	TRSEL	FEAT	Translation selector. Enter the translation selector FEAT.
	FEATURE	EWAC	Enhanced Walkaway. Enter EWAC for the Enhanced Walkaway feature.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

ACD Enhanced Walkaway (continued)

MAP display example for table IBNXLA

```
  KEY                                        RESULT

------------------------------------------------------------
BNRFEAT      49
                                      FEAT    N N   EWAC
```

Datafilling table ACDGRP

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

Datafilling table ACDGRP

Field	Subfield	Entry	Explanation and action
ACD			Automatic Call Distribution. ***Note:*** This database only affects subfield ENHWAC.
	ACDMIS	ENHWAC	ACD management information system. Enter ENHWAC for the Enhanced Walkaway feature.
	ENHWAC	Y or N	Enhanced Walkaway. If the entry in MIS Option (MISOPT) is WALKAWAY, enter Y to allow all the agents in the ACD group to change their walkaway reason in the Not Ready state. Enter N to disallow this functionality.

Datafill example for table ACDGRP

The following example shows sample datafill for table ACDGRP.

MAP display example for table ACDGRP

```
ACDNAME CUSTGRP ACDRNGTH THROUTE NSROUTE PRIOPRO DBG MAXCQSIZ MAXWAIT
ACDMIS MSQS DISTRING OBSWTONE FRCNGTSV OPTIONS
----------------------------------------------------------------------
ACDGRP1 BNR 12 OFRT 99 IBNRTE 99 2 N 20 20 Y MIS1 MIS1SUB N (WALKAWAY
Y) $ N NONE N N $
```

Datafilling table SCAISSRV

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

Datafilling table SCAISSRV

Field	Subfield	Entry	Explanation and action
SPROFILE			Subservice Profile Contents.
	CATEGORY	ACDEVENT	Category. Enter ACDEVENT for the ACD Line Call Event feature.
	ACDEVENT	AGTSETACT	ACD Event. Enter AGTSETACT and enter datafill in subfield NTWSETACT, INTSTAT, and ENHWAC. ***Note:*** This feature only affects subfield ENHWAC.
	AGTSETACT	ENHWAC	AGTSETACT. Enter ENHWAC.
	ENHWAC	Y or N	Report new walkaway reason. The host computer is notified when the walkaway reason is changed. Enter Y to send the dv-agent-setaction-u message from the switch to the host computer.

ACD Enhanced Walkaway (end)

MAP display example for table SCAISSRV

```
TABLE: SCAISSRV
SUBSERV SPROFILE

ACDEVENT15 ACDEVENT (AGTSETACT Y Y Y)
```

Translation verification tools

ACD Enhanced Walkaway does not use translation verification tools.

SERVORD

ACD Enhanced Walkaway does not use SERVORD.

ACD Interaction with IVR

Ordering codes

Functional group ordering code: ACD00001

Functionality ordering code: not applicable

Release applicability

NA011 and up

NA011 introduced ACD Interaction with IVR.

Requirements

To operate, ACD Interaction with IVR requires the ACD Basic functional group, functional group ordering code ACD00001.

Description

ACD (Automatic Call Distribution) Interaction with Interactive Voice Response (IVR) improves the DMS-100 Automatic Call Distribution (ACD) with voice response units (VRU) or IVR. The ACD Interaction with IVR improves option COD (Cut-off on Disconnect) for release of calls to ACD IBN/2500 sets.

Before ACD Interaction with IVR, option COD was not compatible with ACD. Without option COD, the release of the call takes five to ten seconds. A caller releases, but the cut off relay is not active. The call transfers to a live ACD agent during the delay. The delay results in call abandonment (phantom caller) to the ACD agent. The assignment of option COD discards the delay and the potential for phantom callers.

Before ACD Interaction with IVR, another issue occured for live ACD agents with IBN/2500 sets. The ACD agent released a call and option COD activated the cut off relay. The next call in queue arrives at the set without notification. The agent did not know of the new call. The agent disconnected and the new call disconnected.

ACD Interaction with IVR creates a new option VRUGRP (Voice Response Unit) in table ACDGRP (Automatic Call Distribution Group). Option VRUGRP is for the ACD groups with VRU/IVR ports. Option VRUGRP allows option COD assignment for each IBN/2500 set in the ACD group with VRU/IVR ports. Option COD provides cutoff on disconnect for VRU/IVR ports. Option COD prevents early release of calls to the ACD agent. The assignment of option COD is through the Service Order System (SERVORD).

ACD Interaction with IVR (continued)

ACD Interaction with IVR removes option COD from the ACD tuple in table OPTOPT (Incompatible Options). The removal of option COD permits the compatibilty of option COD with option ACD.

Operation

ACD Interaction with IVR has no operation requirements.

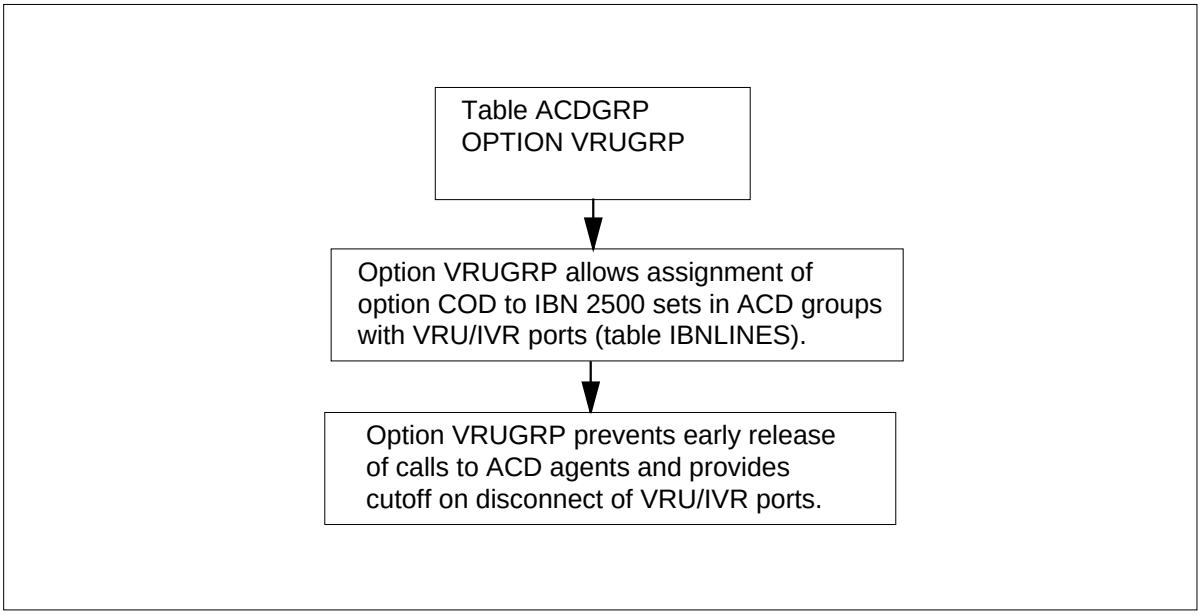
Translations table flow

The list that follows includes the ACD Interaction with IVR translations tables:

- Table ACDGRP (Automatic Call Distribution Group) contains configuration data for each ACD group.
- Table IBNLINES (IBN Line Assignment) lists line assignments for each 500/2500 set assigned an MDC or Subscriber Services (SS) station number. Enter this table when the system assigns the line through SERVORD.

The flowchart that follows provides the ACD Interaction with IVR translations process.

Table flow for ACD Interaction with IVR



ACD Interaction with IVR (continued)

The table that follows lists the datafill content used in the flowchart.

Datafill example for ACD Interaction with IVR

Datafill table	Example data
ACDGRP	ACDGRP1 BNR 12 OFRT 99 IBNRTE 99 2 N 20 20 Y MIS1 MISISUB N $N N VRUGRP $
IBNLINES	HOST 00 0 00 01 10 DT STN IBN 5554667 919 (COD) $

Limitations and restrictions

The following limitation and restriction applies to ACD Interaction with IVR.

A warning message displays with the addition of option COD for IBN 2500 sets with option VRUGRP in table ACDGRP. The message is to prevent assignment of option COD to live ACD agents. ACD Interaction with VRU cannot control assignment of COD to live ACD agents only provide the warning message.

Interactions

The following paragraph describes interactions to ACD Interaction with IVR.

An agent moves from one group to another by LOADMGMT (Load Management) or remote LOADMGMT. An agent cannot move to a new ACD group under the following conditions:

- if the assignment of option VRUGRP is in a previous group but not in the new group
- if the assignment of option VRUGRP is not in the previous group but in the new group

Action and deactivation by the user

ACD Interaction with IVR does not require activation or deactivation by the user.

Billing

ACD Interaction with IVR does not generate billing records or changes.

Station Message Detail Recording

ACD Interaction with IVR does not require Station Message Detail Recording.

Office parameters used by ACD Interaction with IVR

ACD Interaction with IVR does not generate office parameters.

ACD Interaction with IVR (continued)

Datafill sequence

The table that follows lists the tables that require datafill to put ACD Interaction with IVR into operation. You must enter data into the tables in this order.

Datafill requirements for ACD Interaction with IVR

Table	Purpose of table
ACDGRP	Automatic Call Distribution Group. This table contains configuration data for each ACD group.
IBNLINES (NOTE)	IBN Line Assignment. This table list the line assignments for Meredian Digital Centrex (MDC) 500/2500 sets.
Note: This table is datafilled through SERVORD; therefore, no datafill procedure is provided.	

Datafill related to ACD Interaction with IVR for table ACDGRP

The table that follows provides the datafill related to ACD Interaction with IVR for table ACDGRP. This table includes only those fields that apply directly to ACD Interaction with IVR.

Datafill related to table ACDGRP

Field	Subfield	Entry	Explanation and action
OPTIONS			Options. This field contains the subfield Option.
	OPTION	VRUGRP	Option. This subfield contains the options for an ACD group. Enter VRUGRP.

Datafill example for table ACDGRP

The figure that follows shows sample datafill for table ACDGRP.

MAP example for table ACDGRP

```
ACDNAME  CUSTGRP  ACDRNGTH       THROUTE          NSROUTE
  PRIOPRO   DBG  MAXCQSIZ       MAXWAIT          ACDMIS
MSQS  DISTRING  OBSWTONE   FRCNGTSV
OPTIONS
----------------------------------------------------------------------
ACDGRP1    BNR     12         OFRT 99            IBNRTE 99
    2      N     20        20  Y MIS1 MISISUB N $ NONE N N

(NETICM) (VRUGRP)$
```

Error messages for table ACDGRP

The error messages that follow apply to table ACDGRP.

Error messages for table ACDGRP

Error message	Explanation and action
`WARNING: The VRUGRP option only supports the IBN/2500 sets configured as automated VRU/IVR agents. It does not support live ACD agents.`	The message appears with the addition of option VRUGRP in table ACDGRP.
Note: The deletion of option VRUGRP from table ACDGRP also deletes the COD option in table IBNLINES. The deletion of option COD is for entries for a distinct ACD group.	

SERVORD

ACD Interaction with IVR does not use the Service Order System (SERVORD).

SERVORD limitations and restrictions

ACD Interaction with IVR has no SERVORD limitations or restrictions.

ACD Load Management III

Ordering codes

Functional group ordering code: ACD00001.

Functionality ordering code: does not apply

Release applicability

BCS25 and later versions

Requirements

The ACD-Load Management III does not have requirements.

Description

Load management allows supervisors to reconfigure the structure and operational parameters of an Automatic Call Distribution (ACD) group. This action allows supervisors to maximize the number of calls served. This action allows supervisors to alleviate work overloads. The ACDSHOW command uses load management. The ACDSHOW command allows the supervisor to view specified configuration parameters before the supervisor changes the parameters with load management.

The supervisors enter load management commands at the MAP terminal. The correct commands allow authorized supervisors to change different ACD configuration parameters. These parameters include the following:

- maximum wait time
- maximum size of incoming call queue
- threshold route to which calls overflow
- enhanced overflow route
- night service route
- directory number (DN) assignment for the group
- recorded announcement for each incoming call queue
- priority of ACD directory numbers (ACDDN)
- ACD group membership of an agent
- supervisor responsible for an agent

ACD Load Management III (continued)

ACD Load Management - basic commands

This feature provides the basic commands that allow supervisors to change the following characteristics of the ACD environments in an ACD group:

- maximum wait value
- maximum call queue size
- enhanced overflow route
- night service route
- threshold route

The feature also allows the movement of an agent position from one subgroup to another subgroup in the ACD group.

ACD configuration security

Load management has internal security procedures to make sure only authorized personnel can use the system. Load management also restricts the authorized user to control and display only those ACD groups assigned to the user.

Security measures required

Load management commands are in the journal file as table editor commands. The current switch security features control the load management commands. The ACD configuration security features and configuration security enhancement features provide additional security for load management.

The three types of features mentioned earlier perform the following actions to provide security:

- restrict access to the minimum set of commands required to perform load management
- allow only authorized personnel to access the terminals at which LOADMGMT and ACDSHOW commands are executed
- restrict authorized personnel to access ACD data for the groups for which personnel are responsible
- restrict ACD administrators to assign threshold, night service, or audio routes in the administration groups of the ACD administrators

How to assign security

This section lists the step-by-step instructions establish security for ACD load management. Each step appears in following sections.

ACD Load Management III (continued)

You must execute steps Item 1, through Item 5 in the order that appears. The assignment of the ADMINGRP option (step 6) can occur at any stage in the datafill sequence. The establishment of restrictions on the assignment of routes (step 7) can occur at any stage in the datafill sequence.

1. Create a new command class in table CMDS. Assign the following commands to the new command class:
   - ACDSHOW and subcommands. These commands allow ACD administrators to access and exit from ACDSHOW. These commands allow ACD administrators to display the ACD configuration for the administration groups.
   - LOADMGMT and subcommands. These commands allow ACD administrators to access and exit from LOADMGMT. These commands allow ACD administrators to adjust the ACD configuration for their administration groups.
   - PASSWORD - This command allows ACD administrators to change the logon passwords of the administrators.
   - COMMAND - This command allows ACD administrators to set up synonyms for commands that are used often.
   - LOGOUT - This command allows ACD administrators to log off the DMS-100 switch.
2. Add the user names of the ACD administrators to the list of valid users. Associate the names with the new command class with the PERMIT command.

   Note: Steps Item 1 and Item 2 make sure that authorized personnel have access to only the commands required to perform load management.

3. Enter data in table TERMDEV to assign the terminals for ACD administrators to the new command class.

   Note: This step makes sure that users can issue load management commands only at terminals for the ACD administrators.

4. Assign a special user profile for ACD administrators to increase security for the logon process.
5. Enter data in table ACDADMIN to assign an administration group to each user name.

ACD Load Management III (continued)

6. Enter data in option ACDADMIN in table ACDGRP to assign ACD groups to administration groups.

   Note: Steps Item 5 and Item 6 restrict ACD administrators. These steps make sure that ACD administrators can adjust only the ACD configuration of the administration group of the administrators.

7. Enter data in fields TABEN and AUDIO in table ACDRTE to establish restrictions on route assignments.

   Note: This step restricts ACD administrators and switchroom personnel to assign threshold, night service, or audio routes in administration groups only.

8. Enter data in tables CUSTACD and ACDENLOG to establish ACD security enhancements.

Additional security measure

As an additional security measure, an ACD administrator logged in at a MAP terminal must remain at the terminal.

ACD Load Management - enhanced commands

Enhancements to load management allow a supervisor to make the following additional changes to the ACD configuration:

- reassign an ACDDN to another ACD group
- change the audio group that gives announcements to callers in the incoming call queue
- change the recorded announcement threshold setting for an ACD group
- change the priority of an ACDDN
- display the announcement common language location identifiers (CLLI) that an audio group in table AUDIO uses
- display the name of the audio group that gives announcements to callers in the incoming call queue

ACD Configuration Security Enhancement

The configuration security enhancement feature restricts authorized personnel to only specified routing table entries for ACD threshold and night service routes. This feature also restricts which audio groups can give announcements to callers in the incoming call queue. This feature allows a given ACD group to use only specified audio table entries.

ACD Load Management III (continued)

Operation

The command interpreter (CI) LOADMGMT command contains a series of commands. The commands allow a supervisor to adjust the data the ACD configuration contains. The supervisor must enter the ACDSHOW command before the supervisor can issue LOADMGMT command. The following example shows how to enter the ACDSHOW and LOADMGMT commands:

```
CI:
> ACDSHOW
ACDSHOW>>
> LOADMGMT
LOADMGMT>>
```

Note: The available load management commands appears in the following list. Not all the commands are available with only the ACD-Load Management III feature package. The ACD can require other feature packages.

The following load management commands are available from the LOADMGMT prompt:

- **ADD ACDDISP** associates a new name to an ACDDN entered in table DNATTRS.
- **CHANGE ACDDISP** alters the display message of the ACD called name/called number that appears on the telephone set of the agent.
- **CHANGE ACDDNPRI** alters the priority of the ACDDN assigned to an ACD group.
- **CHANGE ACTIVATE** enables a supervisor/administrator to activate and deactivate a single logon ID or a range of logon IDs. The administrator can enter this command from a MAP terminal or from an ACD Management Information System (ACDMIS). This command applies only to logon IDs in table ACDENLOG.
- **CHANGE AUDIO** alters the recorded announcement the system presents when callers join the incoming call queue for an ACD group. The **CHANGE AUDIO** refers to one of the audio groups in table AUDIO.
- **CHANGE CIFROUTE** alters the route that calls take when the user activates the Interflow key.
- **CHANGE CLRROUTE** alters the clearing route to which queued ACD calls can route. The event occurs when the specified ACD group is in night service mode.

ACD Load Management III (continued)

- **CHANGE CPKRTMR** alters the call park recall timer value for an ACD group. The recall timer recalls a parked call that is not answered in a specified time.
- **CHANGE CTQSIZE** alters the number of calls that the system can place in the call transfer queue.
- **CHANGE CTRTMR** alters the call transfer recall timer for an ACD group. The call transfer recall timer recalls a transferred call that is not answered in a specified time.
- **CHANGE DEFLOB** alters the default line of business code for an ACD group.
- **CHANGE FIAUDGRP** changes the audio group for incoming calls that appear to an agent or that the system places in the incoming call queue.
- **CHANGE FOAUDGRP** changes the audio group for calls that reroute because of an overflow condition.
- **CHANGE MAXCQSIZE** alters the maximum number of calls that the system can place in the incoming call queue for an ACD group.
- **CHANGE MAXVQSIZE** alters the maximum size of the overflow queue for an ACD group.
- **CHANGE MAXWAIT** alters the maximum time calls wait in an incoming call queue before the calls appear to an agent position.
- **CHANGE MSQSTYPE** changes the type of multistage queue status (MSQS) display. The MSQS display types are WAIT and CALLQ. The WAIT is the wait time of the call at the head of the incoming call queue. The CALLQ is the size of the incoming call queue.
- **CHANGE NSAUDGRP** alters the audio group of the announcement to which incoming ACD calls are given before the calls reroute to the night service route.
- **CHANGE NSROUTE** alters the route to which calls for an inactive ACD group are directed. Calls can route to the following destinations:
  - another ACD group
  - a Uniform Call Distribution (UCD) group
  - a station in the switch
  - an outgoing trunk group
  - a recorded announcement
- **CHANGE OFLTYPE** changes the use of time delay overflow to priority 0 calls only or to all priority calls. This command also determines when the time delay overflow timer starts.

ACD Load Management III (continued)

- **CHANGE ORGANN** changes the announcement callers hear following overflow treatment to or from the original ACD group.
- **CHANGE OVFLROUTE** alters the list of routes (ACD groups) to which overflow calls for an ACD group can route. Routes can change as follows:
  - — replace one group with a new group
  - — exchange two groups in the list
  - — add a group
  - — delete a group
- **CHANGE PAQSIZE** alters the personal agent queue size for an ACD agent.
- **CHANGE PRIOPRO** alters the priority promotion time interval.
- **CHANGE QTHRESHOLD** alters the MSQS thresholds that allow supervisors to monitor the statuses of incoming call queues.
- **CHANGE RANTH** alters the length of time a caller hears ringing before the caller hears a recorded announcement.
- **CHANGE RI** alters the resource index (RI) value of the destination ACD group if the RI is not a DMS switch.
- **CHANGE SERVICE** alters the type of calls the system services first. The calls can be incoming overflow, priority 0, or oldest.
- **CHANGE THROUTE** alters the route to which the system directs calls for an ACD group. This event occurs when the system cannot place the calls in a queue.
- **CHANGE TMDELOFL** alters the time delay overflow time-out value.
- **CHANGE TMDTHRTE** alters the time delay threshold route.
- **CHANGE TMDTHTIME** alters the wait time for a call before the time delay threshold route receives the call.
- **CHANGE WRPTIME** alters the wrap-up time for an individual agent or an ACD group.
- **DELETE ACDDISP** deletes the ACD group name for a DN in table DNATTRS.
- **HELP** displays general information on the syntax of load management commands.
- **QUIT** exits the load management environment and returns the system to the ACDSHOW environment.
- **REASSIGN (ACDDN)** assigns an additional ACDDN to a new ACD group.

- **REASSIGN (AGENT)** reassigns a maximum of five agent positions to a specified subgroup or supervisor in the same ACD group. The *REASSIGN (AGENT)* also can reassign a maximum of five agent positions to another ACD group.
- **SET PROMPT** determines if the system prompts appear after each command entry.

Translations table flow

The ACD load management package allows supervisors to manipulate the configuration of the ACD groups. The control improves how system handles the current ACD call traffic.

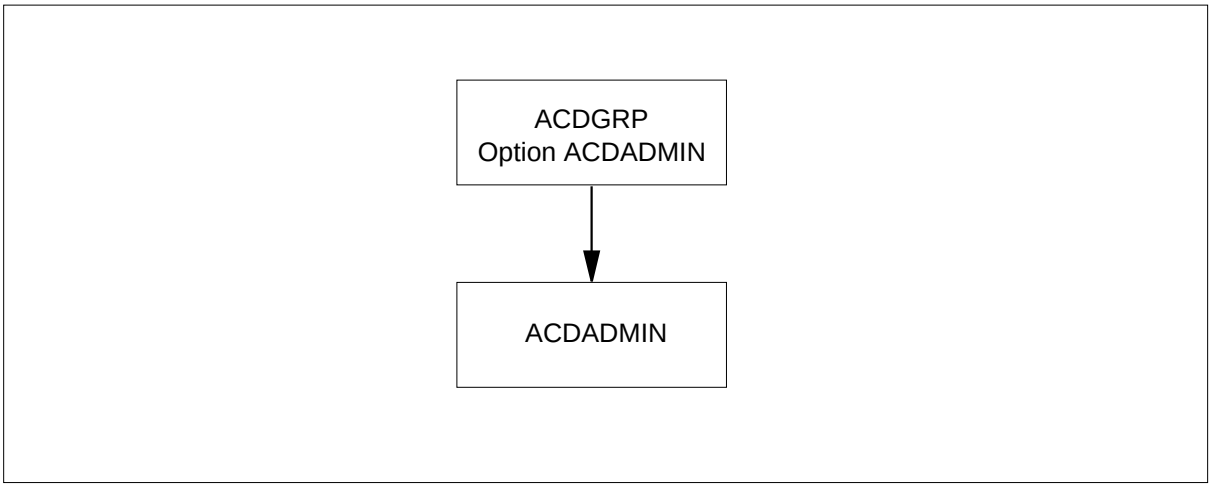
The ACD-Load Management III translations tables appear in the following list:

- Table ACDGRP defines and describes ACD groups. For load management to work, the supervisor must define option ACDADMIN. This table defines the supervisor logon for the administration group that the supervisor accesses with load management. Option ACDADMIN is assigned when the ACD group does not have option ACDMIS. In this flowchart data, option ACDADMIN is assigned in table ACDGRP to provide configuration security. Configuration security makes sure access to load management occurs. Only the supervisor for the administration group can change the configuration.
- Table ACDADMIN provides a supervisor logon to associate supervisors with the administration group the supervisors can access with load management. In the datafill example, the administration group supervisor (ADMINSUP) field in table ACDADMIN appears in the datafill example. The ADMINSUP indicates that the supervisor with DMS logon of SUPR3 can manipulate only the information for administration group 155. The administration group 155 contains the load management commands.

The ACD-Load Management III translation process appears in the following flowchart.

ACD Load Management III (continued)

Table flow for ACD-Load Management III



The datafill content of the flowchart appears in the following table. The administration group is 155. The administration group supervisor logon is SUPR3.

Datafill example for ACD-Load Management III

Datafill table	Example data
ACDADMIN	SUPR3 155
ACDGRP	ACDGRP1 MDC1 15 IBNRTE 20
	IBNRTE 21 5 N 5 20
	Y POOL1 SUBPOOL1 $
	Y 5 10 15 WAIT N Y 5 NONE N
	Y Y OFRT 1003
	(ACDADMIN 155) $

Limits

The following limits apply to ACD-Load Management III:

- The CI level LOADMGMT command is not allowed unless the supervisor enters the ACDSHOW command.
- Supervisors must be assigned in table ACDADMIN before the supervisors can manage an ACD administration group.

ACD Load Management III (continued)

Interactions

The following paragraph describes the interactions between ACD-Load Management III and other functionalities.

The ACD-Load Management III feature package interacts with the ACDSHOW command. The ACDSHOW command allows the appearance of configuration information. The supervisor must use the command to verify current parameters before a change the commands with the LOADMGMT command can occur.

Activation/deactivation by the end user

See Operation in this feature description for information on the use of load management commands the ACD-Load Management III provides.

Billing

The ACD-Load Management III does not affect billing.

Station Message Detail Recording

The ACD-Load Management III does not affect Station Message Detail Recording.

Datafilling office parameters

The ACD-Load Management III does not affect office parameters.

Datafill sequence

The tables that require datafill to implement ACD-Load Management III appear in the following table. The tables appear in the correct entry order.

Datafill requirements for ACD-Load Management III (Sheet 1 of 2)

Table	Purpose of table
CMDS	Command Screening. This table associates command names with command classes.
TERMDEV	Terminal Device. This table associates command classes with terminal devices.
ACDADMIN	ACD Administration Groups. This table provides supervisor logons to associate supervisors with the administration group associate supervisors are allowed to access through load management.
ACDGRP	Automatic Call Distribution Group. This table defines option ACDADMIN.

ACD Load Management III (continued)

Datafill requirements for ACD-Load Management III (Sheet 2 of 2)

Table	Purpose of table
ACDlogin	ACD Login ID Password. This table determines if the system must use password protection. The table allows designation of variable wrap-up times for individual agents. The table also maps logon IDs to specified customer groups. The table controls subpool/subpool password security.
ACDRTE	Automatic Call Distribution Routing. This table associates an administration group with the following valid features for that group: • threshold routing • night service routing • audio groups • controlled interflow routing

Datafilling table CMDS

Table CMDS associates command names with command classes. Use the table editor ADD command to create a new command class. Assign the ACDSHOW and LOADMGMT commands to table CMDS.

Datafill for ACD-Load Management III for table CMDS appears in the following table. The fields that apply to ACD-Load Management III appear in

ACD Load Management III (continued)

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

Datafilling table CMDS

Field	Subfield or refinement	Entry	Explanation and action
CMDINCR		1 to 16 characters	Command and increment. Enter the command name then the increment name. Correct entries are from 1 to 16 characters. If the command is not part of an increment, enter $ after the command name.
DUMPSAFE		NOTSAFE, DSPS, or PS	Command availability The default value NOTSAFE makes the command not available during data store (DS) dump and program store (PS) dump. Enter DSPS if you want the command available during both DS dump and PS dump. Enter PS if you want the command available only during PS (after DS is complete).
LOGONUSE		Y or N	Command use is logged. Enter Y if a log must be created each time the command is used. The default is N.
USEALARM		alpha	Command use is alarmed. Enter the type of alarm to raise each time the command is used. Valid entries are NA, MN, MJ, and CR. The default is NA (no alarm).
LOGABUSE		Y or N	Command abuse is logged. Enter Y if the system creates a log when a user with the wrong command class attempts to use the command. The default is N.
ALRMABUS		alpha	Command abuse is alarmed. Enter the type of alarm to raise when a user with the wrong command class attempts to use the command. Correct entries are NA, MN, MJ, and CR. The default is NA (no alarm).
PRIVSET		alphanumeric	Privileged set. Enter the set of command classes associated with the command. Correct entries are from 0 to 30, all, and none.

ACD Load Management III (continued)

Datafill example for table CMDS

Sample datafill for table CMDS appears in the following example. In the example, the command name IMAGENAME has been set up with access to all command classes.

MAP example for table CMDS

```
   CMDINCR     DUMPSAFE LOGONUSE USEALARM LOGABUSE ALRMABUS  PRIVSET


IMAGENAME $   NOTSAFE   N        NA       N        NA       ALL
```

Associate valid user names with the command class

Use the PERMIT command to restrict ACD administrators to commands that are correct for command class of the commands only. The PERMIT command adds user names to a list of valid users. The PERMIT command associates one or more command classes with each administrator user name. Users are restricted to the commands for the user names only.

A maximum of 255 user names can be assigned.

When the user uses the PERMIT command, the system assumes all parameter values are the default values. The user can specify other values. The exceptions are the user name, password and command class parameters. The PERMIT command specifies the user name, password, and command class.

The three PERMIT parameters appear in the following procedure.

Parameters of the PERMIT command (Sheet 1 of 2)

Parameter	Value	Explanation and action
USERID	1- to 8-alphanumeric characters	User identification. Enter the user name of the ACD administrator.

Parameters of the PERMIT command (Sheet 2 of 2)

Parameter	Value	Explanation and action
PASS	1- to 16-alphanumeric characters	Password. Enter the user password for the user name.
CMDCLS	0-30	Command class. Enter the command classes available to the ACD administrator. These numbers match the class numbers assigned to each command. These numbers determine the commands that the ACD administrator has authorization to use.

Example of the PERMIT command

The ACD administrator user name (ACDUSER) is for the command class (29) assigned to load management commands in table CMDS. The ACDUSER appears in the following command example:

```
>PERMIT ACDUSER  FRIENDLY 29
```

Datafilling table TERMDEV

Table TERMDEV associates command classes with terminal devices. Use the table editor ADD command to assign the new command class to the terminal devices that ACD administrators use.

Datafill for ACD-Load Management III for table TERMDEV appears in the following table. The fields that apply to ACD-Load Management III appear in this table. See the data schema section in the table of this document for a description of the other fields.

Datafilling table TERMDEV (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
TERMDES		one to eight alphanumeric characters	Terminal designation. Enter the name for each terminal device. Valid entries are from one to eight alphanumeric characters.
IOCNO		0 to 19	Input/output controller number. Enter the number of the input/output controller (IOC) to which the terminal device is assigned. Valid entries are from 0 to 19.

ACD Load Management III (continued)

Datafilling table TERMDEV (Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
CKTNO		0 to 35	Input/output controller circuit number. Enter the IOC circuit number to which the terminal device is assigned. Valid entries are from 0 to 35.
TERMTYPE		alphanumeric	Terminal type. Enter the terminal type. The following are correct entries: • HAZ • LSG • VUC4 • KSR • PRT • HP • VT100 • VT102 • TEC • CYB • SPRT • FPRT • DPH • SMDI

ACD Load Management III (continued)

Datafilling table TERMDEV (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
BAUDRT		alphanumeric	Baud rate. Enter the baud rate of the terminal device. The following are correct entries: • B110 • B134PT5 • B150 • B300 • B600 • B1200 • B1800 • B2000 • B2400 • B3600 • B4800 • B7200 • B9600 • B19200
INTYP		letter	Interface type. If the terminal device has a data set or modem, enter EIA (Electronic Industries Association Interface). If this condition does not occur, enter CL (current loop).

ACD Load Management III (continued)

Datafilling table TERMDEV (Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
EQPEC		alphanumeric	Equipment product engineering code. Enter the product engineering code (PEC) of the terminal controller circuit pack. The following are valid entries: • 1X67AA • 1X67AB • 1X67AC • 1X67BC • 1X67BD • 1X67CA • 1X67CB • 1X67FA
PRTY		Refer to subfield	Parity. Enter the parity of the terminal device. Valid entries are ODD, EVEN, and NONE.
GUAR		Y or N	Guaranteed device. Enter Y if the device is guaranteed to run instead of the call processing or maintenance load. Enter N if the device is not guaranteed. The default is N.
MODEM		NONE, DBANS, CTS, RIXON, and UDS	Modem type. Enter the type of modem that corresponds to its connecting port. Correct entries are NONE, DBANS, CTS, RIXON, and UDS.
COMCLASS		0 to 30, NONE, and ALL	Command class. Enter the command class allowed for the terminal device. Correct entries are from 0 to 30, NONE, and ALL. ***Note:*** Users logged in at the terminal can execute commands allowed on the terminal and for the logon IDs of the users.

Datafill example for table TERMDEV

Sample datafill for table TERMDEV appears in the following example. In the example, the terminal device ACD1 is set up with access to all command classes.

ACD Load Management III (continued)

MAP example for table TERMDEV

```
TERMDES IOCNO CKTNO TERMTYPE BAUDRT INTYP EQPEC PRTY GUAR MODEM
                                                COMCLASS
_____________________________________________________________
ACD1     0     8    VT100  B2400    CL 1X67BC NONE   N   NONE
                                                           ALL
```

Assign special user profiles

User profiles associate a logon profile and restart profile with each ACD administrator user name. A logon profile executes automatically when the user logs on. A restart profile executes when a command traps or the user presses the BREAK and STOP keys stops the command process. The user also can press the BREAK key and enter HX.

A suggested logon profile enters the ACDSHOW and load management environments through the ACDSHOW and LOADMGMT commands. A suggested restart profile issues the LOGOFF command.

Datafilling table ACDADMIN

Table ACDADMIN contains the correct user names and the administration group for each user name. Each administration group number must be different. Each administration group number can occur once in table ACDADMIN.

Enter data in table ACDADMIN to assign one administration group to each user name. Assign one collection of ACD groups to each ACD administrator.

Table ACDADMIN provides supervisor logons to associate supervisors. The associate supervisors are with the administration group that the associate supervisors are allowed to access through load management.

Datafill for ACD-Load Management III for table ACDADMIN appears in the following table. The fields that apply to ACD-Load Management III appear in

ACD Load Management III (continued)

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

Datafilling table ACDADMIN

Field	Subfield or refinement	Entry	Explanation and action
ADMINSUP		1 to 16 character alphanumeric	Administration group supervisor. Enter the 1 to 16 character alphanumeric logon ID of the supervisor/administrator. The entry must be a legal user name that the CI command PERMIT assigns.
ADMINGRP		1 to 255	Administration group. Enter the number of the ACD administration group for the entered logon ID. Correct entries are from 1 to 255.

Datafill example for table ACDADMIN

Sample datafill for table ACDADMIN appears in the following example. In this example, the administration group supervisor with the logon of SUPR3 can change only the information for agents in administration group 155.

MAP example for table ACDADMIN

```
ADMINSUP                ADMINGRP
_______________________________________________________________

    SUPR3                    155
```

Datafilling table ACDGRP

An administration group is a collection of ACD groups under the control of an ACD administrator. Each ACD administrator is responsible for one administration group. Each ACD administrator can adjust ACD data for that group only.

An ACD group can belong to only one administration group at a time. The ACD groups from different customer groups can belong to the same administration group.

Only one limit on the number of ACD groups can be assigned to an administration group. That limit is the limit of 1024 groups that can be assigned in table ACDGRP.

ACD Load Management III (continued)

Enter data in option ACDADMIN in table ACDGRP to assign ACD groups to administration groups.

Datafill for ACD-Load Management III for table ACDGRP appears in the following table. The fields that apply to ACD-Load Management III appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table ACDGRP

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		ACDADMIN	Options - ACDADMIN. Enter ACDADMIN to select configuration security.
If the user enters option ACDAMIN, subfield ADMINGRP appears:			
	ADMINGRP	1 to 255	Administration group. Enter the ACD administration group number for this ACD group. Correct entries are from 1 to 255.

Datafill example for table ACDGRP

Sample datafill for table ACDGRP appears in the following example. This example defines the option ACDADMIN. The example also defines the supervisor logon for the administration group that the supervisor can access with load management.

MAP example for table ACDGRP

```
ACDNAME      CUSTGRP ACDRNGTH          THROUTE
   NSROUTE PRIOPRO DBG MAXCQSIZ MAXWAIT

        ACDMIS MSQS DISTRING OBSWTONE         FRCNGTSV
                                     OPTIONS
_____________________________________________________________

ACDGRP1      MDC1        15         IBNRTE 20
 IBNRTE 21       5    N       5      20
               Y POOL1 SUBPOOL1 N               $
        Y   5   10  15  WAIT N Y  5   NONE   N
            Y  Y   OFRT   1003
                         (ACDADMIN 155)   $
```

ACD Load Management III (continued)

Datafilling table ACDLOGIN

Table ACDLOGIN determines if the system must use password protection. The table allows designation of variable wrap-up times for individual agents. The table also maps logon IDs to specified customer groups and controls subpool/subpool password security. Option MISGROUP can be assigned in table ACDLOGIN. If this event occurs, the downstream processor (DSP) must supply the correct subpool and subpool password for ACD groups. These ACD groups are entered when variable wrap-up times of individual ACD agents change.

> ***Note:*** The user can enter passwords and security checks in table CUSTACD and table ACDENLOG. Refer to Establishing ACD enhancement security for more information.

Datafill for ACD-Load Management III for table ACDLOGIN appears in the following table. The fields that apply to ACD-Load Management III appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table ACDLOGIN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		refer to subfields	Options list. This field identifies the options that control the interval between call completion and new call presentation. Valid entries are VARWRAP, PAQ, and MISGROUP.
If the user enters VARWRAP, subfield WRPTIME appears.			
	WRPTIME	0 to 600	Wrap-up time. Specifies the variable wrap-up time assigned to this logon ID. Valid entries are from 0 s to 600 s. For an entry of zero, the 1 s release guard time delay is removed. For an entry other than zero, the 1 s release guard time delay occurs.
If the user enters PAQ, subfield PAQSIZE appears.			
	PAQSIZE	0 to 42	Personal agent queue size. Contains the number of calls an agent can have in the call transfer priority queue at one time. The user must enter the PAQ with data for each logon ID. Valid entries are from 0 to 42.

Datafilling table ACDLOGIN (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
If the user enters MISGROUP, subfield ACDGRP appears.			
	ACDGRP	1 to 16 alphanumeric characters	ACD group. Group name must be a member of field CUSTGRP entered in table ACDLOGIN. This subfield does not correlate with the ACD group the agent logged into. Inclusion of this field requires the DSP to know the subpool and subpool password of the ACD group. The user must specify the ACD group before the user can make changes to the variable wrap-up time of the agent. Valid entries are from 1 to 16 alphanumeric characters.

Datafill example for table ACDLOGIN

Sample datafill for table ACDLOGIN appears in the following example. In the example, the password 1111 is set up.

MAP example for table ACDLOGIN

```
LOGINID         CUSTGRP   PSWD
                                                OPTIONS
_____________________________________________________________

 1111              N        N
                                            (PAQ 4) $
```

Datafilling table ACDRTE

Table ACDRTE associates an administration group with the following data that is valid for the administration group.

- threshold routing
- night service routing
- audio groups
- controlled interflow routing

In ACD callers can route to announcement or audio treatment. To make sure that callers receive treatment, the user must enter data in table ANNS correctly. Table ANNS, field MAXCONS defines the number of callers that can connect

ACD Load Management III (continued)

to a particular announcement at the same time. If this field is not set high enough, callers routed to the treatment hear silence.

Use the following guidelines to enter data in field MAXCONS:

- The datafill in table ACDRTE can specify that callers who wait in the incoming call queue receive audio treatment. If this event occurs, the operating company must enter data in field MAXCONS. This data must be equal to or greater than the maximum queue size. Table ACDGRP defines the queue size.
- Overflow calls can be entered to route to announcement. If this event occurs, overflow callers receive silence if the maximum number of connections exceeds. The operating company must set field MAXCONS high enough to reduce the chance of the occurrence of this event.

To specify the following options, add the options to field OPTNAME in table ACDRTE.

- overflow routing (OVFL)
- controlled interflow routing (CIFROUTE)
- time delay threshold routing (TMDTHRTE)

Field OPTION specifies the table entry to determine the route.

Establish audio groups

To specify an audio announcement as part of night service treatment, perform the following:

- add NSAUDIO to field OPTNAME in table ACDRTE
- add NSAUDIO to field OPTION
- add the audio group for the announcement

You can specify that all incoming calls must receive an announcement before the calls are queued or appear to an idle agent. To make sure this action occurs, perform the following:

- enter FIAUDIO in the field OPTNAME of table ACDRTE
- add option FIAUDIO
- add the correct audio group to indicate the announcement the callers must hear

To specify that overflow calls must receive a forced announcement before a reroute, enter FOAUDIO in field OPTNAME of table ACDRTE. You must

ACD Load Management III (continued)

add option FOAUDIO to indicate the audio group announcement callers must hear before the calls reroute.

Datafill for ACD-Load Management III for table ACDRTE appears in the following table. The fields that apply to ACD-Load Management III appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table ACDRTE (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
ACDGRP		1 to 16 alphanumeric characters	ACD group. Specifies the ACD group to which the datafill of field OPTION applies. Correct entries are from 1 to 16 alphanumeric characters.
OPTNAME		AUDIO, CIFROUTE, FIAUDIO, FOAUDIO, NSAUDIO, OVFL, TABEN, and TMDTHRTE	Options. Enter the name of the desired option. The following are correct entries: • AUDIO • CIFROUTE • FIAUDIO • FOAUDIO • NSAUDIO • OVFL • TABEN • TMDTHRTE
OPTION		AUDIO	Option. Enter AUDIO (audio group). Specifies the audio groups in table AUDIO that are correct for the ACD group.
If the user enters AUDIO, subfield VECTOR appears.			
	VECTOR	Refer to subfield	Audio vector. Enter a maximum of eight audio group names in table AUDIO.
OPTION		CIFROUTE	Option. Enter CIFROUTE (controlled interflow route). Specifies the route when controlled interflow is used.
If the user enters CIFROUTE, subfields TABNAME and INDEX appear.			

ACD Load Management III (continued)

Datafilling table ACDRTE (Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	TABNAME	OFRT and IBNRTE	Table name. Enter the correct table name that contains the route for controlled interflow. Correct entries are OFRT and IBNRTE.
	INDEX	0 to 1023	Index. Enter a number for the route for controlled interflow. Correct entries are from 0 to 1023.
OPTION		FIAUDIO	Option. Enter FIAUDIO (forced announcement for incoming calls). Specifies that all incoming calls receive an announcement before the announcements appear to an idle agent or are queued.
If the user enters FIAUDIO, subfield FIAUDGRP appears.			
	FIAUDGRP	AUDIO1 to AUDIO512	Forced announcement for incoming calls audio group. Enter a correct audio group name entered in table AUDIO for ACD. This name is the announcement that appears to all incoming calls. Correct entries are from AUDIO1 to AUDIO512. ***Note:*** Music should not be used as the last AUDIO element when used with option FIAUDIO.
OPTION		FOAUDIO	Option. Enter FOAUDIO (forced announcement for overflow calls). Specifies that calls rerouted because of overflow conditions receive an announcement before the calls appear to an idle agent or are queued.
If the user enters FOAUDIO, subfield FOAUDGRP appears.			
	FOAUDGRP	AUDIO1 to AUDIO512	Forced announcement for incoming calls audio group. Enter a correct audio group name, entered in table AUDIO for ACD. This subfield is the announcement that appears to all threshold overflow calls before the reroute occurs. Correct entries are from AUDIO1 to AUDIO512.
OPTION		NSAUDIO	Option. Enter NSAUDIO (night service audio group). Specifies that calls received after night service is activated receive an announcement.
If the user enters NSAUDIO, subfield NSAUDGRP appears.			

ACD Load Management III (continued)

Datafilling table ACDRTE (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	NSAUDGRP	AUDIO1 to AUDIO512	Night service audio group. Enter the night service audio group for the night service announcement. The user must enter the audio group data in table AUDIO and assigned to ACD. Correct entries are from AUDIO1 to AUDIO512.
OPTION		OVFL	Option. Enter OVFL (overflow route). Specifies routing for overflow calls.
If the user enters OVFL, subfield OVFLLIST appears.			
	OVFLLIST	Refer to Subfield	Overflow list. Enter the ACD groups to a maximum of four specified in table ACDGRP. The specified groups receive overflow calls from this ACD group.
OPTION		TABEN	Option. Enter TABEN (table entry). Specifies the route IDs in tables IBNRTE, OFRT, and AUDIO for the ACD group. Enter a maximum of 10 table entry routes. The user must specify all routes first in this field.
If the user enters TABEN, subfield TABENTRY_VECTOR appears.			
	TABENTRY_ VECTOR	1 to 16 alphanumeric characters	Table entry. Enter the table route ID. Enter the route table index number. Correct entries are from 1 to 16 alphanumeric characters.
OPTION		TMDTHRTE	Option. Enter TMDTHRTE (time delay threshold route). Specifies the route for calls that have a wait time that exceeds the defined threshold.
If the user enters TMDTHRTE, subfields TABNAME, INDEX, and TMDTHRTE_TIME appear.			
	TABNAME	OFRT and IBNRTE	Table name. Enter the correct table name to which translation has to route. Correct entries are OFRT and IBNRTE.

ACD Load Management III (continued)

Datafilling table ACDRTE (Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	INDEX	0 to 1023	Index. Enter the index number assigned to the route list. Correct entries are from 0 to 1023.
	TMDTHRTE_ TIME	0 s to 1800 s	Time delay threshold route time. Enter the length of time a call can remain queued at the original ACD group or overflow ACD group. This event occurs before the call transfers to the specified route. Correct entries are from 0 s to 1800 s.

Datafill example for table ACDRTE

Sample datafill for table ACDRTE appears in the following example. In the example, the user assigned the routes IBNRTE 20, IBNRTE 21, and IBNRTE 2 to the ACD group ACDGRP1.

MAP example for table ACDRTE

```
     ACDGRP      OPTNAME
                                                OPTION
 ____________________________________________________________
  ACDGRP1        TABEN  TABEN (IBNRTE 20) (IBNRTE 21)
(IBNRTE 2) $
```

Establishing ACD enhancement security

The PIN Number Configuration by Customer Group is a security feature that limits ACD personnel to assigned logon IDs. The match of the logon ID of an agent against customer group restriction password association accomplishes screening. Table ACDENLOG assigns screening restrictions. Two checks are performed. One check is for the customer group. One check is for the password. This feature also allows multiple customer groups to access the same logon ID when the user enters data in table ACDENLOG.

The user must enter data in tables ACDADMIN and ACDGRP to set up the ACD administration group. Table ACDADMIN contains the user name a supervisor enters for logon. Table ACDADMIN also contains field ADMINGRP to identify the administration group. Table ACDGRP requires the the entry of the following information:

- the ACD name
- the customer group to which the ACD group belongs

- the ACDADMIN option
- the ADMINGRP number

To partition the logon ID database, you must enter data in tables CUSTACD and ACDENLOG.

Note: Before you enter data in these tables, you must enter data in table CUSTENG.

Tools for verifying translations

The ACD-Load Management III does not use translation verification tools.

SERVORD

The ACD-Load Management III does not use SERVORD.

ACD Management Reports Two-Way Data Stream

Ordering codes

Functional group ordering code: ACD00001

Functionality ordering code: ACD00005

Release applicability

BCS32 and up

Prerequisites

ACD - Management Reports Two-Way Data Stream has no prerequisites.

Description

ACD - Management Reports Two-Way Data Stream creates an Automatic Call Distribution Management Information System (ACDMIS) interface that allows a DSP to use an X.25 data stream to collect ACD information from the switch. A DSP is a computer that is connected to the switch by a data link. The processor uses this information to produce real-time statistics and historical reports. The ACDMIS interface uses the X.409 formal notation and the X.410 remote operations protocol.

Up to 30 MIS sessions are supported for NT40 switch architectures, and up to 60 MIS sessions are supported for DMS SuperNode switch architectures.

User interface to ACDMIS

Security for multiple ACD users served by a single switch is provided by allowing the DMS-100 switch to control the ACD groups that can be accessed from each DSP. ACD groups are partitioned into pools. Each pool is accessed by one DSP through one switched virtual circuit. Only users who access a particular DSP can access the associated pool of ACD groups.

For DSPs serving more than one customer, access can be further restricted by partitioning ACD groups into subpools. Users must enter passwords for both the pool and the subpool before they are allowed access to the DSP.

Each DMS-100 switch can be assigned a maximum of 32 ACD pools and 128 subpools. An ACD group can belong to only one pool and one subpool. All ACD groups assigned to a given subpool do not have to be in the same customer group. A pool can be associated with only one switched virtual circuit, and a given switched virtual circuit can be associated with only one pool.

ACD Management Reports Two-Way Data Stream (continued)

ACDMIS interface

The ACDMIS interface allows a DSP to collect ACD data from a DMS-100 switch through an X.25 data stream. The DSP then uses this information to produce real-time statistics and historical reports.

The ACDMIS interface allows a user to

- log on or off the ACDMIS
- collect information from a pool of ACD groups
- change information for a pool of ACD groups
- request information on the configuration of the data stream
- request the current date and time
- start and stop the transfer of call event information

ACDMIS Protocol Specification

This feature provides the protocol so the DSP can collect ACD information from the switch. The protocol also enables the DSP to make changes to an ACD group's configuration in the switch so the ACD group can handle the incoming call load better.

DSP Notification of Load Management Operations

It is essential that the DSP be made aware of any changes to the database that are implemented at the DMS-100 switch, since the DSP maintains its own database of information about current ACD configurations. The inclusion of this feature causes the switch to inform the DSP each time an ACD load management command is successfully executed on the switch. The ACDMIS interface is used to send the message.

ACD Walkaway/Closed Key Operation

The ACD Walkaway/Closed Key Operation feature allows ACD agents to enter a three-digit code that specifies the reason they activated the Not Ready key. The codes are customer-defined and can be tracked by the MIS, allowing comprehensive management of agent activities by project.

The feature also provides for nonimmediate cutoff when the Not Ready key is pressed. Prior to this feature, pressing the Not Ready key while active on an ACD call would release the call. With this feature, pressing the Not Ready key has no impact on an active call, while still making the agent unavailable to receive new ACD calls as soon as the current call is released. This feature is defined on an ACD-group basis.

ACD Management Reports Two-Way Data Stream (continued)

ACD Line of Business Code Key

The ACD Line of Business Code Key feature allows agents to enter a three-digit code for each call. Entering the code pegs a register for that line of business or type of call. The MIS administrator can use this information to track times for calls attributed to a variety of activities. The use of the codes and their meanings are customer-definable.

Virtual Facility Group Data in ACDMIS

A virtual facility group (VFG) is a software virtual loop-around trunk designed to avoid physical loop-around trunks. This feature allows a customer to link up to three VFGs to ACD groups to provide information about the VFGs to a DSP. When an ACD directory number (DN) is accessed through a VFG, this feature includes VFG operational measurements (OM) relating to facility blockage in the ACD management reports. This provides the end user with a complete view of the ACD group's call handling capability. The information is conveyed to the DSP through the ACDMIS data stream at 15-minute intervals.

ACD Multiple LOB Codes

This feature provides the capability for an ACD agent to enter more than one three-digit line of business (LOB) code during a call. Entering the code pegs a register for that LOB or type of call. These multiple LOB codes are tracked through ACDMIS.

Modification of a previously entered LOB code is accomplished by pressing the LOB key again and entering *** as the LOB code. The ACD agent can then press the LOB key again and enter another LOB code. If no code is entered, the default code is entered.

Increased Number of ACDMIS Links

This activity allows the NT40 switch to support a maximum of 32 ACDMIS sessions for each switch and the DMS SuperNode switch to support a maximum of 60 ACDMIS sessions for each switch.

MIS Enhancement

This feature decreases real-time used by ACDMIS and increases the number of ACDMIS sessions that can be supported by the DMS-100 switch.

ACDMIS for Call Transfer, Call Hold

This feature segments the management report data stream to provide information relating to agent activation of call hold and call transfer. The available data includes peg counts and cumulative holding times for each agent and for each ACD group.

ACD Management Reports Two-Way Data Stream (continued)

Operation

The following paragraphs detail how ACDMIS is established.

Partitioning data streams

ACD groups with the ACDMIS option defined in table ACDGRP must be partitioned into data streams so the DSP knows which data streams to select to gather information. This partitioning allows the DSP to access data and receive call event messages for the ACD groups within the selected data stream only. The data streams must be set up before the DSP accesses the information on the switch.

Partitioning is accomplished by establishing pools of ACD groups in table ACDMISPL. The guidelines for setting up pools are as follows:

- A pool is identified by a 1- to 16-character pool name. A pool name cannot be the character Q and cannot begin with up to five numbers.
- An ACD group can only belong to one pool at a time.
- A pool can only be associated with one data stream at a time.
- A password is assigned to each pool.
- Multiple ACD groups can be associated to a single pool.

Pools are further subdivided to form subpools to provide security for ACD customers. All ACD groups belonging to an ACD customer are placed into one subpool. If there is only one customer on a data stream, subpools still have to be defined, and typically there is only one subpool defined.

Subpools are defined in table ACDMISSP. The guidelines for defining subpools follow:

- A subpool is identified by a 1- to 16-character pool name. A pool name cannot be the character Q and cannot begin with up to five numbers.
- ACD groups in a subpool must belong to the same pool.
- ACD groups can only belong to one subpool at a time.

Requesting information

The DSP can request information from the switch using commands set up on the switch.

The switch can also inform the DSP that ACD load management commands have been successfully executed at the switch. These load management changes are sent so the DSP database can be kept up-to-date with the DMS-100 switch. These changes are sent as ACD load management event messages.

ACD Management Reports Two-Way Data Stream (continued)

For more information on load management commands, refer to *Commands Reference Manual, 297-2663-819.*

Translations table flow

The translations tables associated with the ACD - Management Reports Two-Way Data Stream feature limit supervisors to logging in from their remote terminal to only their configuration information in the DMS-100 switch. The supervisors access the DMS-100 switch to use load management reconfiguration commands. The pools, passwords, and protocols for ACD users using management software are also assigned in these tables.

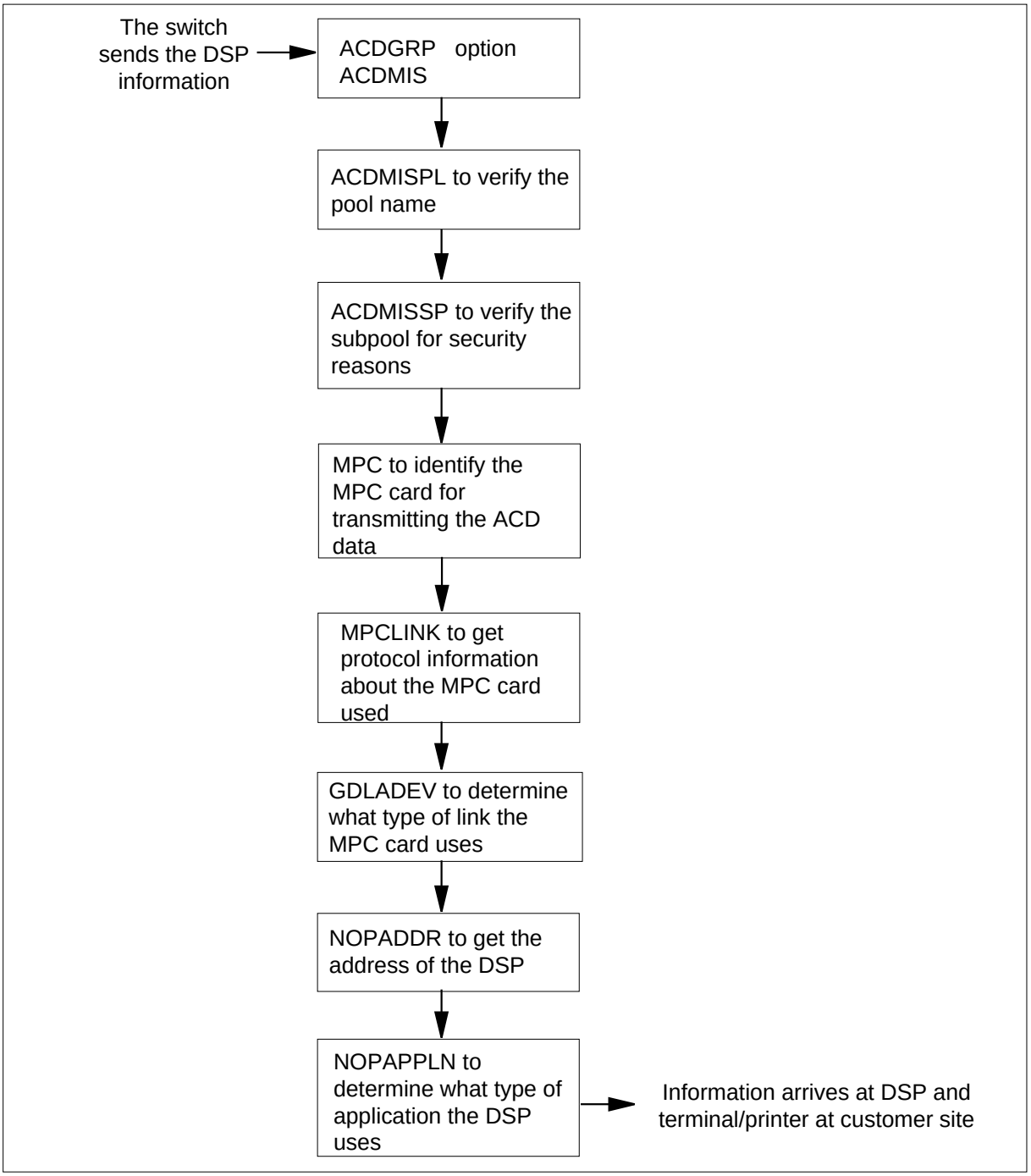
The ACD - Management Reports Two-Way Data Stream translations tables are described in the following list:

- Table ACDGRP provides the ACDMIS option. The field ACDMIS is set to Y, indicating that the ACD group has the ACDMIS option. The pool and subpool information defined in this table are further defined in tables ACDMISPL and ACDMISSP, respectively. The other options that must be defined in table ACDGRP are ACD virtual facility group (ACDVFG), whose field is set to Y, Management Information System (MISOPT), Default Line of Business (DEFLOB), (NORIMIS), and Walkaway.
- Table ACDMISPL must be datafilled when the option ACDMIS is defined in table ACDGRP. It provides the pool, password, and protocol for ACD users using the management software. Defining pools enables the DMS-100 switch to partition ACD group information and send it across the data link using different data streams.
- Table ACDMISSP establishes the subpool, associated pools, and passwords for ACD users using the management software. This table is defined when the ACDMIS option is defined in table ACDGRP. Subpools define a partitioned stream of data to be sent to the ACDMIS.
- Table MPC identifies the MPC card so that ACD information can be transmitted to the DSP.
- Table MPCLINK provides protocol for the MPC card defined in table MPC.
- Table GDLADEV determines the link the MPC card uses.
- Table NOPADDR provides the address of the DSP.
- Table NOPAPPLN controls the applications that remote users (for example, ACDMIS users) can access.

The ACD - Management Reports Two-Way Data Stream translation process is shown in the flowchart that follows.

ACD Management Reports Two-Way Data Stream (continued)

Table flow for ACD - Management Reports Two-Way Data Stream



The following table lists the datafill content used in the flowchart. The ACD group is ACDGRP1, the customer group is MDC1, the office route is 27, the

ACD Management Reports Two-Way Data Stream (continued)

password is ACDADMIN, the pool is POOL1, the protocol is BCS30, the subpool is SUBPOOL1, and the supervisor login is ACDSUPR1.

Datafill example for ACD - Management Reports Two-Way Data Stream

Datafill table	Example data
ACDGRP	ACDGRP1 MDC1 15 IBNRTE 100 IBNRTE 401 5 N 5 20 Y POOL1 SUBPOOL1 Y (NILVFG) $ (DEFLOB 001) (WALKAWAY) $ Y 5 10 15 WAIT N Y 5 N NONE N Y Y OFRT 1003 $
ACDMISPL	POOL1 ACDADMIN BCS30 100
ACDMISSP	SUBPOOL1 ACDADMIN POOL1
MPC	0 0 32 1X89AA MPC31AB
MPCLINK	0 3 X25ORIG 0 0 (L7WINDOW 7) (NUMSVCS 1) (STANDARD CCITT80) $ (EXINFSEL SVCDNA) (DIGITS 12345678) (SVCTYPE DATAPAC) $
GDLADEV	NOP MPC
NOPADDR	0 0 3 12345678 0 0 0 0
NOPAPPLN	12345678 ONLY (ACDMIS_APPL) $

Limitations and restrictions

The following limitations and restrictions apply to ACD - Management Reports Two-Way Data Stream:

- There can be a maximum of 32 ACD pools and 128 subpools assigned for each DMS-100 switch.
- An ACD group can belong to only one pool and subpool at a time.
- The ACD groups assigned to a subpool do not have to be in the same customer group.

ACD Management Reports Two-Way Data Stream (continued)

- There is no limit, other than maximum number of ACD groups for each switch, to the number of ACD groups that can be assigned to a subpool.
- A pool can be associated with only one switched virtual circuit.
- A switched virtual circuit can belong to only one pool.
- Call event data is controlled on an ACD-group basis. All events generated by members of an ACD group are directed to only one pool.

While both the NT40 switch and the DMS SuperNode switch support a maximum of 60 remote operation (RO) sessions at any one time, applications other than ACDMIS may make use of the RO. There may be situations where ACDMIS does not support a full 32 sessions for the NT40 switch and 60 sessions for the DMS SuperNode switch. The maximum number of ACDMIS sessions allowed on a switch is equal to whichever is the lesser of the two office parameters, MAX_ACD_MIS_SESSIONS or NOS_QUANTITY_OF_SVCS (the number of active RO sessions that are not ACDMIS). There is no dependency between these two office parameters. It is possible for MAX_ACD_MIS_SESSIONS to be greater than NOS_QUANTITY_OF_SVCS even though the maximum number of ACDMIS sessions can never be greater than NOS_QUANTITY_OF_SVCS.

Line of business key

The ACD Line of Business Code Key feature can be activated only when the agent is active on a two-party call. The call is not considered active unless the speech path is connected.

Virtual facility groups

It is the operating company's responsibility to associate an ACD group with unique VFGs in table ACDGRP to allow the ACD group to obtain correct traffic status in the DSP. A VFG should not be shared by more than one customer group and should only be assigned to one ACD group at one point in time. A VFG should only belong to one subpool and one pool at any point. When a VFG user uses another VFG, both the user and the VFG being used should be assigned to the same ACD group.

MIS for Call Transfer, Call Hold

Call Hold is not pegged for holds involving the Three-way Calling or Call Transfer keys. In addition, MIS is not pegged for calls terminating outside the switch (trunk calls) or for Call Hold on 500/2500 sets.

Interactions

The following paragraphs describe the interactions between ACD - Management Reports Two-Way Data Stream and other functionalities.

ACD Management Reports Two-Way Data Stream (continued)

Walkaway feature

The Make Set Busy feature takes precedence over the Not Ready/Walkaway feature. The Walkaway feature cannot be activated if the Not Ready key has immediate cutoff and was used to release the call.

Line of business key

If a supervisor attempts to activate the Observe Agent feature when an agent is entering a line of business code, the Observe Agent feature enters a suspended state until the agent has finished entering the line of business code. Once the line of business feature has been deactivated, the supervisor is provided with a one-way listening path into the agent's call.

Activation/deactivation by the end user

ACD - Management Reports Two-Way Data Stream requires no activation or deactivation by the end user.

Activation/deactivation of ACD - Management Reports Two-Way Data Stream by the end user

Line of business

At aent position

1 While active on an ACD call, press the LOB key.

Response:

Associated key lamp flashes.

2 Dial the LOB code digits.

Response:

LOB key lamp is extinguished.

Line of business on 500/2500 sets

At agent position

1 With an active ACD call, flash the set.

Response:

None

2 Dial the LOB access code digits.

Response:

None

3 Dial the three-digit LOB code.

Response:

None

4 Flash the set again.

Response:

None

Walkaway code

At Agent position

1 Press the Not Ready key.

Response:

The Not Ready key lamp flashes, and special dial tone is heard.

2 Dial the three digit-code indicating the reason for being in a not-ready state.

Response:

Dialed digits are displayed as they are collected. The Not Ready lamp is lit steadily when digit collection is completed.

Billing

ACD - Management Reports Two-Way Data Stream does not affect billing.

Station Message Detail Recording

ACD - Management Reports Two-Way Data Stream does not affect Station Message Detail Recording.

ACD Management Reports Two-Way Data Stream (continued)

Datafilling office parameters

The following table shows the office parameters used by ACD - Management Reports Two-Way Data Stream. For more information about office parameters, refer to *Office Parameters Reference Manual.*

Office parameters used by ACD - Management Reports Two-Way Data Stream

Table name	Parameter name	Explanation and action
OFCENG	ACD_MIS_OUT_EVENT_BUFFER_SIZE	This parameter is used to determine the actual outgoing event buffer size allocated for ACDMIS sessions. The buffer's size must be set in the range of 100 to 200. The default value is 110.
OFCOPT	MAX_ACD_MIS_SESSIONS	This parameter is used to engineer ACDMIS for a maximum number of simultaneous MIS sessions. The value should be set to the highest number of MIS users to be allowed on the switch at any one time. If more MIS users than the number specified attempt to log on, the logon is rejected. The default value is 5. This value was chosen since it is the same default value as that used for NOS_QUANTITY_OF_SVCS. The value of this office parameter should never exceed the value of office parameter NOS_QUANTITY_OF_SVCS.

Datafill sequence

The following table lists the tables that require datafill to implement ACD - Management Reports Two-Way Data Stream. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for ACD - Management Reports Two-Way Data Stream (Sheet 1 of 2)

Table	Purpose of table
OFCENG	Office Engineering. This table contains data on engineering parameters for the office. Refer to “Datafilling office parameters" for how ACD affects office parameters.
OFCOPT	Office Option. This table contains data on office options for the office. Refer to “Datafilling office parameters" for how ACD affects office parameters.
ACDMISPL	ACDMIS Pool. This table establishes the pools, passwords, and protocols for ACD users.

ACD Management Reports Two-Way Data Stream (continued)

Datafill tables required for ACD - Management Reports Two-Way Data Stream (Sheet 2 of 2)

Table	Purpose of table
ACDMISSP	ACDMIS Subpool. This table establishes the pools, passwords, and protocols for ACDMIS users.
ACDGRP	Automatic Call Distribution Group. This table defines and describes the ACD groups.
ACDRTE	Automatic Call Distribution Routing. This table defines the enhanced overflow routes for an ACD group, the groups that an ACD group may use, and the IBNRTE and OFRT numbers to which the ACD group may point.
ACDSGRP	Automatic Call Distribution Subgroup. This table defines subgroups and customer-supplied recording equipment for ACD groups. Each ACD group must have at least one valid subgroup. Each subgroup must have a supervisor assigned with a valid position ID.
MPC	Multiprotocol Controller. This table identifies the multiprotocol controller (MPC) circuit pack to the DMS-100 switch.
MPCLINK	Multiprotocol Controller Link. This table specifies X.25 layered protocol used in the MPC to establish and maintain links and conversions.
GDLADEV	Generic Datalink Application Device. This table associates data transmission devices with specific polling system applications for use in data transfer. The data transferred to the processing center contains information about the operation of the DMS-100 switch.
NOPADDR	Network Operations Protocol Address. This table defines the valid address from which the network operations protocol can accept calls. Communication is done through ROs.
NOPAPPLN	Network Operations Protocol Applications. This table designates which applications remote users can access.
KSETFEAT	Business Set and Data Unit Feature. This table describes the line features that can be assigned to a business set used for ACD. ***Note:*** This table is datafilled through SERVORD; therefore, no datafill procedure or example is provided. Refer to “SERVORD" for an example of using SERVORD to datafill this table.

Datafilling table ACDMISPL

The following table shows the datafill specific to ACD - Management Reports Two-Way Data Stream for table ACDMISPL. Only those fields that apply directly to ACD - Management Reports Two-Way Data Stream are shown. For

ACD Management Reports Two-Way Data Stream (continued)

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

Datafilling table ACDMISPL

Field	Subfield or refinement	Entry	Explanation and action
POOL		alphanumeric	Pool name. Enter the 1- to 16-character alphanumeric pool name assigned using the command interpreter (CI) command PERMIT.
PASSWORD		alphanumeric	Password. Enter the 5- to 8-character alphanumeric password associated with the pool.
PROTOCOL		BSCnn	Protocol. Enter the BCS cycle (BCSnn) in which the protocol was implemented.
OUTEVENT		10 to 200	Out event buffer size. Enter the number of event messages that can be queued on a session basis. Valid entries are from 10 to 200. ***Note:*** OUTEVENT can only be updated to a new value if there is no active ACDMIS session corresponding to the pool.

Datafill example for table ACDMISPL

The following example shows sample datafill for table ACDMISPL.

MAP display example for table ACDMISPL

```
POOL  PASSWORD PROTOCOL OUTEVENT
_____________________________________________________________

              1   ACDMIS     BCS30     110
              2   MISACD     BCS30     110
```

Datafilling table ACDMISSP

The following table shows the datafill specific to ACD - Management Reports Two-Way Data Stream for tableACDMISSP. Only those fields that apply directly to ACD - Management Reports Two-Way Data Stream are shown. For

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

Datafilling table ACDMISSP

Field	Subfield or refinement	Entry	Explanation and action
SUBPOOL		alphanumeric	ACD subpool name. Enter the 1- to 16-character alphanumeric subpool name associated with this ACD group and pool. Subpools are defined to provide security in case multiple ACD customers use the same data stream to report information to the DSP. All ACD groups belonging to an ACD customer are grouped to form a subpool. Subpools are defined even if there is only one ACD customer on a data stream.
PASSWORD		alphanumeric	Password. Enter the 5- to 8-character alphanumeric password associated with this subpool.
POOL		alphanumeric	Pool name. Enter the 1- to 16-character alphanumeric ACD pool name associated with this subpool.

Datafill example for table ACDMISSP

The following example shows sample datafill for table ACDMISSP. In this example, the subpool, associated pools, and passwords are established for ACD users using the management software.

MAP display example for table ACDMISSP

```
SUBPOOL    PASSWORD    POOL
_____________________________________________________

                       SUBPOOL1      ACDMIS  POOL1
```

Datafilling table ACDGRP

The following table shows the datafill specific to ACD - Management Reports Two-Way Data Stream for tableACDGRP. Only those fields that apply directly to ACD - Management Reports Two-Way Data Stream are shown. For a

ACD Management Reports Two-Way Data Stream (continued)

description of the other fields, refer to the data schema section of this document.

Datafilling table ACDGRP

Field	Subfield or refinement	Entry	Explanation and action
ACDMIS		Y or N	ACD Management Information System. Enter Y if the ACDMIS feature is assigned to this ACD group.
If Y is entered, subfields POOL, SUBPOOL, and ACDVFG are presented:			
	POOL	alphanumeric	ACD pool name. Enter the 1- to 16-character alphanumeric name of the pool associated with this ACD group.
	SUBPOOL	alphanumeric	ACD subpool name. Enter the 1- to 16-character alphanumeric name of the subpool associated with this ACD group and pool.
	ACDVFG	Y or N	ACD virtual facility group. Enter Y to observe the data and usage counts on the VFGs used for routing by the ACD group. The VFGs must be datafilled in table VIRGRPS before they can be assigned to an ACD group in table ACDGRP.
If Y is entered, subfield VFG is presented:			
	VFG	alphanumeric	Virtual facility group. Enter the 1- to 6-character alphanumeric identifier of the VFG to which the ACD group is linked.
	MISOPT	DEFLOB, NORIMIS, or WALKAWAY	Management information system options. Enter DEFLOB, NORIMIS, or WALKAWAY.
If DEFLOB is entered, subfield LOBVAL is presented:			
	LOBVAL	000 to 999	Line of business value. Enter the specified line of business value. Valid entries are from 000 to 999.
OPTIONS		NONIMCUT	Options - NONIMCUT. Enter NONIMCUT (nonimmediate cutoff) if the Not Ready key should be able to be used without disconnecting the caller. Without this option, the caller is immediately disconnected whenever the Not Ready key is pressed.

ACD Management Reports Two-Way Data Stream (continued)

Datafill example for table ACDGRP

The following example shows sample datafill for table ACDGRP. In this example, field ACDMIS is set to Y so the ACD group ACDGRP1 will have ACDMIS.

MAP display example for table ACDGRP

```
ACDNAME      CUSTGRP ACDRNGTH        THROUTE
   NSROUTE PRIOPRO DBG MAXCQSIZ MAXWAIT
                     ACDMIS MSQS DISTRING OBSWTONE FRCNGTSV
                                          OPTIONS
_____________________________________________________________

ACDGRP1        MDC1        15         IBNRTE 100
 IBNRTE 401      5    N       5      20
               Y POOL1 SUBPOOL1 N                $
        Y   5   10  15  WAIT N Y 10  N  NONE   N
            Y  Y   OFRT   1003
                                          (NONIMCUT) $
```

Datafilling table ACDRTE

The following table shows the datafill specific to ACD - Management Reports Two-Way Data Stream for tableACDRTE. Only those fields that apply directly to ACD - Management Reports Two-Way Data Stream are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table ACDRTE (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTNAME		CIFROUTE	Option name. Enter CIFROUTE to indicate that the controlled interflow option is to cause rerouting of calls when turned on.
OPTION		CIFROUTE	Option - CIFROUTE. Specifies the route to be used when controlled interflow is turned on.
If CIFROUTE is entered, subfield CIFRTE is presented:			
	CIFRTE	see subfields	Controlled interflow route. Enter the route calls are to take when controlled interflow is turned on. Subfield CIFRTE consists of subfields TABNAME and INDEX.

ACD Management Reports Two-Way Data Stream (end)

Datafilling table ACDRTE (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	TABNAME	table name	Table name. Enter the valid table name containing the route to be used for controlled interflow.
	INDEX	0 to 1023	Index. Enter the index of the route to be used for controlled interflow. Valid entries are from 0 to 1023.

Datafill example for table ACDRTE

The following example shows sample datafill for table ACDRTE. In this example, the controlled interflow route feature is defined. This feature allows a supervisor to press the Interflow key to redirect newly arriving calls to a specified destination. In this example, the calls will be redirected to an office route.

MAP display example for table ACDRTE

```
ACDGRP     OPTNAME                              OPTION

_____________________________________________________________

 FINANCE    CIFROUTE            CIFROUTE   OFRT   1
```

Translation verification tools

ACD - Management Reports Two-Way Data Stream does not use translation verification tools.

SERVORD

Table KSETFEAT describes the line features available to a business set used for ACD. Refer to *SERVORD Reference Manual* for more information.

ACD Night Service Call Queue Clearing

Ordering codes

Functional group ordering code: ACD00001

Functionality ordering code: does not apply

Release applicability

DMSCCM04 and later versions

Requirements

The ACD Night Service Call Queue Clearing does not have requirements.

Description

The ACD Night Service Call Queue Clearing feature package removes active calls from ACD queues when night service (NS) activates. Night service activates when all agents log out or when the system logs out the last agent.

Operation

The ACD allows equal distribution of incoming calls to a specified set of answering positions called agent positions. A call can arrive at an ACD group without idle agents to answer the call. When this condition occurs, the system places the call in an incoming call queue. The priority and order of arrival of the call determines the placement.

When all agents in an ACD group activate Make Busy, the group is in night service. The group is in night service mode when the system forces the last available agent in a group to log off. A forced logoff occurs when the agent does not answer a call before the ring threshold timer expires. The system routes calls that arrive after all the agents are logged off to the night service route that the customer specifies.

> ***Note:*** To place the ACD group in night service, the administrative supervisor presses the Night Serv key on the supervisory set. The ACD Night Service Call Queue Clearing feature does not have an effect when the ACD group goes in night service. The feature does not have an effect because of the activation of the Night Serv key on the supervisor set.

When night service starts, calls in the incoming call queue remain in the incoming queue until the calls are abandoned. This condition does not apply if the ACD Night Service Call Queue Clearing feature is in use.

This feature allows the system to route calls that remain in the call queue when night service is active. The system routes the calls to the night service route or

ACD Night Service Call Queue Clearing (continued)

to a call clearing route that the customer defines. The clearing route allows the system to give a message. The message appears when all agents are logged out and the customer does not want the system to send calls. The system normally sends calls to the night service route in this occurrence.

The clearing feature begins five seconds after the last agent logs out or the system logs out the last agent. This feature deflects the calls that wait in the incoming call queues on a first-in, first-out basis. The system treats deflected calls as new calls in the night service or call clearing routes. Agents can log in during the five-second delay or when the system deflects calls from the queues. The occurrence of one of these events interrupts the call queue clearing process. The system routes the calls to the agents.

Translations table flow

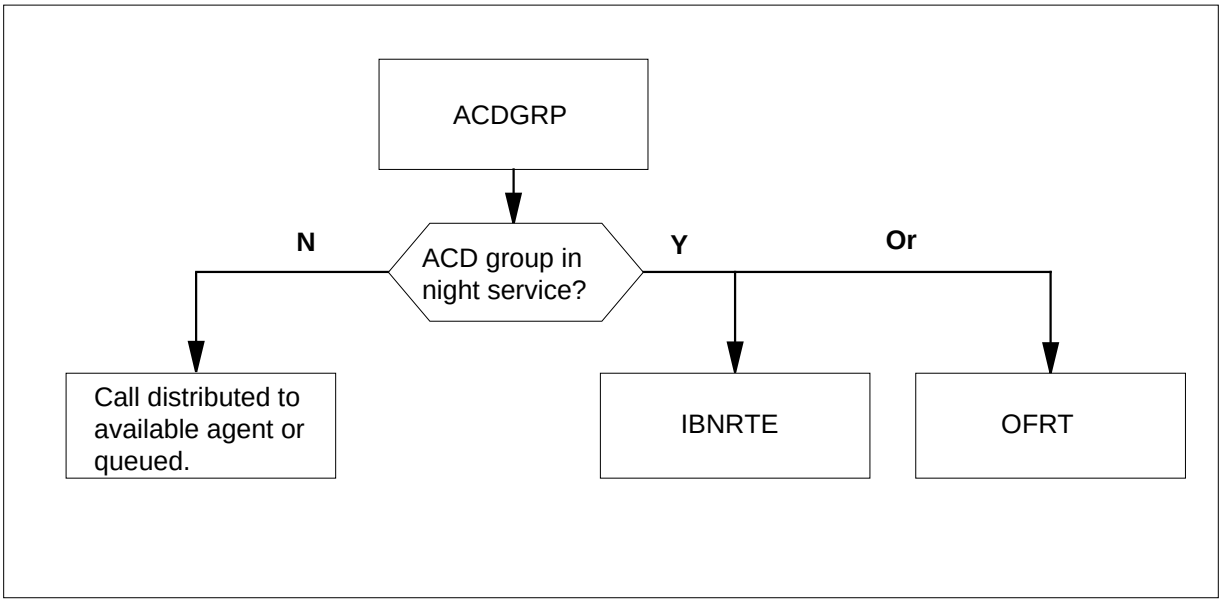
The ACD Night Service Call Queue Clearing translations tables appear in the following list:

- Table ACDGRP defines the ACD groups and options for the group. When the group is in night service, the system routes calls to the night service route. Table IBNRTE or Table OFRT identifies the night service route. Tables IBNRTE or OFRT define a call clearing route if calls deflected from the queue route to a call clearing route. The table that contains the correct route is in Table ACDGRP. The table name appears under the night service route (NSROUTE) field for night service. The table name appears under CLRROUTE for call clearing.
- Refer to Table IBNRTE for the following conditions:
  - — to segregate routing patterns according to function, like private network routes
  - — to activate routes
  - — if identification of automatic route selection (ARS) patterns occurs in the route list
  - — if options like Call Back Queuing and Off-Hook Queuing and a seperation of lower cost from higher cost routes are necessary
- Refer to table OFRT to send a call to a standard announcement tone or trunk

The ACD Night Service Call Queue Clearing translation process appears in the following flowchart.

ACD Night Service Call Queue Clearing (continued)

Table flow for ACD Night Service Call Queue Clearing



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

Datafill example for ACD Night Service Call Queue Clearing

Datafill table	Example data
ACDGRP	ACDGRP1 CUSTGRPA 16 IBNRTE 44 IBNRTE 43 10 N 45 10 N N NONE Y Y Y OFRT 1003 $
IBNRTE	20 (S N Y N Y PVTNETTRK1) $
OFRT	20 (S D ACDGRP1) $ 21 (S D ACDGRP1NS) $

Limits

The following limits apply to ACD Night Service Call Queue Clearing:

- Option QTOMSB in Table ACDGRP and the FRCNGTSV field in Table ACDGRP are mutually exclusive. The QTOMSB option forces calls to remain in the incoming call queues when the last agent logs off.
- The interactions of calls the system routes to the clearing and to the night service route work in the same manner.
- The system does not route attendant console calls again.

Interactions

The following paragraphs describe the interactions between ACD Night Service Call Queue Clearing and other functionalities.

ACD Night Service Call Queue Clearing (continued)

Time delay overflow

Activation of this feature occurs when activation of night service occurs. Night service becomes active when all agents log out or when the system logs out the last agent. The calls go to the night service route. The incoming call queue clearing starts after a delay of five seconds. The ACD call processing continues during this five second interval.

Logically queued calls

Priority 1 to 3 calls in the incoming call queue do not move to the overflow queue until the calls reach priority 0. Priority 1 to 3 calls remain in the call queue of the source group. The system logically queues these calls. When the system removes these calls from the incoming call queue, the system sends messages to remove the calls from the logical group.

ACDMIS

The downstream processor (DSP) receives a call blocked message for each call that deflects to the night service route. The DSP also receives a call blocked message for the customer-defined clearing route. These actions allow the DSP to keep correct statistics on calls to the ACD group. The DSP can keep correct statistics because the ACD group receives a call offered message when the system routes the call to the group.

Call clearing on telephone sets

If an agent is on an ACD call and logs out, call clearing begins on 2500 sets. Call clearing on Meridian business sets begins when the system releases the active call. The system does not route attendant console calls again.

Activation/deactivation by the end user

This feature activates when night service activates. Night service activates when all agents log out or when the system logs out the last agent. The feature deactivates when an agent in the ACD group logs in.

The following table explains how to activate ACD Night Service Call Queue Clearing.

ACD Night Service Call Queue Clearing (continued)

Activation/deactivation of ACD Night Service Call Queue Clearing by the end user

At your telephone

1 Press Make Busy key.

Response:

If agent is idle, the agent is logged off and the Make Busy lamp lights. If agent is active on a call, the system logs the agent out when the system releases the call.

> ***Note:*** This feature also activates when the system forces the last agent of the group to log off. Forced logoff is an automatic process. This process occurs when an agent does not answer a call before the ring threshold timer expires. The end user can activate the feature. The activation does not require any action by the end user.

Deactivation through login of agent in the ACD group

At agent position

1 With Make Busy lamp lit, press In Calls key.

Response:

In Calls lamp lights, and the user hears a special dial tone.

2 Enter four-character login ID.

Response:

If login ID is valid, In Calls and Make Busy lamps turn off and Not Ready lamp lights continuously.

3 Press Not Ready key.

Response:

Not Ready lamp turns off and agent can receive ACD calls.

Billing

The ACD Night Service Call Queue Clearing does not affect billing.

Station Message Detail Recording

The ACD Night Service Call Queue Clearing does not affect Station Message Detail Recording.

Datafilling office parameters

The ACD Night Service Call Queue Clearing does not affect office parameters.

ACD Night Service Call Queue Clearing (continued)

Datafill sequence

The table that requires datafill to implement ACD Night Service Call Queue Clearing appears in the following table.

Datafill requirement for ACD Night Service Call Queue Clearing

Table	Purpose of table
ACDGRP	Automatic Call Distribution Group Table defines the ACD groups.

Datafilling table ACDGRP

Datafill for ACD Night Service Call Queue Clearing for table ACDGRP appears in the following table. The fields that apply to ACD Night Service Call Queue Clearing appear in the table. See the data schema section of this document for a description of the other fields.

Datafilling table ACDGRP (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
NSROUTE		refer to subfields	Night service route. This field specifies the route that the system sends incoming calls if all agents in an ACD group activate Make Busy. This field also specifies the route that the system sends incoming calls when the supervisor activates the Night Service feature. This field contains subfields TABNAME and INDEX.
	TABNAME	IBNRTE, OFRT	Table name. Enter name of table to which the system routes incoming calls at night.
	INDEX	0 to 1023	Index. Enter the index of the route for call clearing.
FRCNGTSV		Y or N	Forced route clearing night service. Enter Y if you want the system to clear call queues on night service activation. Enter N if you do not want this event to occur. If you enter Y, the system presents subfield CLRTE.

ACD Night Service Call Queue Clearing (end)

Datafilling table ACDGRP (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	CLRRTE	Y or N	Clearing route. Enter N if you want the system to deflect calls to the night service route. Enter Y if you want the system to present a call clearing message to callers deflected from the queue. If the user enters Y, the system presents subfields TABNAME and INDEX.
	TABNAME	IBNRTE, OFRT	Table name. Enter the table name that contains the route for call clearing.
	INDEX	0 to 1023	Index. Enter the index of the route for call clearing.

Datafill example for table ACDGRP

Sample datafill for table ACDGRP appears in the following figure.

MAP example for table ACDGRP

```
ACDNAME      CUSTGRP ACDRNGTH          THROUTE
   NSROUTE PRIOPRO DBG MAXCQSIZ MAXWAIT
              ACDMIS
      MSQS                       DISTRING OBSWTONE
           FRCNGTSV
                                        OPTIONS
-------------------------------------------------------
ACDGRP1        MDC1        15          IBNRTE 100
 IBNRTE 401      5    N       5      20
               Y POOL1 SUBPOOL1 N                $
       Y   5   10  15  WAIT N Y 10 N Y 20 BOTH  N
             Y  Y   OFRT   1003
                                  (ACDADMIN 155) $
```

Tools for verifying translations

The ACD Night Service Call Queue Clearing does not use tools for verifying translations.

SERVORD

The ACD Night Service Call Queue Clearing does not use SERVORD.

ACD on 2500 Set

Order codes

Functional group order code: ACD00001

Functionality order code: does not apply

Release applicability

BCS32 and later versions

Requirements

The ACD on 2500 Set does not have requirements.

Description

The ACD on 2500 Set feature package provides access to a limited group of ACD agent features to 2500 set users. Activation and deactivation codes are required to use these features. The ACD load management and ACDSHOW commands can be for groups with 2500 sets. In addition, a supervisor can use a 2500 set to observe the agent.

Operation

The following paragraphs describe the ACD on 2500 Set features.

ACD 2500 Set Call Processing Interactions

This feature provides ACD and non-ACD feature interactions for calls that terminate on 2500 set ACD positions.

ACD 2500 Set Login/Logout

This feature allows sets in use as ACD agents to be logged in and out of the system. Log these sets in and out through dialing access codes.

ACD 2500 Set Load Management and ACDSHOW

The addition of this feature in the ACD on 2500 Set feature package allows the use of load management. This feature allows ACDSHOW commands for groups that contain 2500 set ACD agents.

ACD 2500 Set Not Ready

This feature allows an ACD agent that uses a 2500 set to dial an access code to activate and deactivate the Not Ready feature.

ACD Distinctive Ringing

This feature provides distinctive ringing for ACD calls. Distinctive ringing allows agents that use 2500 sets to distinguish between incoming ACD and non-ACD calls.

ACD on 2500 Set Feature Assignment

This feature starts the required table controls and service orders that assign 2500 sets as agent positions in current ACD groups.

Observe agent from 2500 set

With this BCS32 feature, a supervisor can use the Observe Agent feature from a 2500 set. Dial access codes to activate the feature.

Translations table flow

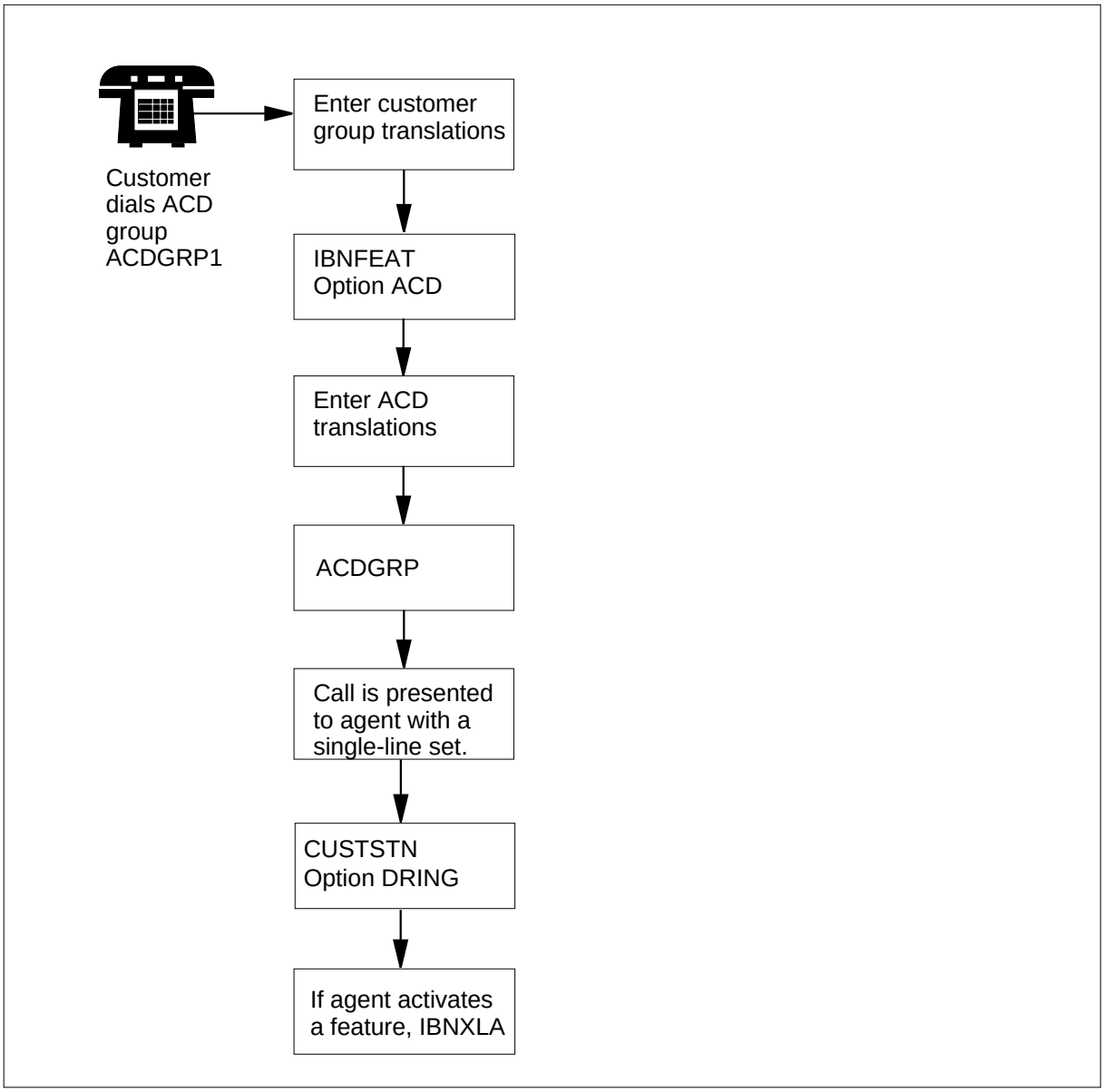
The following list describes the ACD on 2500 Set translations tables:

- Table ACDGRP identifies the ACD group to which the 2500 set belongs. This table identifies other options that associate with this ACD group. Other options can include ACDMIS, threshold routes and night service routes.
- Table CUSTSTN identifies options for 2500 sets that are assigned ACD. In this flowchart example, distinctive ringing is defined
- Table IBNFEAT identifies the line equipment number (LEN) for the 2500 set assigned as an ACD agent or supervisor position. This table identifies the ACD group to which the set belongs. Service orders automatically enter this table when the 2500 set is an ACD agent or supervisor position.
- Table IBNXLA stores the access codes that agents use with 2500 sets to log in and log out and ACD Not Ready functions. Table IBNXLA defines the access codes for the Observe Agent feature.

The ACD on 2500 Set translation process appears in the following flowchart.

ACD on 2500 Set (continued)

Table flow for ACD on 2500 Set



ACD on 2500 Set (continued)

Datafill content used in the flowchart appears in the following table. The ACD group is ACDGRP1. The customer group is MDC1. The feature translation name is FXMDC1. The LEN is 0 0 0 1.

Datafill example for ACD on 2500 Set

Datafill table	Example data
IBNFEAT	HOST 00 0 00 01 0 ACD ACD ACDGRP1 1 N $
ACDGRP	ACDGRP1 MDC1 15 IBNRTE 100
	IBNRTE 401 5 N 5 20
	Y POOL1 SUBPOOL1 N $
	Y 5 10 15 WAIT N Y 5 NONE N
	Y Y OFRT 1003
	(AUDIO 6 Y AUDIO1) $
CUSTSTN	MDC1 DRING DRING N N NO N N N N Y 4 N
IBNXLA	FXMDC1 72
	FEAT N N N ACDLGA

Limits

The following limits apply to ACD on 2500 Set:

- Distinctive ringing

  When controller ringback occurs on an ACD 2500 set, the ringback cannot be distinctive ringing.

- Login/logout

  An ACD agent can use a 2500 set flashes and dial the logout code when active on a call. When this event occurs, the agent is logged off. The agent is logged off when the system releases the current call. The agent cannot dial the login code when the agent is active on a call.

- Not Ready

  When you dial the Not Ready activation code when active on a call, the system does not release the call. The agent cannot activate Not Ready during a three-way call. The agent cannot activate Not Ready during a call extended by an attendant console.

- Feature incompatibilities

ACD on 2500 Set (continued)

The following 2500 set features are not compatible with ACD on 2500 Set:

- Automatic Call Rejection (ACRJ)
- Automatic Line (AUL)
- Bearer Capability (BC)
- Bridged Night Number (BNN)
- Calling Name Delivery Blocking (CNAB)
- Calling Number Delivery Blocking (CNDB)
- Cutoff on Disconnect (COD)
- Distributed Line Hunt (DLH)
- Directory Number Hunt (DNH)
- Denied Origination (DOR)
- Denied Termination (DTM)
- Essential Line Hold (ELHD)
- Group Intercom (GIC)
- Multiple Appearance Directory Number (MDN)
- MDN Lamp (MLAMP)
- Multiline Hunt (MLH)
- Multiple Position Hunt (MPH)
- MDN Release (MREL)
- Originating Line Select (OLS)
- Preferential Hunting (PRH)
- Random Make Busy (RMB)
- Series Completion (SCMP)
- Stop Hunt (SHU)
- Simplified Message Desk Interface (SMDI)
- Station Origination Restrictions (SOR)
- Station Origination Restrictions Controller (SORC)
- Terminating Billing Option (TBO)
- Terminating Line Select (TLS)
- Uniform Call Distribution (UCD)
- Uniform Call Distribution Signal Distributor (UCDSD)

The compatibility of features is checked from the Service Order system (SERVORD).

Interactions

The following paragraphs describe the interactions between ACD on 2500 Set and other functionalities.

ACD agent queues

Agent positions associated with 2500 sets are maintained in the same ACD agent queues that electronic business set (EBS) or Meridian business set (MBS) agents use.

ACD ring threshold

When the ring threshold expires before an ACD agent that uses a 2500 set answers the call, the agent is logged out. Make Busy is not activated. The agent must complete a new login procedure before additional ACD calls are presented to that agent position.

Agent status lamps

Agent status lamps can be assigned to a set of a supervisor to monitor agent positions with 2500 sets. When agent status lamps are used with 2500 sets, refer to the following table for lamp state meanings:

Lamp state meanings

Lamp	Action
Off	The 2500 set ACD agent is not logged in.
On	The 2500 set ACD agent is active on an ACD or non-ACD call.
Flash	The 2500 set ACD agent is idle and ready to receive an ACD or non-ACD call. The agent can start a call.
Wink	The 2500 set ACD agent is idle and. The agent presses the Not Ready key. The agent can start a call or receive a non-ACD call.

An update of the agent status lamps for 2500 sets does not occur for status changes. This condition applies when the 2500 set is active on a call. An update of the lamp status to the appropriate state occurs when the system releases a call.

An Agent key can associate with an agent status lamp for a 2500 set agent position.

ACD on 2500 Set (continued)

Distinctive ringing

Immediate ringing and distinctive ringing are features that are not compatible. When both features are active for a customer group, distinctive ringing is more important than immediate ringing.

Emergency key capability

When active on an ACD call, the agent can flash and dial the DN of the Ans Emerg key of the supervisor. When the supervisor does not have Make Busy activated and the Ans Emerg key is idle, the set rings. The supervisor cannot be conferenced into the call between the agent and abusive caller. An additional device is not attached.

Observe Agent

The Observe Agent feature can monitor ACD or non-ACD calls on 2500 set agent positions.

With BCS32, a supervisor can use a 2500 set to observe ACD agents.

Make Busy

Activation of Make Busy is not required to log in to an agent position with a 2500 set. Make Busy activation on a 2500 set restricts non-ACD calls from termination on the set. The ACD calls can terminate on the set without regard to the Make Busy state. Make Busy activation on a 2500 set does not log the agent out. To restrict all incoming calls from the set, activate Not Ready and Make Busy.

Non-ACD feature interactions

The following paragraphs describe interactions with non-ACD features for ACD agents that are logged in at agent positions with 2500 sets.

Call forwarding

Call forwarding occurs for non-ACD calls. The ACD calls are not forwarded. Calls can be forwarded to the station DN of an ACD 2500 set.

Three-Way Calling/Call Transfer

You can dial an ACDDN as the second leg of a three-way call. The call can terminate on an ACD 2500 set agent position. You can dial a station DN of an ACD 2500 set as the second leg of a three-way call. The ACD 2500 sets can start Three-Way Calling or Call Transfer.

Call Waiting

When an ACD 2500 set user is active on an ACD call, the system blocks call waiting. When the ACD 2500 set user is active on a non-ACD call, new non-ACD calls are call waited. When the system releases a current call, the

call waited non-ACD call is presented to the ACD 2500 set. This presentation occurs before a new ACD call. This action occurs when a new ADC call waits.

Call waiting and observe

The ACD Observe Agent feature monitors an ACD 2500 set agent that is active on a non-ACD call, and the agent is presented with a call waiting call. When this event occurs, the Observe Agent feature is put in suspend mode. The feature is in suspend mode until the call collapses to a common two-party call.

Ring again/call back queuing

The agent can activate ring again and call back queuing against the station DN of an ACD 2500 set. When the system releases current call, the ring again/call back queuing call is presented to the ACD 2500 set. This call is presented to the ACD 2500 set before a new ACD call. This action occurs when a new ACD call waits.

Call hold/permanent hold

ACD 2500 set agents can use call hold and permanent hold. An ACD 2500 set agent on a call holds the call and goes on-hook before the agent answers the held call. The agent is presented with the held call before the agent is presented with a new ACD call.

Call pickup

An ACD 2500 set station can be a member of a call pickup group. Non-ACD calls that terminate on the set can be answered.

Activation/deactivation by the end user

Dial access codes to activate all features for ACD agents with 2500 sets. The agent goes off-hook and dials an activation code. The agent can flash when active on a call. The agent dials the activation code. Activation and deactivation codes are in Table IBNXLA.

The following explains the login and logout procedures for an ACD agent with a 2500 set.

Note: References to 2500 sets in this procedure apply to 500 sets.

ACD on 2500 Set (continued)

Activation/deactivation of ACD on 2500 Set by the end user

At Agent login - 2500 set, no password at agent position:

1 Lift the handset off-hook. Wait for regular dial tone. Dial the ACD activation code.

Response:

Special dial tone or reorder tone occurs on the handset. When reorder tone occurs, one of the following conditions apply:

- The 2500 set is not assigned ACD features in Table IBNFEAT or by service orders.
- When Table IBNFEAT has data entry, the system blocks the login procedure of the agent.

With reorder tone, the agent can attempt again or have the 2500 set entered with ACD features.

2 After the special dial tone, enter the four-digit login identification code. The system checks the following:

- that the login code is valid
- that the code is not already in use
- the datafill in Table ACDLOGIN. The login code is on a list. The code is the same for customer group access. Field PASSWORD is set to N.
- that the parameter ALL_ACD_LOGIN_IDS_VALID in Table OFCENG is set to Y

Response:

If all the checks pass:

- Confirmation tone sounds on the handset.
- The agent is logged in.
- The system activates the ACD not ready mode.
- The agent status lamp (ASL) on the winks on the set of the supervisor.
- The login is recorded at the downstream processor (DSP) when the ACD management reports or ACDMIS is present.

3 To receive ACD incoming calls, dial the ACD Not Ready deactivation code to cancel the not ready mode. The ACD Not Ready deactivation code is in Table IBNXLA, field FEATURE.

Response:

Confirmation tone sounds. The ACD calls can be received. The agent status lamp on the set of the supervisor is lit. The status lamp is lit when the call is in progress on the set of the agent. A message is not sent to the DSP until the ACD or non-ACD call in progress ends. The ACD Not Ready feature toggles between activation and deactivation when the agent dials the appropriate codes.

ACD on 2500 Set (continued)

At Agent login - 2500 set, with password at agent position:

1 Lift the handset off-hook. Wait for regular dial tone. Dial the ACD activation code.

Response:

Reorder tone or the first of two special dial tones is audible on the handset. When reorder tone is audible, one or more of the following conditions occurs:

- The 2500 set is not assigned ACD features in Table IBNFEAT or by service orders.
- When Table IBNFEAT has data entry, the system blocks the login procedure of the agent.
- Someone else uses the login code.
- When Table ACDLOGIN has the customer group option set to Y, one of the following applies:
  - — The customer group login code does not match the login code in Table ACDLOGIN.
  - — Office parameter ALL_ACD_LOGIN_IDS_VALID of Table OFCENG is N. The agent dials a login code that is not in Table ACDLOGIN.

  With reorder tone, the agent can attempt again or have the 2500 set entered with ACD features.

2 After the first dial tone, dial the four-digit login identification code.

Response:

Dial tone is audible again.

3 After the second special dial tone, dial the four-digit login password. The system checks the following:

- that the password is valid
- that the password matches the password in Table ACDLOGIN

  Response:

When all the checks pass, the following occurs:

- Confirmation tone is audible on the handset.
- The agent is logged in.
- The system activates an ACD not ready mode.
- The agent status lamp on the winks on the set of the supervisor.
- The login is recorded at the DSP when the ACD management reports or ACDMIS is present.
- To receive ACD incoming calls, dial the ACD Not Ready deactivation code to cancel the not ready mode. The ACD Not Ready deactivation code is in Table IBNXLA, field FEATURE

  Response:

  Confirmation tone is audible. Reception of the ACD can occur. The agent status lamp on the set of the supervisor is lit. The agent status lamp is lit when the call is in progress on the set of the agent. A message is not sent to the DSP until the ACD or non-ACD call in progress ended.

ACD on 2500 Set (continued)

The ACD Not Ready feature toggles between activation and deactivation when the agent dials the appropriate codes.

At Agent logout - 2500 set at agent position:

1 The idle state occurs when the agent does not handle an ACD incoming call or a non-ACD call. When the set is in an idle state, perform these actions to log out:

1. take the handset off-hook
2. wait for standard dial tone
3. dial the ACD deactivation code

Response:

After the code, one or more of the following conditions occurs:

- Confirmation tone is audible on the handset of the agent.
- The agent status lamp of the supervisor extinguishes.
- A logout message is recorded at the DSP when the ACD management reports option or ACDMIS is present.

2 The busy state occurs when an agent handles an ACD incoming call or a non-ACD call. When the set is in a busy state, perform these actions to log out:

1. flash the switch hook to get dial tone and to place the connected call on hold
2. dial the ACD deactivation code

Response:

Confirmation tone is audible on the handset of the agent. The system reconnects the held call. When the agent goes on-hook for the call, the position is logged out. The status lamp of the supervisor extinguishes. A logout message is recorded at the DSP when the ACD management report option or ACDMIS is present.

Observe Agent restricted (OBSREST), on supervisor set:

1 Press the Obs Agent key.

Response:

Observe Agent lamp lights. Dial tone is audible.

2 Press Agent key, or dial DN of 2500 set agent.

Response:

1. When agent is active on an ACD call, the supervisor observes call.
2. When agent is active on a non-ACD call, the system places the supervisor in suspend mode. When a new call is presented to the agent, the supervisor observes the call when the call is an ACD call. When the new call is a non-ACD call, the supervisor remains in suspend mode.

3 Press the same Agent key again.

Response:

Key hit is ignored.

ACD on 2500 Set (continued)

Billing

The ACD on 2500 Set does not affect billing.

Station Message Detail Recording

The ACD on 2500 Set does not affect Station Message Detail Recording.

Datafilling office parameters

The ACD on 2500 Set does not affect office parameters.

Datafill sequence

A list of the tables that require datafill to start ACD on 2500 Set appear in the following table. The tables appear in the correct entry order.

Datafill requirements for ACD on 2500 Set

Table	Purpose of table
ACDGRP	Automatic Call Distribution Group Table. Defines and describes the ACD groups.
IBNFEAT	IBN Line Feature Table. Describes line features for ACD lines. ***Note:*** Enter data in this table through SERVORD. Datafill procedure or example is not provided. Refer to SERVORD for an example of how to use SERVORD to enter data in this table.
IBNXLA	IBN Translation Table. Defines translations for access codes that single-line ACD agents use.
CUSTSTN	Customer Group Station Option Table. Customizes the use of telephone sets. For ACD, this table allows for distinctive ringing for ACD calls.

ACD on 2500 Set (continued)

Datafilling table ACDGRP

Datafill for ACD on 2500 Set for table ACDGRP appears in the following table. The fields that apply to ACD on 2500 Set appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table ACDGRP

Field	Subfield or refinement	Entry	Explanation and action
DISTRING		INBOUND, OUTBOUND, BOTH	Distinctive ringing. Enter INBOUND, OUTBOUND, or BOTH to distinguish the ringing between ACD and non-ACD calls. The default is NONE for no distinctive ringing. When set to INBOUND, OUTBOUND, or BOTH, field DRING of Table CUSTSTN must be set to Y.

Datafill example for table ACDGRP

Sample datafill for table ACDGRP appears in the following example. In this example, the field DISTRING for distinctive ringing is BOTH.

MAP example for table ACDGRP

```
ACDNAME      CUSTGRP ACDRNGTH        THROUTE
   NSROUTE PRIOPRO DBG MAXCQSIZ MAXWAIT
                   ACDMIS MSQS DISTRING OBSWTONE
FRCNGTSV
                                            OPTIONS
_____________________________________________________________
ACDGRP1      GRP1        15         IBNRTE 100
 IBNRTE 401      5    N       5      20
               Y 1 1 N                          $
        Y   5   10  15  WAIT N Y  5   BOTH   N
                Y  Y   OFRT   1003
                                                 $
```

Datafilling table IBNXLA

Datafill specific to ACD on 2500 Set for table IBNXLA appears in the following table. The fields that apply to ACD on 2500 Set appear in this table. See the data schema section of this document for a description of the other

fields. Table IBNXLA defines the digit translations required for access codes that single-line ACD agents use.

Datafilling table IBNXLA

Field	Subfield or refinement	Entry	Explanation and action
RESULT		refer to subfields	Result. This field contains subfields TRSEL, ACR, SMDR, and FEATURE. Only the subfields that ACD on 2500 Set affects appear in this table.
	TRSEL	FEAT	Translation selector. Enter FEAT.
	ACR	Y or N	Account code entry. Enter Y when an account code entry is required for all calls to the special feature access code. When the entry is not required, enter N.
	SMDR	Y	Station Message Detail Recording. Enter Y when a feature originates a call and needs SMDR.
	FEATURE	See subfield	Feature. ACDLGA. ACD login activation code. Allows an ACD agent that uses a single-line set to log in an ACD position. When activation is complete, a confirmation tone is audible. ACDLGD. ACD login deactivation code. Allows an ACD agent that uses a single-line set to log out from an ACD position. When deactivation is complete, a confirmation tone is audible. ACDNRA. ACD Not Ready activation code. Allows an ACD agent that uses a 500/2500 set to activate the ACD Not Ready feature. When activation is complete, a confirmation tone is audible. ACDNRD. ACD Not Ready deactivation code. Allows an ACD agent that uses a 500/2500 set to deactivate the ACD Not Ready feature. When deactivation is a success, a confirmation tone is audible.

Datafill example for table IBNXLA

Sample datafill for table IBNXLA appears in this example. In this example, the feature ACDLGA (ACD login activation code) is assigned.

ACD on 2500 Set (continued)

MAP example for table IBNXLA

```
                KEY
                                                        RESULT
_____________________________________________________________________
CUSTXLA         72
        FEAT            N           N    N      ACDLGA
```

Datafilling table CUSTSTN

Datafill for ACD on 2500 Set for table CUSTSTN appears in the following table. The fields that apply to ACD on 2500 Set appear in this table. See the data schema section of this document for a description of the other fields. Table CUSTSTN allows distinctive ringing for a complete customer group.

Note: The office parameter DSR_OFFICE in Table OFCOPT must be Y to allow distinctive ringing .

Datafilling table CUSTSTN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTION		DRING	Option name. Enter DRING. Specifies distinctive ringing for the calls of a customer group.
When you enter DRING, subfields INTRNL, EXTRNL, TRKS, GIC, RECALL, UCD, REST and ACD are presented.			
	INTRNL	N	Distinctive ringing for intragroup calls. Enter N.
	EXTRNL	N	Distinctive ringing for intergroup calls. Enter N.
	TRKS	NO	Distinctive ringing for calls that arrive over trunks. Enter NO.
	GIC	N	Distinctive ringing for Group Intercom calls. Enter N. The ACD is incompatible with GIC.
	RECALL	N	Distinctive ringing for recalled calls. Enter N.
	UCD	N	Distinctive ringing for Uniform Call Distribution calls. Enter N. ACD is not compatible with UCD.
	REST	N	Distinctive ringing for the remaining calls. Enter N.

ACD on 2500 Set (continued)

Datafilling table CUSTSTN (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	ACD	Y	Distinctive ringing for Automatic Call Distribution calls. Enter Y to give ACD calls distinctive ringing for each customer group. Distinctive ringing arranged for each line is more important over distinctive ringing arranged in Table CUSTSTN.
When you enter Y, subfield DRINGTYP is presented.			
	DRINGTYP	1 to 8	Distinctive ringing type. Enter the ringing code for the ACDDNs. Valid entries are from 1 to 8. • 1 = 1.5 s on, 4.5 s off • 2 = 1.5 s on, 0.5 s off, 1.5 s on, 2.5 s off • 3 = 1.5 s on, 0.5 s off, 0.5 s on, 3.5 s off • 4 = 1.5 s on, 0.5 s off, 0.5 s on, 0.5 s off, 0.5 s on, 2.5 s off • 5 = 1.5 s on, 0.5 s off, 0.5 s on, 0.5 s off, 1.0 s on, 2.0 s off • 6 = 1.0 s on, 0.5 s off, 1.0 s on, 3.5 s off • 7 = 0.5 s on, 0.5 s off, 0.5 s on, 0.5 s off, 1.0 s on, 3.0 s off • 8 = 0.5 s on, 0.5 s off, 1.0 s on, 0.5 s off, 0.5 s on, 3.0 s off Each ringing cycle is repeated.

Datafill example for table CUSTSTN

Sample datafill for table CUSTSTN appears in the following example. In this example, ACD calls are given the distinctive ringing type 4.

MAP example for table CUSTSTN

```
CUSTNAME   OPTNAME                                OPTION
_____________________________________________________________
    MDC1     DRING       DRING N N NO N N N N Y 4
```

ACD on 2500 Set (continued)

Tools for verifying translations

The TRAVER output for the ACD on 2500 Set feature package indicates a standard line-to-line call. The call does not indicate access to ACD translation tables.

SERVORD

Use the Service Order system (SERVORD) to add, change or delete a single-line ACD station. Use SERVORD to add or delete a feature.

Enter table IBNFEAT with the SERVORD command. Table IBNFEAT describes all the line features for ACD lines.

SERVORD limits

The following SERVORD limits apply to ACD on 2500 Set:

- Automatic Call Rejection (ACRJ)
- Automatic Line (AUL)
- Bearer Capability (BC)
- Bridged Night Number (BNN)
- Calling Name Delivery Blocking (CNAB)
- Calling Number Delivery Blocking (CNDB)
- Cutoff on Disconnect (COD)
- Distributed Line Hunt (DLH)
- Directory Number Hunt (DNH)
- Denied Origination (DOR)
- Denied Termination (DTM)
- Essential Line Hold (ELHD)
- Group Intercom (GIC)
- Multiple Appearance Directory Number (MDN)
- MDN Lamp (MLAMP)
- Multiline Hunt (MLH)
- Multiple Position Hunt (MPH)
- MDN Release (MREL)
- Originating Line Select (OLS)
- Preferential Hunting (PRH)

- Random Make Busy (RMB)
- Series Completion (SCMP)
- Stop Hunt (SHU)
- Simplified Message Desk Interface (SMDI)
- Station Origination Restrictions (SOR)
- Station Origination Restrictions Controller (SORC)
- Terminating Billing Option (TBO)
- Terminating Line Select (TLS)
- Uniform Call Distribution (UCD)
- Uniform Call Distribution Signal Distributor (UCDSD)

SERVORD prompts

The following table indicates the SERVORD prompts that assign the ACD on 2500 Set feature package to a 2500 set.

SERVORD prompts for ACD on 2500 Set (Sheet 1 of 2)

Prompt	Valid input	Explanation
DN	7 digits	Enter the directory number (DN).
LCC	IBN	Enter the line class code of Integrated Business Networks (IBN) for the 500/2500 ACD set.
GROUP	1-16 alphanumeric characters	Enter the customer group to which the ACD set belongs.
SUBGRP	0-7	Enter the subgroup number of the customer group.
NCOS	0-511	Enter the network class of service for the station.
SNPA	3 digits	Enter the serving numbering plan area code for the station.
LATANAME	Alphanumeric	Enter the local access and transport area name.

ACD on 2500 Set (continued)

SERVORD prompts for ACD on 2500 Set (Sheet 2 of 2)

Prompt	Valid input	Explanation
OPTION	AAK, ACD, ACDNR, AEMK, ASL, CAG, CIF, CLSUP, DASK, DQS, DQT, EMK, LOB, MSB, NGTSRVCE, OBS, SUPR	AAK = Ans Agent key ACD = In Calls key ACDNR = Not Ready key AEMK = Ans Emerg key ASL = Agent status lamps CAG = Call Agent key CIF = Interflow key CLSUP = Call Supervisor key DASK = Display Agent Status key DQS = Display Queue Status key DQT = Display Queue Threshold key EMK = Emergency key LOB = Line of Business Code key MSB = Make Busy key NGTSRVCE = Night Serv key OBS = Obs Agent key SUPR = Supervisor option
ACDGRP	1-16 alphanumeric characters	Enter the ACD group from Table ACDGRP to which the set belongs.
ACDSGRP	0-255	Enter the number of the ACD subgroup to which this set belongs.
IDNUM	Y or N	Enter Y when an identification number must be assigned to the agent.
POSID	0001-9999	Enter the ID number to be assigned to the agent or supervisor set placed in service.

SERVORD example for implementing ACD on 2500 Set

The following SERVORD example indicates how you add ACD on 2500 Set to a 500/2500 set with the SERVORD command NEW. In this example, ACD is assigned. Other features are not assigned.

ACD on 2500 Set (end)

SERVORD example for ACD on 2500 Set in prompt mode

```
>NEW
SONUMBER:    NOW  91  7  8  AM
> (CR)
DN:
> 2551234
LCC:
> IBN
GROUP:
> MDC1
SUBGRP:
>0
NCOS:
> 9
SNPA:
> 919
LATANAME:
>NILLATA
LTG:   0
> (CR)
LEN_OR_LTG
> 0012
OPTION:
> ACD
ACDGRP:
> ACDGRP1
ACDSGRP:
> 2
IDNUM:
> Y
POSID:
> 1234
IBN_ACD_OPTION:
> $
OPTION:
> $
COMMAND AS ENTERED:
NEW NOW 91 7 8 AM 2551234 IBN MDC1 0 9 919 NILLATA 0
HOST 00 0 01 02 (ACD ACDGRP1 2 Y 1234 $) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
```

SERVORD example for ACD on 2500 Set in no-prompt mode

```
>NEW $ 2551234 IBN MDC1 0 9 919 NILLATA 0 ACD ACDGRP1 2 Y 1234
$ (CR)
```

ACD Remote Load Management I

Ordering codes

Functional group ordering code: ACD00001

Functionality ordering code: ACD00005

Release applicability

BCS26 and later versions

Requirements

The ACD Remote Load Management I does not have requirements.

Description

The ACD Remote Load Management I feature package provides the features to send the management information data stream. This data stream travels from the Automatic Call Distribution (ACD) node to the downstream processor (DSP) at the customer location. The MAP terminal makes the load management capabilities available.

The load management command set integrates with the menu of the management reporting system. Utilities are available to construct and schedule load management programs.

Remote ACDSHOW

The remote ACDSHOW feature allows the supervisor to view specified configuration parameters for the ACD group. Before the introduction of this feature, ACDSHOW was available from a MAP terminal at the central office or at the customer premises. The Remote ACDSHOW feature integrates ACDSHOW commands in the menus of the management reporting system. The DSP issues the commands.

Remote ACD Load Management

The Remote ACDSHOW feature allows access to load management commands from the menus of the management reporting system. Before the introduction of this feature, a MAP terminal permitted load management commands. This MAP terminal was at the central office or at customer premises.

The ACD Remote Load Management I feature package provides the following commands:

- CHANGE ACDDNPRI (change ACDDN priorities)
- CHANGE AUDIO (change audio group)

- CHANGE MAXCQSIZE (change maximum size of incoming call queue)
- CHANGE MAXWAIT (change maximum wait time)
- CHANGE NSROUTE (change night service route)
- CHANGE OVFLROUTE (change enhanced overflow routes)
- CHANGE RANTH (change recorded announcement threshold)
- CHANGE THROUTE (change threshold route)
- REASSIGN (AGENTS) (reassign agent position)
- REASSIGN (ACDDN) (reassign ACD directory number)

Operation

A supervisor can enter a load management command at the related site. Next, the ACD Remote Load Management I feature package provides the features to send management information data stream to the ACD node.

Translations table flow

The ACD Remote Load Management I translations tables appear in the following list:

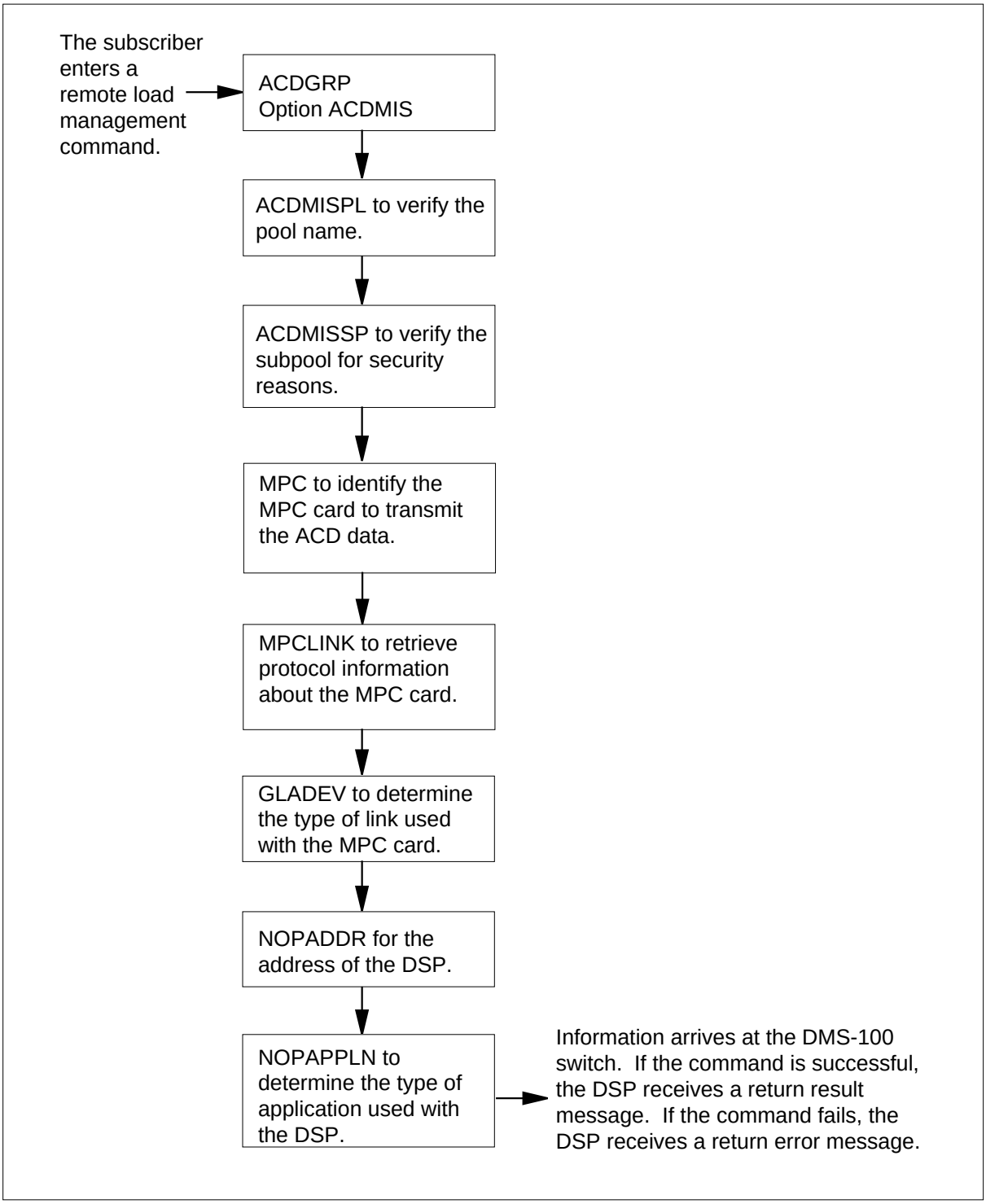
- Table ACDGRP defines and describes ACD groups. The ACD Management Information System (ACDMIS) field of table ACDGRP has a value of Y. This value indicates the supervisor of the specified ACD group can use load management commands. These commands are from a terminal that connects to a DSP.
- Table ACDMISPL identifies the pools, passwords and protocol for ACD users that use the management software.
- Table ACDMISSP establishes the subpool, associated pools and passwords for ACD users of the management software. To establish the ACDMISSP table, the ACDGRP table must define the ACDMIS option. The subpools define a partitioned stream of data to send to the ACDMIS.
- Table MPC identifies the MPC card. The software can transmit the ACD information to the DSP.
- Table MPCLINK provides protocol for the MPC card. Table MPC defines the MPC card.
- Table GLADEV determines the link for the MPC card.
- Table NOPADDR provides the address of the DSP.
- Table NOPAPPLN controls the applications of remote user access.

ACD Remote Load Management I (continued)

The ACD Remote Load Management I translation process appears in the following flowchart.

ACD Remote Load Management I (continued)

Table flow for ACD Remote Load Management I



ACD Remote Load Management I (continued)

The following table contains the datafill that relates to the content of the flowchart. Datafill example items and example data are as follows:

- ACD group is ACDGRP1
- Customer group is MDC1
- Password is ACDADMIN
- Pool name is POOL1
- Protocol is BCS30
- Subpool name is SUBPOOL1

Datafill example for ACD Remote Load Management I

Datafill table	Example data
ACDGRP	ACDGRP1 MDC1 15 IBNRTE 100 IBNRTE 401 5 N 5 20 Y POOL1 SUBPOOL1 Y (NILVFG) $ (DEFLOB 001) (WALKAWAY) Y 5 10 15 WAIT N Y 5 N NONE N Y Y OFRT 1003 (ACDADMIN 1) $
ACDMISPL	POOL1 ACDADMIN BCS30 100
ACDMISSP	SUBPOOL1 ACDADMIN POOL1
MPC	0 0 32 1X89AA MPC31AB
MPCLINK	0 3 X25ORIG 0 0 (L7WINDOW 7) (NUMSVCS 1) (STANDARD CCITT80) $ (EXINFSEL SVCDNA) (DIGITS 12345678) (SVCTYPE DATAPAC) $
GLADEV	NOP MPC
NOPADDR	0 0 3 12345678 0 0 0 0
NOPAPPLN	12345678 ONLY (ACDMIS_APPL) $

ACD Remote Load Management I (continued)

Limits

For ACD Remote Load Management I the following limits apply:

- The DSP can set the maximum wait time and the size of the maximum call queue. The DSP sets these values to defined ranges.
- The defined ranges for indexes to routing tables are used to control DSP changes. The DSP can change the threshold and night service routes.
- The DSP can assign agent positions to ACD groups in the same customer group.
- The DSP can change the recorded announcement threshold (RANTH) to a value in a defined range.

Before the switch can perform remote load management commands, the DSP must indicate the subpool number and the password. The password associates with the subpool. The affected ACD group belongs to the subpool.

Interactions

The ACD Remote Load Management I feature package interacts with the ACD enhanced configuration security. Changes to night service routes, threshold routes and audio groups are restricted.

Activation/deactivation by the end user

The menus of the management reporting system contains the remote load management commands. Refer to the appropriate management information software manual.

Billing

The ACD Remote Load Management I does not affect billing.

Station Message Detail Recording

The ACD Remote Load Management I does not affect Station Message Detail Recording.

Datafilling office parameters

The ACD Remote Load Management I does not affect office parameters.

ACD Remote Load Management I (continued)

Datafill sequence

The tables that require data to implement ACD Remote Load Management I appear in the following table. The tables appear in the correct entry order.

Datafill requirements for ACD Remote Load Management I

Table	Purpose of table
ACDMISPL	ACD MIS Pool Table. This table establishes the pools, passwords and protocols for ACD users.
ACDMISSP	ACD MIS Subpool Table. This table establishes the pools, passwords and protocols for ACDMIS users.
ACDGRP	Automatic Call Distribution Group Table. This table defines and describes the ACD groups.
ACDRTE	Automatic Call Distribution Routing Table. This table defines the following: • the enhanced overflow routes for an ACD group • the available groups for ACD • the IBNRTE and OFRT numbers. The ACD group can indicate these numbers.
ACDSGRP	Automatic Call Distribution Subgroup Table. This table defines subgroups and subscriber-supplied recording equipment for ACD groups. Each ACD group must have a minimum of one valid subgroup. Each subgroup must have a supervisor assigned with a valid position ID.
MPC	Multi-Protocol Controller Table. This table identifies the multi-protocol controller (MPC) circuit pack to the DMS-100 switch.
MPCLINK	Multi-Protocol Controller Link Table. This table specifies X.25 layered protocol used in the MPC to establish and maintain links and conversions.
GDLADEV	Generic Datalink Application Device Table. This table associates data transmission devices with specified polling system applications for data transfer. The data that transfers to the processing center contains information about the operation of the DMS-100 switch.
NOPADDR	Network Operations Protocol Address Table. This table defines the valid address for the network operations protocol. The protocol requires an address to accept calls. Communication occurs through remote operations (RO).
NOPAPPLN	Network Operations Protocol Applications Table. This table designates the applications for remote user access.

Datafilling table ACDMISPL

Datafill for ACD Remote Load Management I for table ACDMISPL appears in the following table. The fields that apply to ACD Remote Load Management I appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table ACDMISPL

Field	Subfield or refinement	Entry	Explanation and action
PROTOCOL		BCSnn	Protocol. Enter the BCS cycle (BCSnn) in which the system implemented the protocol. The protocol must match the current data stream of management software implemented.

Datafill example for table ACDMISPL

Sample datafill for table ACDMISPL appears in the following example.

In this example, the management software defines the pools, passwords and protocol for ACD users.

MAP example for table ACDMISPL

```
POOL  PASSWORD  PROTOCOL  OUTEVENT
_____________________________________
   1    ACDMIS     BCS30      110
   2    MISACD     BCS30      110
```

Tools for verifying translations

The ACD Remote Load Management I does not use tools for verifying translations.

SERVORD

The ACD Remote Load Management I does not use SERVORD.

Base automatic call distribution (ACD)

Ordering codes

Functional group ordering code: ACD00001

Functionality ordering code: does not apply

Release applicability

BCS34 and later versions

Requirements

Base automatic call distribution (ACD) does not have requirements.

Description

The ACD allows the system to equally distribute a large number of incoming calls to a specified set of answering positions. The answering positions are called agent positions. When all agents are busy, the system queues the calls. The system queues the calls according to the priority of the calls. The order of the arrival of the calls determines the priority of the calls. When an agent becomes available, the system presents the agent with the first call that waits for an answer.

Supervisory capabilities allow the supervisor to monitor the quality of service the system provides to incoming callers. The supervisory capabilities perform the following functions:

- observe agents during call handling
- monitor the current status of each agent position
- display the status of the incoming call queue. The system displays the number of calls in queue. The display identifies the call that is in queue the longest, and the wait time for the call
- provides the supervisor with access to ACD configuration and status information from a MAP

Operation

The section below describes the features and capabilities associated with ACD services. The features and capabilities appear in alphabetical order.

Note: The numbers that appear to the right of the features and capabilities are the feature numbers associated with the features and capabilities.

Base automatic call distribution (ACD) (continued)

Abandoned-call clearing (BC1116)

When the caller abandons a call while the call is in the incoming call queue, the system removes the call. The recorded announcement or music stops. If a caller abandons the call after the system presents the call to an agent, that agent receives a new call. If no calls are in the queue, the system returns the call to an idle state. The system places the call at the end of the idle agent queue.

The system can detect calls that enter the DMS-100 switch over trunks and are abandoned. The system can detect the calls if the incoming trunk has disconnect supervision. Trunks without disconnect supervision must not be used in ACD applications. Examples of these trunks include pulsing-type trunks or ring signaling-type trunks

ACD directory numbers (BC1116) (BC1522)

An ACD directory number (ACDDN) is a correct directory number (DN) in the customer numbering plan. The ACDDNs are not associated with lines. Each ACD group can receive calls from a maximum of 17 DNs.

An ACD group has a primary ACDDN. An ACD group has a maximum of 16 additional DNs. Each primary and additional DN has an assigned call priority from 0 to 3. The 0 is the highest priority. The 3 is the lowest priority. The call priority and the order of arrival of the call determines the place of the call in the incoming call queue. The system places a call in the queue when an agent is not available to answer the call. The primary DN is assigned two priorities. One priority is for calls that arrive over a trunk. The other priority is for calls that arrive over a line.

ACDSHOW and enhanced ACDSHOW (BC1559) (AD0181)

The ACDSHOW feature allows a supervisor to view ACD information on a MAP terminal at the customer premises. The ACDSHOW is a set of command interpreter (CI) commands.

The ACDSHOW can display the following information:

- agent position for both groups and subgroups
- line equipment number (LEN) and DN for agent positions and ACD groups
- threshold for ACD groups that the customer specifies
- priority level for ACDDNs
- supervisors for ACD groups and subgroups
- the LEN and DN for supervisors

Base automatic call distribution (ACD) (continued)

- current status of one or all ACD groups
- the ACD group information

Enhanced ACDSHOW provides additional capabilities. The capabilities allow the supervisor to view routing information. You can modify the routing information through load management. Refer to How to enter data into ACD - Load Management III - NTX727AD for information on all load management commands.

ACDSHOW commands

The ACDSHOW commands allow supervisors to view information about the current ACD configuration. You can access these commands from the CI level of a MAP terminal.

The following list contains all the ACDSHOW commands available. Not all of these commands are available with the Base automatic call distribution (ACD) feature packages. Requirements can include additional feature packages.

- The ACDDNS command displays a list of DNs. The ACDDNS displays the incoming call priorities assigned to the DNs.
- The ADMINGROUP command displays administration groups and associated senior supervisors.
- The AGTPOS command displays the following information on agent positions:
  - — agent positions in all subgroups of an ACD group
  - — agent positions in one subgroup number across all ACD groups
  - — agent positions in one subgroup of an ACD group
  - — all agent positions that the ACD group lists
  - — the LEN and DN associated with an agent position
- The AUDIOGROUP command displays the name of the audio group that gives recorded messages to callers.
- The CLRROUTE command displays the clearing route. The system can route the queued ACD calls to the CLRROUTE when the specified ACD group is in the night service mode. The CLRROUTE displays the route for all ACD groups or for specified ACD groups.
- The COUNTS command displays the ACD subgroup breakdown for an ACD group. The ACD subgroup breakdown contains the name, supervisor position and number of agent positions.

Base automatic call distribution (ACD) (continued)

- The FIAUDGRP command displays the name of the audio group the system uses for the forced incoming announcement.
- The FOAUDGRP command displays the name of the audio group the system uses for the forced overflow announcement.
- The GROUPINFO command displays the following information on the ACD configuration for an ACD group or ACDDN:
  - primary ACDDN and the incoming call priorities of the primary ACDDN
  - supplementary ACDDNs and the incoming call priority of the supplementary ACDDNs
  - customer group
  - ringing threshold
  - threshold route
  - night service route
  - night service audio group
  - maximum call queue size
  - maximum wait time
  - audio group
  - recorded announcement threshold
  - if the group has the management reports option
  - administration group
  - number of agent positions in the group
  - the ACD display digits
  - enhanced overflow routes
  - call transfer queue size. The call transfer queue size appears when entry of the option ACDXFER occurs in table ACDGRP.
  - virtual facility groups. The virtual facility groups appear when field ACDMIS is set to Y.
  - audio groups for forced announcement feature
  - variable wrap-up time for an ACD group
  - call park recall time
  - call transfer recall time

Base automatic call distribution (ACD) (continued)

- The GROUPNAME command displays the ACD group name, DN type and priorities for a DN.
- The HELP command displays general information on the syntax of each ACDSHOW command.
- The LOADMGMT is a set of commands that allow a supervisor to adjust the data that the ACD configuration contains.
- The LOGINID displays the following information for an agent login ID:
  - the ID of the agent position where the login ID is currently in use
  - login ID partition of the ACD group in table ACDENLOG
  - the LEN and DN associated with the agent position
  - the ACD group and subgroup associated with the agent position
  - indicates if the agent that uses the position is a switch computer application interface (SCAI) agent
  - password of the agent that uses the login ID
  - customer group associated with the agent position
  - variable wrap-up time assigned to the agent login ID
  - personal agent queue size. This information appears if the output form is set to full.
- The MODE command determines how much information appears in system responses.
- The NSAUDGRP command displays the name of the audio group the system uses for the night service announcement.
- The NSROUTE command displays the night service route.
- The OVFLROUTE command displays the overflow route.
- The PASSWORD command displays the passwords associated with the login IDs.
- The QUIT command exits a user from the ACDSHOW environment and returns the system to the CI level.
- The STATUS command displays the following information on the status of ACD groups:
  - current call queue size
  - maximum call queue size
  - current call wait time
  - maximum call wait time

Base automatic call distribution (ACD) (continued)

— number of agent positions assigned

— agents logged in

— agents not logged in

— agents busy on ACD calls

— agents idle

— agents in not ready mode

- The SUPERVISOR command displays supervisor position IDs and associated ACD groups and subgroups.
- The TABENTRY command displays routing information.
- The THRESHOLD command displays the following thresholds for an ACD group:

  — ring threshold

  — call queue wait time

  — call queue size

  — recorded announcement threshold

  — call park recall time

  — call transfer recall time
- The THROUTE command displays the threshold route.
- The VALIDAUDIO command displays correct audio groups.
- The VALIDROUTES command displays all the correct routes an ACD group can use.

Agent key (BC1531)

The Agent key functions with the Obs Agent and Call Agent keys on the supervisor set. Each agent position has an assigned agent key. This key eliminates the requirement of dialing the number of an agent when the Observe Agent or Call Agent features are in use. Examples of the number of an agent include the SDN, Supervisor, or In Calls key.

One Agent key is associated with each agent position. The agent position must be in the same customer group as the supervisor set. Only keys with associated lamps can have the assigned agent key function.

The Agent key feature can override the Make Set Busy feature. If the agent activates the Make Set Busy feature, the supervisor can continue to ring the agent.

Base automatic call distribution (ACD) (continued)

Agent login enhancement (AD0620)

Four-digit agent login IDs can be partitioned among customer groups on the DMS-100 switch. These login IDs make sure that login IDs are accessible only to a group of agents. When an agent logs in, the system determines if the telephone set is associated with the same customer group as the login ID.

The customer can require agents to enter a four-digit password in addition to the login ID. If passwords are required, the system presents a special dial tone. The system presents the dial tone after the agent enters the login ID and the system verifies that the ID is correct. The ID must be correct for the customer group. If the system accepts the password, the agent logs in to the group. If the password check or the customer group check fails, the system presents the agent with a reorder tone.

Agent queue (BC1116)

The system tracks the agent positions through four queues. The not ready agent queue tracks agents that cannot take calls. The make set busy queue tracks agents that are logged off. The busy agent queue tracks agents that are busy. The idle agent queue tracks agents that are idle. The idle agent queue allows the agent that is idle for the longest time to receive the first incoming call.

Agent stability during switch maintenance (NC0269)

This feature is available with BCS33. This feature recovers the current agent status after a cold restart and warm control component switch activity (SWACT). Before this feature, the system logged agent positions out during a cold restart and warm control component SWACT. The system logged out the agent without the knowledge of the agent. This feature automatically recovers agent status after these switch events occur. Agents logged in before the cold restart or warm control component SWACT remain logged in after the switch events are completed.

The feature automatically logs out any agent position in a bad state. A bad state is any condition that does not allow an agent position to receive a call. Examples of bad states follow:

- the peripheral module (PM) of the agent is off-line (Offline)
- the PM of the agent is manual busy (ManB)
- the PM of the agent is C-side busy (CBsy)
- the PM of the agent is system busy (SysB)
- the line of the agent is manual busy (ManB)

Base automatic call distribution (ACD) (continued)

An agent can activate the Transfer to In Calls Key feature or the ACD call park option against an agent position in a bad state. When this condition occurs, the system logs out the agent position in the bad state. An agent can attempt an ACD call park recall against an agent position in a bad state. The system logs out the agent position in the bad state. An agent can attempt a call transfer recall against an agent position in a bad state. The system logs out the agent position in the bad state. When the ACD group has an ACD Management Information System (ACDMIS), the switch sends an event message to the downstream processor (DSP). The message notifies the ACDMIS that the agent is logged out.

Agent status lamp (BC1009) (AD1609)

An agent status lamp allows a supervisor to monitor the status of an agent position. The supervisor can monitor the status of an agent and not interfere with the call of the agent. The supervisor set must have an assigned agent key to use this feature. The lamp associated with the Agent key reflects the status of the call. The states of the agent status lamps appear in the following table.

Agent status lamp states

State	Explanation
Off	The agent position is not staffed.
	The agent is in the make busy state.
On	The agent is active on an ACD call.
Flash	The agent is idle and waits for an ACD call.
	The agent status lamp lights 60 times each minute.
Wink	The agent is in the not ready state.
	The agent status lamp lights 120 times each minute.

Agent positions associated with agent status lamps must be in the same customer group as the supervisor set. The agent status lamp associated with a particular agent position can be assigned to only one supervisor set at a time.

Attendant console to ACD (BC1324)

Attendant consoles can originate or extend calls to ACDDNs. An agent cannot activate the Not Ready key when an attendant console is in an ACD call.

Basic overflow (BC1116)

When the number of calls in the incoming call queue equals the maximum call queue size, the system routes additional incoming calls again. The next call to be answered can wait longer than the specified maximum waiting time. When

this condition occurs, the system routes additional incoming calls again. The system routes additional incoming calls to a location that the customer specifies again. The system can route calls to the following:

- another DN
- the DN of another ACD group
- a trunk to another ACD system or private branch exchange (PBX)
- a customized announcement
- a busy tone

The system only routes new calls again. Calls already in the queue remain in the queue until the caller answers or abandons the call.

Call Agent key (BC1533)

The Call Agent key allows a supervisor to contact an agent position directly. The Call Agent key with the Obs Agent key allows the supervisor to conference to the call. The following sections discuss the Obs Agent key.

The Call Agent key functions as a secondary DN. The Call Agent key function originates calls. No calls can terminate to this DN. The system normally directs calls that originate on a Call Agent key to an agent position. The system can place calls to other locations. Class of service can restrict the supervisor. The supervisor can only call agents in the same customer group that use the Call Agent key.

Note: The Call Agent key requires a DN.

Call-delay announcement (BC1116)

The DMS-100 switch has the call-delay announcement feature. The call-delay announcement feature minimizes the number of callers that abandon calls when all agents are busy. The system can place a new call in an incoming call queue. In this event, the system calculates the current wait time of the oldest call in the queue. Based on this wait time, the new call receives one of the following treatments:

- The customer specifies the wait time threshold. If the wait time is less than the threshold, the caller hears a ringback tone. The caller hears the tone until the waiting time exceeds the threshold. The caller hears an announcement that advises the caller of the delay.
- If the wait time is greater than or equal to the threshold, the caller immediately hears the recorded announcement.

Base automatic call distribution (ACD) (continued)

Called Name/Called Number Display (AD1131)

The Called Name/Called Number Display feature shows information on the display of an agent set. This feature displays the name and digits associated with a dialed ACDDN when the system presents a call. The information allows an agent to answer and process the call correctly. This feature is useful when an ACD group handles calls for several different departments.

The Called Name/Called Number Display feature has the following characteristics:

- The names and numbers that appear are definable for an ACD group. The feature displays between one and seven DN digits. The name associated with the ACDDN can be a maximum of 15 characters long. The feature does not display the ACDDN when entry of 0 occurs.
- The characters available for the name display are uppercase A to Z, the digits 0 to 9 and special characters. The special characters are the asterisk (*) and octothorpe (#). The system replaces special characters that the set does not support with a question mark (?) on the agent position. Lowercase letters that the agent uses when the agents enter the called name are capitalized when the letters appear on the agent position.
- If the entered names and numbers exceed the length of the display, the names and numbers are not truncated. When the name and the number do not fit on the display, only the name appears. If the ACDDN does not have a name associated with the number, only the DN appears.
- The original dialed ACDDN name and number appear on the agent. The agent set answers the call when the system routes a call again to a threshold route, night service route or enhanced overflow route. The ACDDN name and number appear when the route terminates at another ACD group that has the ACDDISP option.

When a call transfers from one ACD group to another, the feature displays the name and DN of the ACD group. This feature displays the name and DN of the ACD group to which the call transfers. The system displays this information when both groups have the Called Name/Called Number Display feature. The system displays this information for calls that overflow from one ACD group to another group.

Feature interactions

The customer group with which the ACD group is associated has the Name Display feature defined. In this event, the feature displays the name of the incoming calling party. The feature also displays the incoming DN. This information appears on the top line of the agent display. If there is not enough space for the information to appear on the top line, only the name appears.

Base automatic call distribution (ACD) (continued)

When the customer group has the Reason Display option assigned, the system displays the reason. The reason normally appears on the bottom line of the display area on an agent set. When the ACD group has the ACDDISP option assigned, the called name and called number takes precedence over the reason display. The called name and number normally takes precedence for all conditions. The called name and number does not take precedence when the reason appears on the top line of the display.

The name and DN of the connected party appear on the top line of the display when the ACD group has the following:

- the Name Display
- the Reason Display
- the Called Name/ Called Number Display

When the name and DN of the connected party are not available, the feature displays a reason. The ACD name and number appear on the bottom line of the display area.

When the ACD group has the MSQS option defined, the threshold and ACDDN name and number appear. This information appears on the bottom line of the display. When all the information cannot fit on the display, only the ACDDN name and number appear.

When a call transfers to another ACD group, the name and number of the ACD group to which the call is transferred appears.

Call forcing (BC1115)

Call forcing can increase the speed of processing ACD. With call forcing, the agent does not have to press the In Calls key to receive the next call. Call forcing operates more efficiently when the agent position has a headset. With call forcing, the agent hears a short burst of tone when the agent presses the Release key and terminates an ACD call. The system presents the next call immediately after the short burst of tones. If the caller disconnects, a minimum 2.5 s delay occurs before the tone and automatic presentation of the next call.

Call forcing does not occur when an agent is active on a secondary DN (SDN). If the agent uses a standard MBS, call forcing operates only while the handset remains off-hook.

Incoming trunks used for ACD must supply disconnect supervision. If the trunk does not provide disconnect supervision, the agent must press the Release key to receive the next call.

Base automatic call distribution (ACD) (continued)

Call forcing tone (AD2128)

When call forcing activation occurs, this feature provides a warning tone. The agent hears the tone through the headset. Before this feature, the agent heard the warning tone through the speaker or the handset of the MBS.

Call forcing tone optionality (AF6054)

This NA004 feature improves Call Forcing with new options. An ACD group can have assigned call forcing. Individual agents can be excluded from the case of call forcing. When an ACD has assigned Call Forcing, the warning tone delivery location can be specified for the whole group as HEADSET/HANDSET, SPEAKER, or NONE. If entry of Call Forcing occurs for HEADSET/HANDSET or SPEAKER, all agents in the group receive the tone at that location. Agents can have assignments to receive the tone at the other location. Agents can be excluded from receiving the tone. If NONE is specified for the group, individual agents can have assignments to receive Call Forcing. The delivery location for the warning tone can be specified individually for each receiving agent.

Call park by ACD agent (NC0288)

This BCS33 feature allows agents to park or hold an ACD call against any correct station DN in the customer group. The person for which the call is intended can retrieve the call from any station. To retrieve the call, the person dials a special code and the DN against which the call was parked.

When the system parks a call, a recall timer starts. If the timer expires before retrieval of the call occurs, the system directs the parked call. The system directs the parked call to the agent who initiated the call park or transfer. If the agent is busy, the system places the call in the incoming call queue. The system gives the call the highest priority. The system uses the timer when an agent transfers an ACD call directly to the In Calls key of another agent.

This feature partitions the call transfer queue for each agent. Refer to the Camp-on In Calls key section for a description of the call transfer queue. The Camp-on In Calls key section appears on the page that follows. This partitioning creates a new personal agent queue (PAQ). The PAQ size is entered against a separate ACD login ID. The PAQ represents the total number of calls in the call transfer queue that an agent can have at one time.

Call source identification (BV0989)

Agents logged in at agent positions that have MBSs with displays can distinguish the type of call that the agent receives. The agent receives

information that allows the agent to distinguish the type of incoming call. This information contains the following:

- the extension of the caller if the call originates in the same group
- the DN of the caller if the call originated from another group that the same switch serves
- the six-character common language location identifier (CLLI) of the trunk group if the call originated from a trunk and the intergroup office parameter is set

Call Supv and Ans Agent keys (BC1121)

The Call Supv (call supervisor) and Ans Agent (answer agent) keys make communications between an agent and supervisor more accessible. The Call Supv key on an agent position rings directly to the Ans Agent key on a supervisor set. The supervisor presses the Ans Agent key to answer a call from an agent. When the supervisor presses the Ans Agent key, the DN of that agent position appears on the supervisor set display.

The Call Supv key answers calls placed from a supervisor Call Agent or Agent key. The supervisor can dial the DN of the Call Supv key. The supervisor can ring the agent even if Make Busy is active.

Each agent position can only have one assigned Call Supv key. Only one Ans Agent key can be associated with an ACD subgroup can be assigned to The same supervisor position can have Multiple Ans Agent keys. These keys must be in the same customer group as the In Calls key.

A senior agent can have an assigned answer agent function. A requirement is not present to have the SUPR (supervisor) option assigned to the set before assigning the answer agent option. The system automatically assigns denied origination attributes to the Ans Agent key.

Call Supervisor feature characteristics

The Call Supervisor feature has the following characteristics:

- Activation of the Call Supervisor feature automatically rings the supervisor set.
- The Call Supervisor feature can direct calls to a supervisor in a different ACD group and subgroup.
- Agents can use the Call Supervisor feature and override a make set busy condition at the supervisor set.

Base automatic call distribution (ACD) (continued)

Answer Agent feature characteristics

The Answer Agent feature has the following characteristics:

- Calls that originated when an agent pressed the Call Supv key ring directly to the supervisor set Ans Agent key.
- The Answer Agent feature is available to answer incoming calls from agent positions. Calls from other sources can also terminate to the Ans Agent key.
- The same supervisor can have more than one assigned Ans Agent key. All agent positions must be in the same customer group as the supervisor set.
- The Ans Agent key requires a DN.
- Calls cannot originate from this key.

Call transfer (BC1569) (AD0613) (AD2895)

The call transfer option allows agents to transfer calls to other ACDDNs in the same customer group. If all agents are busy, the system places the call at the end of the incoming call queue. The agent that transfers can remain on the line until an agent answers the call. An agent can hang up after the agent dials the ACDDN of the receiving group.

Camp-on In Calls key (AD2588)

This feature is also called Transfer to In Calls Key. This feature allows an agent to transfer an ACD call directly to the In Calls key of another agent. The agents must be in the same customer group. If the second agent is active on an ACD call, the system queues the call that transfers in a call transfer queue. The system marks the call for the specified agent.

Transfer of an ACD call to the In Calls key of another agent cannot occur if the second agent presses the Make Busy key. Transfer of an ACD call to the In Calls key of another agent cannot occur if the targeted agent presses the Not Ready key. This feature overrides the attribute of denied termination. This attribute is normally associated with the In Calls key.

Calls transferred to the In Calls key of an agent are not subject to priority promotion. The transferred calls are not subject to priority because the system queues transferred calls at the highest priority.

Controlled Interflow (AD1612)

The Controlled Interflow feature allows a supervisor to redirect new calls to a predefined route. This feature causes ACD calls to overflow. The supervisor determines which calls overflow. The present queue condition does not affect the overflow of calls. The system continues to handle calls in the incoming call queue without a change in direction. The feature assigns an Interflow key to a

supervisor set. The system does not notify agents that the controlled interflow feature is active.

Table ACDRTE specifies the controlled interflow route when identification of the option CIFROUTE occurs for the ACD group. The route terminates to table IBNRTE or table OFRT.

The controlled interflow route can route to one of the following:

- the ACDDNs in the same or a different customer group
- the DN of a non-ACD station in the same or a different customer group
- busy treatment
- a trunk to another ACD system or PBX
- a customized announcement

A supervisor set can have many Interflow keys assigned for several ACD groups. Each ACD group has only one controlled interflow route.

Controlled interflow is deactivated when activation of night service occurs. If deletion of the route specified for controlled interflow occurs when the feature is active, the feature and associated lamp turn off.

Display agent summary key (AD2445)

The display agent summary key allows a supervisor to display the status of the agents assigned to a group. The supervisor presses a single key to display the status. When the supervisor presses the key, the system displays the information that appears in the following figure. The meaning of each field appears in the following table.

Display agent summary display

ACD	SDN	IDL	NR	NMD
12	1	4	3	1

Display agent summary fields (Sheet 1 of 2)

Display field	Meaning
ACD	Number of agents busy on ACD calls
SDN	Number of agents on a secondary directory number

Base automatic call distribution (ACD) (continued)

Display agent summary fields (Sheet 2 of 2)

Display field	Meaning
IDL	Number of agents logged in and that wait for calls (idle)
NR	Number of agents in not ready state
NMD	Number of agents logged-out (position not staffed)

The electronic business set (EBS) shows four fields. A supervisor that uses an EBS, not an MBS, does not see the SDN field. A supervisor can have more than one display agent summary key assigned to the set. The supervisor can monitor several ACD groups in the same customer group.

The ACD activity for an EBS, an MBS and a single-line set appear in the status display. This feature does not monitor the activity of agents that use single-line sets until the agents log in.

Any call that is active on a set that is not logged in does not appear as in an SDN count. The SDN count does not contain any multilinked calls.

If the display agent summary key is active, any other use of a display key feature overrides the display.

Disp Queue key (BC1008) (AF1596) (AF1598)

The Disp Queue (display queue) key allows the supervisor to query the current status of an ACD group. The Disp Queue appears as follows:

- the number of calls that wait in the incoming call queue (INC)
- the number of calls that wait in the logical overflow queue (LOG)
- the total number of occupied agent positions in the idle, active and not ready states (AGNT). This number does not include agents in the make set busy state.
- the waiting time in seconds of the next call to answer (WAIT)

An example of the supervisor set display after the supervisor presses Disp the Queue key appears in the following figure.

Display with the Display Queue feature activated

```
INC    LOG    AGNT    WAIT
 12      0      24      5
```

Base automatic call distribution (ACD) (continued)

Information appears for 12 s or until activation of another feature that requires the display occurs. If the supervisor presses the Disp Queue key again before 12 s expires, information for the same ACD group appears again. The system does not update the display.

A supervisor can have Disp Queue keys for multiple ACD groups in a customer group. Multiple supervisors can have Disp Queue keys for the same ACD group.

When the Disp Queue key interacts with other features, the system does the following:

- An incoming call appears at key number 1 during the display queue status display. The system replaces the display with the call information that normally appears.
- An incoming call appears on an SDN. The display queue status display clears when the the 12 s time-out expires. The display clears when the call is answered.
- Another display key is active when the supervisor presses the Disp Queue key. The display queue status information overrides the first information. If the supervisor presses another display key when display queue status information appears, the system overwrites the queue status information.
- The supervisor presses the Disp Queue key during an active call. The system clears the display that results. The display clears when the 12 s time-out expires. The display clears when the other party exits the call before the 12 s time-out.

The Disp Queue key has the following limits:

- You must assign the SUPR option to key number 1 in table KSETFEAT before you can assign the display queue status feature.
- The Display Queue Status feature requires an MBS with a 32-character alphanumeric display.
- The ACD group specified for the Disp Queue key must be in the same customer group as the supervisor set.
- Multiple uses of the Disp Queue key in a 12 s time period cause the same information to appear. The system does not update the display.

Base automatic call distribution (ACD) (continued)

Emergency and Ans Emerg keys (BC1117) (AD0845)

This feature allows an agent to immediately conference with a supervisor, an auxiliary recording device or a supervisor and auxiliary recording device.

WARNING
Possible legal implications
Federal and state laws vary as to the legality of recording calls without the permission of the other party. Nortel recommends that you investigate all laws that apply to the recording of calls. Investigate the laws thoroughly before you use this feature for recording purposes.

When an agent presses the Emergency key, the associated lamp flashes if the supervisor is available. The Ans Emerg (answer emergency) key automatically rings at the supervisor set. The In Calls lamp remains continuously lit. The ringing at the supervisor set or auxiliary device continues for a maximum of 30 s. If the supervisor does not answer, the Emergency lamp remains off. If the supervisor is active on another emergency call, the Emergency lamp at the agent position remains off. The system does not notify the supervisor of the second emergency call.

If the supervisor is not active on an emergency call, the lamp associated with the Ans Emerg key flashes. The lamp flashes until the supervisor answers the emergency call or until the 30 s ringing timer expires. The supervisor presses the Ans Emerg key to answer the call. When the supervisor answers the call, the system conferences the supervisor with the agent and the call. To exit the call, the supervisor can go on-hook. To exit the call the supervisor can press the Release key or the Not Ready key. The supervisor or the abusive party can drop out of the conference at any time. The system releases the complete conference when the agent goes on-hook. After the system agent, caller and supervisor conference call, the caller or the supervisor can release the conference call. A two-party call remains with the agent and the party that does not release the call.

With the Ans Emerg key back-up feature, the Ans Emerg key DNs can only be members of answer emergency key hunt groups. Deletion of an Ans Emerg key cannot occur when the key is a member of a hunt group.

When an agent activates Make Busy when active on an emergency call, the Make Busy does not affect the current call. The system places the agent in the make busy (logged out) state. If the agent presses the ACD Not Ready key when active on an emergency call, the system terminates the current call. The

system terminates the call if the non-immediate cutoff option is not in place. When this condition occurs, the system takes down the conference.

The Emergency key features apply only to ACD calls on the In Calls key. You can enter one Emergency key for each agent position. You can enter one Ans Emerg key for each ACD subgroup.

Emergency key

The Emergency key has the following characteristics:

- The agent can use the Emergency key when the agent is active on an ACD call.
- The Emergency key is associated with an ACD group and subgroup. The group and subgroup can be the same or different than the ACD group and subgroup of the agent.
- If the supervisor activates Make Busy, the system overrides that feature. The system presents the emergency call that the agent initiated.
- The system releases the agent, caller and supervisor conference when the agent releases the call.

Ans Emerg key

The Ans Emerg key has the following characteristics:

- Each ACD subgroup has an allowance for only one Ans Emerg key. A supervisor can have multiple Ans Emerg keys.
- The supervisor can be busy on another ACD or non-ACD call. An agent places an emergency call. When this condition occurs, the supervisor set buzzes. The Ans Emerg lamp on the set flashes. The light flashes until the supervisor answers the call, the 30 s ringing timer expires, or the agent releases the call.
- The supervisor can place the agent-caller connection on hold. The Ans Emerg lamp winks when the call is on hold.
- The Ans Emerg key requires a DN.

Emergency key back-up (NC0094)

The Emergency key back-up feature is available with BCS32. This feature allows supervisor sets to have Emergency keys grouped in a hunt group to handle emergency calls. An agent can press the Emergency key when the supervisor for that ACD group is active on another emergency call. When this condition occurs, the system searches for the first available supervisor in the hunt group. Deletion of an Ans Emerg key cannot occur when the key is a member of a hunt group.

Base automatic call distribution (ACD) (continued)

When customers conference in an auxiliary device and for a supervisor, the hunting action is in effect only for an idle supervisor. An example of an auxiliary device is a recording device. If the auxiliary device answers to respond to an emergency call, the system hunts for an idle supervisor. The auxiliary device answers an emergency call when the supervisor does not respond to the call. If the supervisor answers and the auxiliary device does not answer, the system does not hunt for an idle auxiliary device.

Extended agent observe (BC1007)

The Extended Agent Observe feature improves the Observe Agent feature. The Extended Agent Observe feature allows the supervisor to observe calls. These calls are presented on the In Calls key of any agent or supervisor in any ACD group in the customer group.

A call on a line with the Extended Agent Observe feature on hold cannot be placed on hold. The system ignores use of the Hold key during any phase of observation.

The system can supply a warning tone to an agent when observation begins. If the system cannot supply the tone. The system gives treatment to the agent set that initiated the Extended Agent Observe feature.

Forced agent availability (NC0014)

The forced agent availability feature allows a supervisor to change the status of an agent position. The supervisor can change the agent position status from not ready to idle and available. The supervisor presses the Forced Agent Availability key and the Agent key to change the status.

Forcing an agent into an available state disables the Not Ready key of the agent. This event disables the Not Ready key for 5 s if the system does not immediately present an ACD call to the agent.

Activation of the forced agent availability feature cannot occur when the Observe Agent feature is active. The forced agent availability function can only be assigned to a key associated with a lamp. The function can only be assigned to sets that have the supervisor feature assigned.

When the system uses variable wrap-up times and the agent is in the variable wrap-up mode, use of the forced agent availability feature cannot occur.

Forced announcement for new/overflowed calls (NC0104)

This feature was introduced in BCS32. This feature provides two improved announcement capabilities for ACD. First, all new incoming calls receive an announcement. The incoming calls receive the announcement when the

system presents the calls to an idle agent or places the calls in the incoming call queue. Second, all incoming calls that overflow to the threshold route receive an announcement before the system routes the calls again. The customer can specify if the calls that route again receive the announcements of the original ACD group. If the customer does not specify this condition, the calls receive the announcements of the group to which the system routes the calls.

Before this feature, incoming calls received a recorded announcement when the operating company expected excessive delays. This feature allows all calls to receive announcements. The callers can receive information before the caller talks with an agent. This customer can provide a standard message or announcement to callers at all times.

The ACD queue timing begins after incoming and overflow announcements complete.

Forced announcements do not apply to calls that the system routes again because of night service or controlled interflow.

Headset operation (BZ0242)

Agent positions can have an MBS or a specialized MBS with a second side-mounted headset jack. The headset operation for the specialized MBS can operate like a standard MBS with the handset off-hook. Specialized software allows this condition to occur. The specialized software is part of the ACD Basic feature package. Agents can operate the keys to answer and originate calls. Agents can operate the keys to activate features. When the agent removes the headset, the ACD set operates like a standard MBS with the handset placed on-hook.

In Calls key (BC1119)

The system presents all incoming ACD calls to the agent on the called In Calls key. Key number 1 on an MBS must have this assigned key function. This key answers ACD calls. This key cannot place outgoing calls. This key cannot receive non-ACD calls. The In Calls key automatically has the attributes of denied termination and denied origination.

Incoming call queue (BC1116)

A call can arrive at an ACD group that does not have idle agents to answer the call. When this condition occurs, the system places the call in an incoming call queue. The system places the call in the queue based on the priority and order of arrival of the call. As agents become available, the system presents calls in the queue. The system presents the calls to the first available agent or to the agent that is idle longest. The call that waits the longest has the highest priority. The system presents calls with the highest priority first.

Base automatic call distribution (ACD) (continued)

The customer specifies the maximum number of calls that can queue in an incoming call queue of an ACD at any time. When the number of calls in a queue meets or exceeds the maximum call queue size, the system deflects calls that follow. The system deflects the calls to a destination that the customer defines. The customer specifies the maximum time a call waits before an agent answers the call for each ACD group. When the wait time for the next call meets or exceeds the maximum wait time, the system deflects calls that follow. The system deflects the calls to the group.

Make Busy key (BC1118)

Agents can use the Make Busy key to block incoming calls from being routed to the positions of the agent. Agents can log out from the ACD system with the Make Busy key. The Make Busy key can block ACD calls and allow non-ACD calls. The Make Busy key can block ACD and non-ACD calls. The agent can activate Make Busy when an ACD or non-ACD call is in progress. Make Busy does not affect the call.

If an agent leaves and does not activate Make Busy, the system automatically logs out the agent position. The system logs the agent out when the ringing timer expires for a call at the In Calls key of the set. When all agent positions activate Make Busy, the ACD group enters night service.

The Make Busy key has the following limits:

- When an agent activates the Make Busy key, the system does not count the agent position. This condition occurs when the system calculates the number of active agent positions in the ACD group. When this number reaches zero, the system places the group in night service.
- The Make Busy key cancels the not ready made. The Not Ready key does not have an impact when make set busy is active.
- If activation of Make Busy occurs when an agent is active on an ACD call, Make Busy does not affect the call.
- Activation of Make Busy can occur while an ACD call rings on the In Calls key. The call rings until the call is answered or abandoned. If the call is answered, the system logs out the agent position when the call releases.
- A call presented to an agent position can remain unanswered after the ringing threshold timer expires. When this condition occurs, the system automatically logs out the agent position. The system places the agent position in make busy mode.

Multistage Queue Status display (AD1129) (AD2591) (NC0363)

The Multistage Queue Status (MSQS) display features increase the quality of how incoming calls are handled. The MSQS allows supervisors and agents to

determine the length of time calls remain in the incoming call queue before calls are answered. The MSQS allows supervisors and agents determine the number of calls that wait in the incoming call queue. A liquid crystal display (LCD) can supply the visual indication of the queue status. The LCD can be on an agent or supervisor set, a display queue threshold lamp or a colored status lamp.

Note: Previous Northern Telecom documents refer to the MSQS as Display Queue Threshold .

MSQS display

The MSQS display feature (AD1129) displays the status of the incoming call queue when the system presents an ACD agent with an ACD call. If the feature displays nothing, the current queue threshold is at or in the T1 range. The call queue information appears on the bottom line of the display area on the agent set. The information appears until the agent releases the call. The system does not update the call queue information during the call.

MSQS-Refresh

When the MSQS-Refresh feature (AD2591) is active, the LCD displays detailed information when the agent logs in. This information also appears when the agent is in the not ready state or is busy on an ACD call. The information contains the current threshold level, the type of threshold the system monitors and the current value of the threshold. The system can refresh the LCD:

- each time a new call arrives
- after the supervisor or agent presses a key
- at customer-specified intervals

The customer determines when the system refreshes the display.

The format of the MSQS-Refresh feature display that appears on a two-line agent set display appears in the following figure. In this example, T1 indicates that the threshold level is at T1. The CALLQ shows that the type of threshold the system monitors is the incoming call queue. The 3 indicates that three calls are in the incoming call queue.

Format for MSQS-Refresh display

T1	CALLQ	3

Base automatic call distribution (ACD) (continued)

MSQS/display queue threshold

The MSQS/display queue threshold feature (AD1129) provides information on the LCD when the Display Queue Threshold key is pressed.

Table ACDGRP defines three thresholds for each ACD group. The ACD groups are T1, T2 and T3. The call thresholds can be set in increments from 0 to 2400. The highest threshold, T3, is the last indication. To define the thresholds, T1 must always be less than or equal to T2. The T2 threshold must be less than or equal to T3. When the threshold that system monitors is the waiting time, T1 must be a minimum of five. The next two threshold levels must be equal to each other or different from each other by at least five units. When the threshold that the system monitors is the incoming call queue, T1 must be a minimum of zero. There must be a buffer of a minimum of one unit between the thresholds.

The maximum wait time (MAXWAIT) and maximum call queue (MAXCQSIZ) values do not correlate with the thresholds defined for this feature. The customer can monitor the maximum wait time. To monitor the wait time the customer sets one of the wait time thresholds to the same value as the maximum wait time. The customer can monitor call queue size. To monitor queue size the customer sets one of the queue thresholds to the same value as the maximum call queue size.

An ACD group that already has the queue status lamp option cannot have the assigned MSQS feature. The queue status lamp option cannot be assigned to a group that uses the MSQS feature.

The MAXWAIT or MAXCQSIZ value set to zero for a group in table ACDGRP, disables queuing for that group. When these conditions occur, the group always appears to operate in the limits that the first threshold defines.

When MSQS and Called Name/Called Number Display (ACDDISP) are assigned to an ACD group in table ACDGRP, the following rules apply:

- The ACDDN name, number, and threshold appear on the bottom line of the display if space permits.
- If the ACDDN name, number and threshold do not fit on the display, only the ACDDN name and number appear.

The timer for the updates of the MSQS display can expire when information for display queue status or agent status appears on the set display. When this condition occurs, the updated MSQS data overwrites the information. You can configure the option to display when the system presents a call to an agent position. When this condition occurs and the agent places a call on hold, the display clears. The display continues to update even when the call is on hold.

Base automatic call distribution (ACD) (continued)

When a call made with an SDN terminates, the updated MSQS data overwrites any information on the display. When the timer for the update of the MSQS display expires during an SDN call, the system queues the information. The information appears when the SDN call terminates.

The ACD group specified for MSQS must be in the same customer group as the ACD group of the agent or the supervisor. The MSQS features do not work on single-line sets. Single-line sets do not have displays.

An example of the MSQS display appears in the following figure. In this example, the bar graph under the thresholds indicates that the T3 threshold is exceeded. The display reflects the wait time of the call at the head of the queue. The call reflects the wait time in seconds. The queue status remains on the display for 12 s or until activation of another feature that requires the display occurs. The system ignores additional presses of the Display Queue Threshold key that follow in the 12 s time. The type of threshold that appears can indicate the size of the incoming call queue.

Format for multistage queue status/display queue threshold agent display

```
T1      T2      T3                    WAIT
**********************                100
```

MSQS key/lamp

When MSQS-Key/Lamp (NC0363) is active, each time the queue reaches or exceeds a defined threshold, a change in the status of the lamp occurs. The lamp states are off, on, flashing or winking. The change in lamp status alerts the agent, supervisor, or group of the condition of the queue. The thresholds displayed can be the number of calls waiting in queue. The thresholds can be the amount of time the call at the head of the queue has been waiting. When the feature is activated, the MSQS Key/Lamp feature remains active until the agent logs off. While the feature is active, the system updates the status of the lamp. The system updates the status of the lamp at intervals specified by the customer. The system updates the status of the lamp when the system presents a call to an agent. The customer specifies the lamp intervals in table ACDGRP.

The lamp associated with the display queue status key can reflect the four ranges of the incoming call queue. The ranges are relative to the threshold levels. The customer sets the threshold levels. The four ranges are

- below or equal to T1
- between T1 and T2, inclusive

Base automatic call distribution (ACD) (continued)

- between T2 and T3, inclusive
- beyond T3

MSQS interactions and restrictions

The MSQS-Key/Lamp feature and the MSQS-Refresh feature cannot both be present for an agent position if the agent monitors the ACD group of the agent. The MSQS-Key/Lamp feature always takes precedence over the MSQS-Refresh feature. If the MSQS-Key/Lamp feature is not entered, the MSQS-Refresh feature monitors the status of the incoming call queue when activation of the feature occurs. If the agent position does not have a Display Queue Threshold key assigned, the MSQS-Key/Lamp feature is not entered. If Display Queue Threshold key for the position does not have an associated lamp, the MSQS-Key/Lamp cannot be entered.

When the monitored threshold is the waiting time, the MSQS features do not monitor any calls in the logical call queue. The logical call queue handles overflow calls from other ACD groups. These ACD groups use the time delay overflow option or Network ACD (NACD). When the system places an overflow call back in the incoming call queue of the new ACD group, the MSQS features can monitor the call. For example, the system places a call in the incoming call queue. The system can place a call in the call queue because the system presents an overflow call to an agent. This condition occurs if the agent presses the Not Ready key and agents are not available. The threshold monitored is the wait time. The measured wait time of the call is the total time the call is in the ACD environment.

The MSQS Key/Lamp does not monitor calls in personal agent queue (PAQ) of the agent. The PAQ handles calls for features like ACD Call Park and call park recall. The MSQS Key/Lamp monitors calls when the system presents calls without success to an agent. The system places these calls in the incoming call queue.

When the monitored threshold is the call queue, the system treats calls queued against an agent like a call queued in the incoming call queue. For example, the system can transfer a call to the incoming call queue of an agent. When this condition occurs, the system treats the call like a call in the incoming call queue.

When the type of threshold that is monitored is the wait time, MSQS always monitors calls with the highest priority. The actual wait time does not affect the method the MSQS uses to monitor calls. When priority 0 calls wait, the MSQS does not use wait time of calls with priority 1, 2 or 3. The MSQS does not use these wait times when the status of the call queue appears. The MSQS does not use these wait times even if the calls wait for the longest time.

Base automatic call distribution (ACD) (continued)

Music on delay (BC0946)

The DMS-100 switch can provide music following the call delay announcement. The music minimizes the number of callers who abandon calls during periods of extended delay. Music indicates to the caller that until an agent becomes available to answer the call, the call is still connected.

Calls on hold at an agent position can also connect to music. The music keeps the caller on the line until an agent is available.

Night service recorded announcement and forward (AD1607)

This improvement to night service capabilities allows ACD groups to present a specialized recorded message before the system routes the call to night service. Before BCS31, the system did not route calls when the calls reached a service like a recorded announcement.

Night service (BC1116)

When all agents in an ACD group activate Make Busy, the group is in night service. Calls that arrive after all the agents log off receive the night service. The customer specifies the night service.

Feature AD3993 (Clear Call Queues on Night Service Activation) was introduced in BCS34. The section on Datafilling Custom ACD - Elimination of Endless Ringing in Queue II - NTXL34AA describes this feature. This feature deflects calls from the call queue when night service begins. Without feature AD3993, calls that are in the incoming call queue when night service begins remain in the queue. The calls remain in the queue until the calls are abandoned.

A supervisor can activate night service for a complete ACD group. For information on this feature, refer to the section Supervisor control of night service in this feature description.

Queue calls to an ACD group with all agents make set busy

The option QTOMSB was introduced in BCS34. The QTOMSB allows calls queue to an ACD group. This ACD group has all agents logged out or to an empty ACD group. An empty ACD group is a group with no agents with data entered. This option prevents the loss of calls for an ACD group if all agents activate Make Busy at the same time. For example, all agents can activate Make Busy at the same time during a shift change. When this condition occurs, the system places calls to an ACD group with the QTOMSB option in the incoming call queue of the ACD group. The calls remain in the queue until an agent logs back in, the caller abandons the call, or the call overflows to treatment.

Base automatic call distribution (ACD) (continued)

The system routes calls to treatment again when one of the following paramters is exceeded:

- TMDELOFL (time delay overflow)
- MAXWAIT (maximum wait time)
- MAXCQSIZ (maximum call queue size)

QTOMSB is applicable only to Base ACD. It has no functionality in Network ACD (NACD) groups.The QTOMSB cannot queue calls from an attendant console to an empty ACD group. The QTOMSB cannot queue calls from an attendant console to an ACD group in night service.

If the QTOMSB option is selected, entry of a Y cannot occur in the FRCNGTSV (forced route clearing night service) field. The section Datafilling Custom ACD - Elimination of Endless Ringing in Queue II - NTXL34AA discusses field FRCNGTSV.

Not Ready key (BC1118)

When an agent presses the Not Ready key, the system terminates active calls. The system does not allow the agent position to receive ACD calls. When the agent activates Not Ready, the system does not present ACD calls to this agent position. The system does not present calls to the agent until the agent presses the Not Ready key again. The agent can follow up on completed ACD calls without the interruption of new calls. Other non-ACD features on the set continue to function normally. Calls can originate or terminate on any of the SDNs of the position. When the agent presses the Not Ready key again, the system places the agent in the idle-agent queue. The agent can receive incoming ACD calls again.

An agent's outgoing transmission path gets muted for a short time if the ACD group setup meets the following conditions.

- ACD group is located on an RCC, RCC2, or a dual RCC/RCC2
- ACD group has the walkaway option
- agent uses the secondary key to make a call
- call made is an intraswitched call
- agent then hits the not ready (ACDNR) key without entering a reason code

The transmission path gets muted for the length of time equal to the walkaway timer value.

Transmission gets interrupted so the remote can establish a transmission path to the network and perform digit collection. The operating company can prevent this if they turn intraswitching off.

Obs Agent key (BC1120)

The Obs Agent (observe agent) key allows a supervisor to observe conversations between an agent and a caller. When the supervisor uses Obs Agent with the Call Agent key, the supervisor can join the agent/caller conversation.

Observe Agent Enhanced (AD1610)

The Observe Agent Enhanced feature was added in BCS29. This feature allows the supervisor to observe agents active on an ACD call or a non-ACD call. The display on the supervisor set shows the number now observed. The display indicates if the call is an ACD call, an incoming non-ACD call or an outgoing non-ACD call.

The supervisor can observe an agent as follows:

- If the agent is active on an ACD call on the In Calls key, without SDN key calls on hold, the supervisor can
  - — press the Obs Agent key one time
  - — press the ASL key once
- If the agent is active on an ACD call on the In Calls key, with an SDN key call on hold, the supervisor can
  - — press the Obs Agent key one time
  - — press the ASL key one time
- If the agent is active on a non-ACD call on the SDN key without In Calls key calls on hold, the supervisor can
  - — press the Obs Agent key one time
  - — press the ASL key one time
- If the agent is active on a non-ACD call on the SDN key, with an In Calls key call on hold, the supervisor can
  - — press the Obs Agent key one time
  - — press the ASL key twice

Note: In the fourth condition above, the supervisor hears nothing when the supervisor presses the ASL key one time. The supervisor hears nothing because initial observe defaults to the In Calls key. Initial observe defaults to the In Calls key when the agent has an active call and

Base automatic call distribution (ACD) (continued)

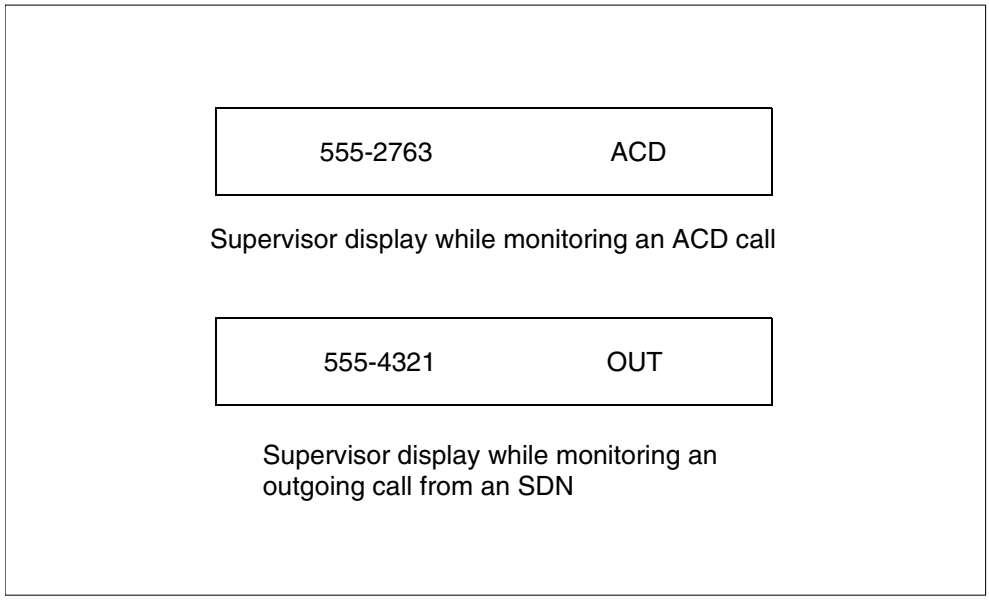
a call on hold. The supervisor must press the ASL key a second time to hear the active conversation on the SDN.

The agent can have calls active on the In Calls key and the SDN key. In this event, the system automatically updates the display of the supervisor. The system updates the display when the agent switches between the two keys. The supervisor can manually toggle between the In Calls key of the agent and an SDN. The supervisor presses the Agent key to toggle between the In Calls key and the SDN.

The customer can restrict the supervisor to observe calls on the In Calls key. When the customer restricts the observation of calls, the supervisor cannot listen to calls on SDNs. Information on calls on SDNs can continue to appear on the supervisor set display.

Examples of the supervisor set display appear in the following figure. The figure appears when observation of an agent active on an incoming ACD call and an outgoing non-ACD call occur.

Supervisor display for Observe Agent Enhanced



For separate ACD groups, the customer can choose to present a warning tone to an agent. The warning tone occurs immediately before observation begins. The system provides the tone for ACD and non-ACD call observations. The caller does not hear this tone. A tone circuit must be available in order to provide this tone.

Before the supervisor can observe an agent, the following conditions must occur:

- The agent must not be active on a call that involves an attendant console or any other feature. For BCS30 and below, the agent cannot be active on a three-way call or a conference call.
- If the agent initiates an outgoing call on an SDN, the supervisor can observe the call when the called party answers.
- The observation mode is suspended from the time an agent position releases one call until the next call is answered.

Feature interactions

The Observe Agent features interact with other business set features as follows:

- The Observe Agent feature observes an agent involved in a three-way call.
- An agent can press the Hold key when in observe-conference mode with the supervisor and caller. When this condition occurs, the system removes the agent from the call. The supervisor and caller can continue to speak to each other.
- A supervisor can begin observation of an agent that presses the Make Busy key while active on the ACD call. When this condition occurs, the supervisor can only observe for the duration of that call. The system suspends observation until the agent becomes active on another ACD call.
- A supervisor can observe an agent with a call on hold. When the call is on hold, the observer has a listening path to the caller. When the agent retrieves the held call, the observer can listen to the caller and the agent. When the agent places the call on hold after observation begins, the observer can listen to the caller and the agent.
- A supervisor can activate the Observe Agent feature when an agent enters a line of business code. When this condition occurs, the Observe Agent feature enters a suspended state. The observer remains in the suspended state until the agent enters the line of business code. When the line of business feature is not active, the supervisor has one-way listening path to the call of the agent.

Base automatic call distribution (ACD) (continued)

Limits

The Base automatic call distribution (ACD) feature packages provide the Observe Agent features. These features have the following limits:

- If an agent on an observed call activates Call Transfer, the system removes the observe feature.
- The supervisor cannot observe a call when an attendant console extends a call to a group and releases the call.
- The supervisor cannot observe an SDN on an agent position when the agent position is part of a multiple appearance directory number (MADN) group.
- With BCS29, a supervisor can attempt to observe an unobservable call. When this action occurs, the system places the observe feature in a suspend mode. The Obs Agent lamp winks to indicate the suspended mode. When the system presents an observable call to the agent, the Obs Agent lamp lights continuously. Observation continues.
- The Enhanced Observe Agent feature only functions on an SDN that is on key number two of an agent set.

Observe agent restricted

Entry of the observe agent restricted (OBSREST) option occurs for a complete ACD group in table ACDGRP. Entry of a OBSREST occurs for a supervisor set. The supervisor can monitor calls on the In Calls key of an agent. The supervisor cannot monitor calls on an SDN. The supervisor monitors activity on an SDN with the agent status lamp feature or the display of the supervisor. For more information on the feature, refer to the section Agent status lamp (BC1009) (AD1609) in this feature description. The OBSREST option can be present with all observe agent features.

Observe agent/three-way calling (AG1950)

This feature extends the Observe Agent feature capability. This feature allows a supervisor to monitor three-way calls in which an agent participates. The supervisor can monitor active calls on the In Calls key and on the SDN. During observation, the supervisor can monitor conversations as the agent moves from a call on the In Calls key or SDN.

Operational measurement data (BC1522)

The system stores statistical records on an ACD group. The system stores the statistics for designated report periods. The operational measurement (OM) system reports the statistical records at a later time. Holding registers provide access to this OM data. The holding registers contain peg counts. These peg counts accumulate during the report period.

Base automatic call distribution (ACD) (continued)

The OM data contains the following information:

- the number of calls offered
- the number of calls answered
- the number of calls route again
- the number of calls abandoned
- the number of calls received during night service

Optional not ready (NC0262)

The ability to make the Not Ready key optional on agent sets is available with BCS33 and later versions. Some ACD applications do not require the not ready functionality. Applications with high volumes of incoming calls do not require not ready functionality. These applications have short transaction times and do not require a lot of time for post-call processing. The variable wrap-up time (VARWRAP) option provides follow-up time after each call.

This feature places an agent position in the Not Ready state when the agent is active on a call on an SDN. When this option is active for an ACD group, calls cannot terminate on the In Calls key when an SDN is active.

Overflow enhancement (BC1006)

Each ACD group has a specified single overflow with basic incoming call overflow. Calls use this route when the number of calls in the incoming call queue equals the maximum call queue size. The customer defines the maximum queue size. Calls use this route when the next call to be answered waits longer than the maximum wait time. With enhanced overflow, a maximum of four ACD groups can be specified as overflow groups for an ACD group.

When an overflow occurs on the incoming call queue, the system examines the identified overflow groups. The system examines the overflow groups in a sequential order. The call terminates on the first group that can accept the call. All overflow groups must be in the same switch. The system places a call that terminates on an enhanced overflow group in the queue. The system gives the call the same priority that the call has in the source ACD group. If overflow groups are not available, the call overflows to the basic overflow route.

Overflow of queued calls (AD2238)

This feature allows calls that wait in queue to overflow to another ACD group. The calls overflow after a specified waiting time. Another name for this feature is Timed Delayed Queue Overflow. An ACD group must have an assigned enhanced overflow feature to provide this capability.

Base automatic call distribution (ACD) (continued)

The ACD groups that use the timed overflow feature must define a timer. The timer determines how long calls wait before the calls overflow. Timing can be set to begin when calls first arrive in the incoming call queue. Timing can be set to begin when the calls become priority 0 calls through priority promotion. When the system selects a call to overflow to another group, the original group can answer the call. When the system selects a call to overflow to another group, the overflow group can answer the call. The group that answers the call is the group that becomes available first.

This feature interacts with night service. When a supervisor for an ACD group activates night service, calls that overflow to the group remain in queue. Calls originally placed to the group remain in queue. The system continues to present calls to any agents that remain active in the group.

Priority promotion (BC1116 and BC1522)

Priority promotion allows calls that the system queues at a lower priority to have the priority escalated. The calls can increase in priority after a defined amount of time. This feature does not allow low priority calls to be unanswered for excessive periods of time.

Queue slot announcement allocation (AD2130)

This feature allows the telephone operating company to control the number of queue slots available for the ACD groups. The operating company can control queue slots in a customer group or for separate ACD groups. The operating company can specify which recorded announcements a customer can access.

When an agent becomes available, the system searches the call transfer queue. The system searches the call transfer queue first for any calls that are marked for that agent. If calls are not transferred, the search continues through the incoming call queue of the group. The call transfer queue has a maximum call size. The call size determines the number of calls that can transfer to the group. This queue is part of the normal incoming call queue of the ACD group. The incoming call queue and the call transfer queue share queue slots.

Queue status display refresh (AD2591)

An improvement to the multistage queue status display is available with BCS30. The AD2591 causes the display update approximately every 30 s. The customer can define the time interval. Information is available on a near real-time basis with this enhancement queue size and wait time. Before this feature, the display only updated when the system presented a new call or when activation of a key occurs.

Base automatic call distribution (ACD) (continued)

Queue status lamp (BC1011)

Activation of an external queue status lamp alerts supervisors and agents that the system deflects incoming ACD calls to an overflow destination. The system audits incoming call queues at normal intervals. The system audits the queues to determine if the queue overflowed. Office parameter ACD_CALL_QUEUE_AUDIT_INTERVAL in table OFCSTD determines the interval. If the system deflects calls when the audit runs, the queue status lamp turns on. The lamp remains on until an audit indicates the overflow is not present.

A maximum of 1024 ACD groups, the maximum number of ACD groups available for a single DMS-100 can be monitored. During a cold or reload restart, any lamp that is lit remains lit. The audit turns off the lamp for groups without overflows 1 min after the restart completes.

Release guard time (AF6022)

This NA004 feature establishes a 1 s release guard time to all ACD agents. This feature does not establish the release guard time when the agent has a non-zero variable wrap-up time entered. This feature does not establish the release guard time when the associated group has a non-zero variable wrap-up time entered. This guard time eliminates race conditions in the XPM. A race condition can occur if the system immediately presents the agent with a new call after disconnect. A race condition can cause the system to route calls that cannot be answered to agents. The guard time provides the XPM enough time to tear down the disconnected call before the system presents the next call to the agent.

Ring threshold (BC1118)

The ring threshold option does not allow calls to be unanswered after the system presents the call to an agent position. Each time the system presents a call to an agent, a timer starts. If the agent does not answer the call before the timer expires, the system logs the agent out. The system routes the call again to the first available agent. The system places the call in the incoming call queue if no agents are idle. The ACD group does not have agents logged in when the timer expires. In this event, the system transfers the call to the night service route.

Secondary directory numbers (BC1116) (BC1522)

Each agent position can have one or more assigned SDNs that are non-ACD, standard Meridian Digital Centrex (MDC) line appearances. An agent uses the SDN to place and receive non-ACD calls. When the agent is active on the SDN, the agent can continue to receive ACD calls.

Base automatic call distribution (ACD) (continued)

Status of secondary directory numbers (AD2239)

This feature was introduced in BCS29. The agent status lamp can reflect the status of any SDN assigned to an agent. The status lamp reflects In Calls key activity and SDN activity. The agent presses the key associated with the agent status lamp. In this event, the DN of the active call appears on the supervisor set display. This display indicates if the call is an ACD or non-ACD call. If the agent has ACD and non-ACD calls active, these calls appear. The display indicates if the non-ACD call is incoming or outgoing.

Supervisor control of night service (BC1010)

A supervisor set can have several Night Serv keys. Each key is for a different ACD group. Two supervisor sets cannot have a Night Serv key for the same ACD group.

The system places an ACD group in night service when all the agents in the group activate Make Busy.

When the supervisor activates night service, the system does not automatically log out the agent positions in the associated ACD group. Agents must press the Make Busy key to log out from agent positions.

Three-way calling (BC1569) (AD0613)

Agent positions with the call transfer option can establish calls that involve a minimum of three parties. This feature establishes three-way calls that involve ACD calls with the same method as standard MDC three-way calls. If all the agents at the dialed DN are busy, the system places the call at the end of the incoming call queue. When an agent answers the call, the system connects the original agent, the caller and the new agent.

The agent can dial an ACDDN as the second leg of a three-way call. When one controller of a three-way call hangs up, the three-way call chain collapses to a new call configuration. One of the possible configurations is a mutual ringback. A mutual ringback occurs when two stations are on-hook and ring each other. If the call that results is an ACD call, the system takes down the call.

The supervisor cannot use the Observe Agent feature to observe an agent involved in a three-way call. The system presents a supervisor with a reorder tone.

Variable wrap-up times (NC0022)

This feature was introduced in BCS32. The customer can increase the default interval between call completion and presentation of a new ACD call. The default interval is 2.5 s. The customer can increase the interval when call

forcing is in operation. A default wrap-up time can be defined for a complete ACD group. Each login can have defined wrap-up times. Agent wrap-up times have a higher priority than the wrap-up time of a group.

The login ID of an agent can have an associated variable wrap-up time. When the ACD group does not have a variable wrap-up time configured, the system does not use the wrap-up time of the agent. Only the default 2.5 s wrap-up time is active.

The Make Busy key or the Not Ready key cancels this feature during the variable wrap-up interval. The variable wrap-up time specifies the time interval. The time interval does not begin until the line of business (LOB) digit collection is complete.

Translations table flow

The following list describes Base automatic call distribution (ACD) translations tables:

- Table DNROUTE (earlier table WRDN) identifies the primary DN for the ACD group and a maximum of 16 auxiliary DNs. The number in the datafill example identifies the ACD group to which this number belongs.
- Table ACDLOGIN defines the correct login numbers and passwords. Table ACDLOGIN assigns logins to customer groups.
- Table KSETLINE contains the location in the switch of business sets for agents or supervisors and the assigned options that. Service orders automatically enter this table when establishment of service occurs or options are added.
- Table KSETFEAT describes the line features that can be assigned to a business set and used for ACD.
- Table CUSTHEAD defines the MDC customer group. Table CUSTHEAD defines the options associated with the ACD group. Group tables like table ACDGRP contain this customer group name.
- Table IBNLINES provides the location of single-line sets for agents. The entry of the table occurs automatically with service orders.
- Table IBNFEAT describes line features for ACD single-line sets.
- Table ACDSGRP defines the subgroups for use when supervisors are associated with an ACD group. The subgroup number provides a link between the supervisors and the agents. An ACD group can have a maximum of 255 subgroups.
- Table CUSTENG lists the values for the engineering parameters. Table CUSTENG lists the options for the MDC customer groups. The maximum

Base automatic call distribution (ACD) (continued)

total call queue size limit (ACDCQLMT) option limits the maximum number of call queue sizes. The ACDCQLMT limits call queue sizes for ACD groups associated with a specified MDC customer group.

- Table ACDGRP defines the ACD groups and options associated with the group. In the datafill example that follows the flowchart:
  - For a call in the queue, the AUDIO option indicates if the caller hears music, an announcement, ringing, silence or a combination. Table AUDIO defines the combination.
  - If the queue overflows or the group is in night service, calls route to the overflow or night service routes. Table IBNRTE and table OFRT identify the routes. Table ACDGRP identifies the routes under the threshold route (THROUTE) and night service route (NSROUTE) fields.
  - When the ACDMIS field is set to Y, table ACDGRP searches table ACDMISPL and table ACDMISSP. Table ACDGRP searches the tables for the pools and passwords for the management software.
- Table ACDRTE defines the improved overflow routes for ACD groups. Table ACDRTE defines audio treatments for ACD groups and the tables to which ACD groups point.
- Table AUDIO identifies the types of broadcasts for calls in the ACD queue. The selections for the broadcasts are an announcement, music, ringing, or silence. Refer to this table when table ACDGRP has the option AUDIO defined.

  When the ACD group queue is full, the calls route to table OFRT or table IBNRTE. When the ACD group is in night service, the calls route to table OFRT or table IBNRTE. The index appears in table ACDGRP under THROUTE (threshold route) or NSROUTE (night service route).
- Table OFRT refers the call to a route when the previous stage identifies this table as a route reference index. Refer to this table to send a call to a standard announcement tone or trunk.
- Table ACDMISPL establishes the pools, password, and protocols for ACD users with the management software. The DMS-100 can partition ACD group information for defined pools. The DMS-100 uses different data streams to send the information across the data link. Access this table when the option ACDMIS appears in table ACDGRP.

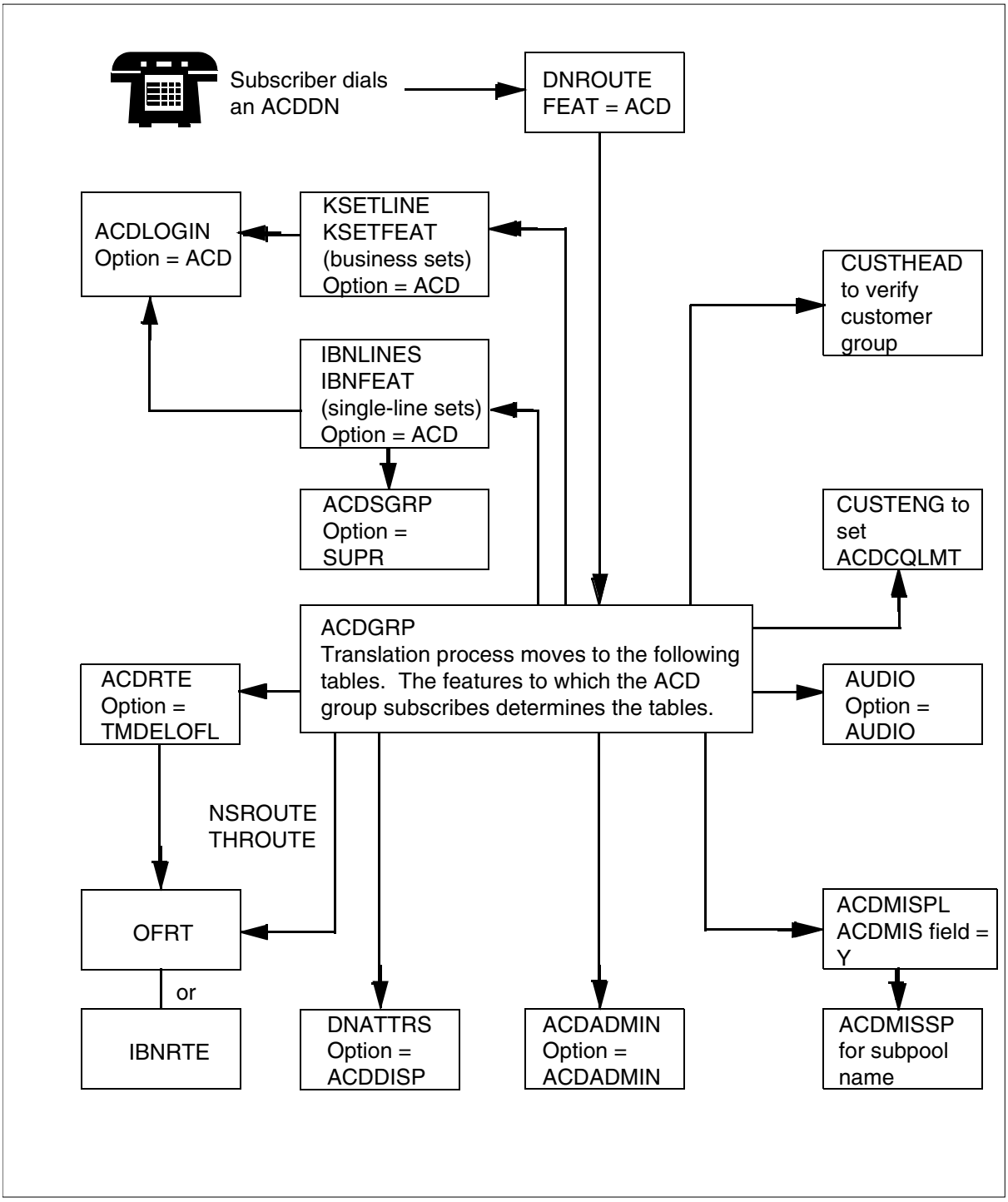
Base automatic call distribution (ACD) (continued)

- Table IBNRTE refers the call to a route when an earlier stage identifies this table as a route reference index. Refer to this table when the following conditions occur:
  - — to segregate routing patterns according to function, like private network routes
  - — to activate routes
  - — if automatic route selection (ARS) patterns are identified in the route list
  - — options like Call Back Queuing and Off-Hook Queuing are required. Separation of inexpensive from routes are necessary
- Table DNATTRS stores information on the attributes of an MDC line. This table stores the information that appears on the agent set display. This information appears on the display when the ACD group has the ACD Called Name /Called Number Display (ACDDISP) option entered in table ACDGRP.
- Table ACDADMIN uses load management to determine which groups the supervisor can access. This feature is not compatible with the ACDMIS option. Table ACDGRP has the assigned ACDMIS option.
- Table ACDMISSP establishes the subpools, associated pools and passwords for ACD users with the management software. Access this table when the option ACDMIS appears in table ACDGRP.

The Base automatic call distribution (ACD) translation process appears in the following flowchart.

Base automatic call distribution (ACD) (continued)

Table flow for Base automatic call distribution (ACD)



Base automatic call distribution (ACD) (continued)

The datafill content for the flowchart appears in the following table. The ACD group is ACDGRP 1, customer group is MDC1, and Primary ACDDN is (919) 478-2192.

Datafill example for Base automatic call distribution (ACD) (Sheet 1 of 2)

Datafill table	Example data
DNROUTE	919 4782192 FEAT ACD ACDGRP1 PRIM 0 1 $
ACDLOGIN	0001 N N (VARWRAP 10) (MISGROUP MISGRP1) $
KSETLINE	HOST 00 0 0 04 1 ACD Y 6122004 MDC1 00 919 INCALLS N ACDGRP1 1 N (MSB) (ACDNR)$
KSETFEAT	HOST 00 0 00 04 4 ACDNR ACDNR HOST 00 0 00 04 5 3WC 3WC HOST 00 0 00 04 5 JOIN JOIN HOST 00 0 00 04 8 EMK EMK Y ACDGRP1 1
CUSTHEAD	MDC1 MDC1XLA DIGMDC1 NIL SUPERCNF (VACTRMT 1) (FETXLA FXMDC1) $
IBNLINES	HOST 00 0 9 18 0 ACD ACD ACDGRP1 0 N ACDNR $
IBNFEAT	HOST 00 0 9 18 0 ACD ACD ACDGRP1 0 N (ACDNR) $
ACDSGRP	ACDGRP1 1 NONE
CUSTENG	MDC1 5 5 N N PRIVATE 0 (ACDCQLMT 1500) $
ACDGRP	ACDGRP1 MDC1 15 OFRT 20 OFRT 21 5 N 5 20 Y POOL1 SUBPOOL1 N $ Y 5 10 15 WAIT N Y 5 Y 20 BOTH N Y Y OFRT 1003 (AUDIO 6 Y AUDIO1) $

Base automatic call distribution (ACD) (continued)

Datafill example for Base automatic call distribution (ACD) (Sheet 2 of 2)

Datafill table	Example data
ACDRTE	ACDGRP1 OVFL OVFL (CUST_SERV) $ ACDGRP1 TMDTHRTE TMDTHRTE IBNRTE 400 120 ACDGRP1 TABEN (IBNRTE 400) (OFRT 120) $
AUDIO	AUDIO1 ACDQ (RINGING 12) $
OFRT	20 (S D ACDGRP1) $ 21 (S D ACDGRP1NS ANN)$
ACDMISPL	POOL1 ACDADMIN BCS30 100
IBNRTE	21 (S N Y N N PVTNETTRK1) $
DNATTRS	919 478 2192 (PUBLIC (NAME CLAIMS) $) $ $
ACDADMIN	ACDSUP1 1
ACDMISSP	SUBPOOL1, ACDADMIN, POOL1

Limits

The following limits apply to Base automatic call distribution (ACD):

Incompatible features

The following features are not compatible with ACD:

- Automatic Call Rejection (ACRJ)
- Automatic Line (AUL)
- Bearer Capability (BC)
- Bridged Night Number (BNN)
- Calling Name Delivery Blocking (CNAB)
- Calling Number Delivery Blocking (CNDB)
- Cutoff on Disconnect (COD)
- Distributed Line Hunt (DLH)
- Directory Number Hunt (DNH)
- Denied Origination (DOR)

Base automatic call distribution (ACD) (continued)

- Denied Termination (DTM)
- Essential Line Hold (ELHD)
- Group Intercom (GIC)
- Multiple Appearance Directory Number (MDN)
- MDN Lamp (MLAMP)
- Multiline Hunt (MLH)
- Multiple Position Hunt (MPH)
- MDN Release (MREL)
- Originating Line Select (OLS)
- Preferential Hunting (PRH)
- Random Make Busy (RMB)
- Series Completion (SCMP)
- Stop Hunt (SHU)
- Simplified Message Desk Interface (SMDI)
- Station Origination Restrictions (SOR)
- Station Origination Restrictions Controller (SORC)
- Terminating Billing Option (TBO)
- Terminating Line Select (TLS)
- Uniform Call Distribution (UCD)
- Uniform Call Distribution Signal Distributor (UCDSD)

ACD feature keys

The following limits apply to specified ACD feature keys:

- The Not Ready key affects only the In Calls key.
- The Not Ready key cannot release a call if an attendant console is involved in the call.
- Activation of the Emergency key can only occur when an agent is active on the In Calls key.
- TCAP calling name display does not work with the In Calls key.

Call Forwarding feature

The individual DN of the In Calls key cannot have an assigned call forwarding feature. Call forwarding to an ACDDN is allowed, but not to the specified DN of an In Calls key.

Base automatic call distribution (ACD) (continued)

Call Waiting feature

The In Calls key cannot have an assigned call waiting feature (CWT).

Any 500/2500 set involved in calls that wait in the incoming call queue loses the Call Waiting feature. The set loses the feature when the calls are in the queue.

Interactions

The descriptions of features in the Operation section include descriptions of the actions between Base automatic call distribution (ACD) features and other features.

The following sections describe the actions between Base automatic call distribution (ACD) and other functionalities.

Audio announcements

Any announcement in an audio period begins at the start of an announcement cycle. A call arrives at an ACD group and agents are not available to answer the call. In this event, the Enhanced Overflow feature must be assigned to the system. The system queues the call in the incoming call queue. The system presents announcements to the caller. A ringing threshold timer specifies how long a caller hears ringing before the system presents the caller with the announcement. The system presents the caller with the first announcement in an audio cycle. If the announcement is in the center of a cycle when the ringing threshold timer expires, the caller hears additional ringing. The caller hears ringing until the system switches to an announcement. The switch occurs at the start of an announcement cycle.

Call Pickup groups

An agent position cannot be part of a call pickup group. Another member in the same pickup group cannot pick up incoming calls on the In Calls key.

Hunt groups

Agent positions cannot be part of a hunt group. A DN that is part of a hunt group can be an overflow destination for an ACD group. An ACDDN can be the line overflow for a hunt group.

TOPS calls

Traffic operator position system (TOPS) positions and TOPS trunks can call directly to an ACDDN.

Activation/deactivation by the end user

The following procedures describe how to activate the ACD features. The ACD features are available to ACD agents and supervisors from the Base automatic call distribution (ACD) feature packages.

Agent features

The following procedure describes how to activate ACD agent features.

Activation/deactivation of Base automatic call distribution (ACD) by the end user

Agent login (at agent position)

1. With the Make Busy lamp lit, press the In Calls key.

   Response:

   The In Calls lamp lights and the system presents a special dial tone.

2. Enter a four-character login ID.

   Response:

   If the login ID is correct the In Calls and Make Busy lamps turn off. The Not Ready lamp lights continuously.

3. Press the Not Ready key.

   Response:

   The Not Ready lamp turns off. The agent can receive ACD calls.

Agent login improvement (at agent position)

1. With the Make Busy lamp lit, press the In Calls key.

   Response:

   The In Calls lamp lights. The system presents a special dial tone.

2. Enter a four-character login ID.

   Response:

   The customer group associated with the agent login ID and the customer group of the In Calls key match. The agent receives a special dial tone.

3. Enter a four-digit password.

   Response:

Base automatic call distribution (ACD) (continued)

If the password is correct, the In Calls and Make Busy lamps turn off. A Not Ready lamp lights continuously.

4. Press the Not Ready key.

   Response:

   The Not Ready lamp turns off. The agent can receive ACD calls.

Agent logout (at agent position)

1. Press the Make Busy key.

   Response:

   If the agent is idle, the system logs the agent off and the Make Busy lamp lights. If the agent is active on a call, the system logs the agent out when the call releases.

Call Supervisor using Call Supv key (at agent position)

1. Press the Call Supv key.

   Response:

   The Call Supv lamp flashes. The Ans Agent lamp on the supervisor set flashes.

2. The supervisor presses the Ans Agent key.

   Response:

   The Call Supv lamp on the agent set lights continuously. The Ans Agent lamp on the supervisor set lights continuously. A two-way conversation establishes.

3. The agent or supervisor presses the Release key or goes on-hook.

   Response:

   The system terminates the call. The Call Supv lamp on the agent set goes out. The Ans Agent lamp on the supervisor set goes out.

Call Supervisor that uses SDN and AUD keys (at agent position)

1. The agent is not active on an ACD call. Press the SDN key. Dial the SDN of the supervisor, or press the Aud key that was programmed with the SDN of the supervisor.

   Response:

   The Ans Agent lamp on the supervisor set flashes.

2. The supervisor presses the Ans Agent key.

   Response:

Base automatic call distribution (ACD) (continued)

The Ans Agent lamp lights. A two-way conversation establishes.

3. The agent or the supervisor presses the Release key or goes on-hook.

   Response:

   The system terminates the call. The Ans Agent lamp on the supervisor set goes out.

Call Transfer (at agent position)

1. With an active ACD or non-ACD call, press the Transfer key.

   Response:

   The system places the call on hold. The system presents a special dial tone.

2. Dial the number to which the call is to transfer.

   Response:

   There is no response.

3. When the third party answers, inform the third party of the transfer and press the Transfer key again.

   Response:

   The system connects the original caller and the third party.

Camp-on In Calls key (at agent position)

1. An ACD agent is on an ACD call. Make a three-way call to the In Calls key of a second agent.

   Response:

   Verify that the call transferred to the In Calls key of the second ACD agent. Answer the call.

Emergency key (at agent position)

1. An agent is active on an ACD call. Press the Emergency key to make an emergency call to the supervisor.

   Note: If the agent can use the Emergency key to place a call to a supervisor when the supervisor has Make Busy active. When this

Base automatic call distribution (ACD) (continued)

condition occurs, the system overrides Make Busy. The system presents the call to the supervisor.

Response:

The Emergency lamp on the agent set flashes. The supervisor set rings, or buzzes if active on call and the Ans Emerg lamp flashes.

2. The supervisor presses the Ans Emerg key to answer the emergency call.

   Response:

   The Ans Emerg lamp lights continuously on the supervisor set. The Emergency lamp on the agent set lights continuously. The supervisor is in conference with the agent and abusive caller. The immediate supervisor is active on another emergency call. A hunt group contains the Ans Emerg keys for the supervisor Ans Emerg keys. The system forwards the emergency call to the first available supervisor in the hunt group.

Line of business key for an M5212 set (at agent position)

1. While the In Calls call is active, press the LOB key.

   Response:

   The LOB lamp lights. A 125-s time-out starts.

   Note: The customer can define the 125-s time-out in table OFCENG, tuple LN_PERM_SIG_TIME. The time-out can be between 7 s and 255 s.

2. Dial the LOB access code.

   Response:

   The LOB lamp remains lit. Digit collection begins. If an LCD appears on the set, digits appear as collected.

3. The LOB lamp extinguishes.

   Response:

   The system collects digits. The system sends the digits to the ACDMIS if the ACD group has the ACDMIS option.

Base automatic call distribution (ACD) (continued)

Make set busy key (at agent position)

1. Press the Make Busy key.

   Response:

   The Agent is logged out. The Make Busy lamp lights.

Make set busy override (at agent position)

1. An agent with the make set busy override (MSBOVRD) capability presses the Call Supv key.

   Response:

   The Call Supv lamp flashes. The Ans Agent lamp on the supervisor set flashes.

2. The supervisor presses the Ans Agent key.

   Response:

   The Call Supv lamp lights. The Ans Agent lamp lights. The system establishes a two-way conversation.

Not Ready (at agent position)

1. Press the Not Ready key.

   Response:

   The Not Ready lamp lights continuously. The system does not present additional calls to the agent until the agent presses the Not Ready key again. If the agent is active on a call when the agent presses the Not Ready key, the system disconnects the call.

Three-way call (at agent position)

1. With an active ACD or non-ACD call, press the Conf 3 key.

   Response:

   The system places the call on hold. The system presents a special dial tone.

2. Dial the number of the third party.

   Response:

Base automatic call distribution (ACD) (continued)

There is no response.

3. After the third party answers, press the Conf 3 key again.

   Response:

   The original caller, the agent, and the third party establish a conference call.

Supervisor features

The following procedure describes how to activate supervisor features.

Activation/deactivation of Base automatic call distribution (ACD) by the end user

Call Agent (on supervisor set)

1. Press the Call Agent key.

   Response:

   The Call Agent lamp lights. The system presents a dial tone.

2. Press the Agent key, or dial the DN of the Call Supv key or the SDN of the agent to be called.

   Response:

   The agent Call Supv lamp flashes. The agent hears ringing. The supervisor receives ringback tone.

Controlled interflow (on supervisor set)

1. Press the Interflow key.

   Response:

   The associated lamp lights. The system routes all calls that follow to this ACD group.

2. Press the Interflow key again to turn off the rerouting function.

   Response:

   The associated lamp turns off. Calls that route to this ACD group terminate at this group. This condition does not apply when overflows occur.

Base automatic call distribution (ACD) (continued)

Observe Agent (on supervisor set)

1. Press the Obs Agent key.

   Response:

   The Obs Agent lamp lights.

2. Press the Agent key, or dial the number of the agent In Calls key.

   Response:

   The supervisor set display reflects the agent In Calls key number. The supervisor can hear the conversation between the agent and the caller.

3. Press the Obs Agent key.

   Response:

   The Obs Agent lamp lights.

4. Press the Agent key, or dial the number of the agent In Calls key.

   Response:

   The supervisor set display reflects the agent In Calls key number. The supervisor can hear the conversation between the agent and the caller.

5. Press the Call Agent key.

   Response:

   A three-way call establishes between the supervisor, the agent and the caller of the agent.

Observe agent restricted (OBSREST) on supervisor set

1. Press the Obs Agent key.

   Response:

   The Obs Agent lamp lights. The system presents a dial tone.

2. Press the Agent key, or dial the number of the agent In Calls key.

   Note: If the supervisor presses the Obs Agent key and dials an SDN of an agent, the supervisor hears a reorder tone. The Obs Agent lamp turns off.

   Response:

Base automatic call distribution (ACD) (continued)

The supervisor observes the call on the In Calls key.

3. Press the same Agent key.

   Response:

   The system ignores the key hit and the supervisor continues to observe the call on the In Calls key.

Supervisor control of night service on supervisor set

1. Press the Night Serv key.

   Response:

   The associated indicator lights continuously. The system routes new calls directed to this ACD group to night service.

2. Press the Night Serv key again to turn off the rerouting function.

   Response:

   The lamp turns off. The system enters calls in the queue again.

Ans Agent key on supervisor set

1. The agent uses the Call Supv key to transfer calls to the supervisor.

   Response:

   The Ans Agent lamp on the supervisor set flashes. The supervisor set rings.

2. Press the Ans Agent key.

   Response:

   The Ans Agent lamp lights. The Agent DN appears on the call identification panel. The system establishes two-way conversation.

3. The supervisor or agent presses the Release key or goes on-hook.

   Response:

   The call ends and the Ans Agent lamp goes out.

Answer emergency key on supervisor set

1. The agent active on the ACD call presses the Emergency key to make an emergency call to the supervisor.

   Response:

   The Emergency lamp on the agent set flashes. The Ans Emerg lamp flashes and the supervisor set rings.

2. Press the Ans Emerg key to answer the call.

Response:

The Emergency and Ans Emerg lamps light continuously. The system conferences the supervisor, agent and abusive or urgent caller are conferenced. If the immediate supervisor is occupied with another emergency call, the Ans Emerg lamp on the next available supervisor set in the hunt group flashes and the set rings.

3. Press the Release key to disconnect.

   Response:

   The Emergency and Ans Emerg lamps go out. The supervisor is not conferenced to the agent and the abusive or urgent caller.

Forced agent availability key on supervisor set

1. Press the Agent Avail key.

   Note: Activation of forced agent availability can occur only for agents with Not Ready active. Activation of forced agent availability cannot occur when the agent dials a 3-digit walk-away code. Activation of the forced agent availability cannot occur if the agent activated Make Busy.

2. Dial the DN of the agent or press an agent status lamp (ASL) key.

   Response:

   The supervisor receives confirmation tone and temporary display.

3. Verify that the not ready lamp of the agent is off.

   Response:

   The agent receives an ACD call if a call is in the queue. The agent receives an ACD call if the agent in the idle queue.

   The system disables the Not Ready key of the agent for the correct amount of time. If the agent received a call or the call was put in the idle queue determines the time.

Billing

Use of ACDDN assigned to the In Calls key occurs for billing only when the agent uses a conference key to initiate a conference call. The In Calls key cannot originate calls. Outgoing calls can only be billed to the In Calls key DN as three-way calling or flexible station-controlled conference calls.

Conference calls generate Automatic Message Accounting (AMA) and Station Message Detailed Recording (SMDR) records. These records contain the In Calls key DN as the billed DN. The MDC SMDR option can assign billing.

Base automatic call distribution (ACD) (continued)

A delayed billing field (DBG) in table ACDGRP allows customers to determine when to start the billing of ACD calls. This option is for each ACD group. Billing can start when the caller enters the queue and field DBG is set to N. Billing also can start when an idle agent answers the caller and field DBG is set to Y.

> ***Note:*** Field DBG is not correct for Japanese operating companies. For these companies, option NOANSWER in field OPTIONS replaces this field.

To satisfy operating company tariffs (AMA records), office parameter ACD_TOLL_DELAYED_BILLING in table OFCENG can be set to N. This action causes billing to start at the time the caller enters the queue. If the parameter is set to Y, the system delays billing until an idle agent answers the caller. If an attendant console answers the call before the call extends to an agent position, the system reports an off-hook condition to the toll office. The system starts billing. The value of the ACD_TOLL_DELAYED_BILLING parameter does not affect this action.

Station Message Detail Recording

Base automatic call distribution (ACD) does not affect Station Message Detail Recording.

Datafilling office parameters

The office parameters for Base automatic call distribution (ACD) appear in the following table. Refer to *Office Parameters Reference Manual*. for more information about office parameters

Office parameters by Base automatic call distribution (ACD) (Sheet 1 of 4)

Table name	Parameter name	Explanation and action
OFCENG	ALL_ACD_LOGIN_IDS_VALID	This parameter allows an agent to log in if the agent ID is not entered in table ACDLOGIN. If set to Y, an agent can use a login ID that is not entered in table ACDLOGIN to log in. If set to N, the system only allows the login IDs entered in table ACDLOGIN.
OFCENG	ACD_TOLL_DELAYED_BILLING	This parameter allows the toll office to determine when to start billing for ACD calls. If set to N, billing begins when a call is answered or enters the queue. If set to Y, the system delays billing until an idle agent answers the call.
OFCENG	FTRQ8WAREAS	This parameter specifies the number of blocks that for specified MDC features. The parameter must be set high enough to include a block for each agent that is a member of an ACD group at any time.
OFCENG	FTRQAGENTS	This parameter specifies the number of agent areas. The parameter must be set high enough to include one area for each possible agent position.

Base automatic call distribution (ACD) (continued)

Office parameters by Base automatic call distribution (ACD) (Sheet 2 of 4)

Table name	Parameter name	Explanation and action
OFCENG	NO_OF_FTR_CONTROL_BLKS	This parameter specifies the number of feature control blocks required. For ACD, the number of blocks must high enough to provide a control block for each call queued in the incoming call queue and for each unanswered call. ***Note:*** If not enough feature control blocks are present, the following informational message appears: `WARNING—potentially not enough FCBs allocated`.
OFCENG	NO_OF_LARGE_FTR_DATA_BLKS	This parameter specifies the number of large feature data blocks required. ACD call queueing, the ACD Emergency key, and the ACD Obs Agent key use large feature data blocks. This parameter is associated with the NO_OF_FTR_CONTROL_BLKS parameter. Refer to *Office Parameters Reference Manual* for the calculations for this parameter. As of BCS34, comparisons are made between the sum of all the MAXCQSIZ entries for all the ACD groups defined in table ACDGRP and 75% of the total large feature data blocks (NO_OF_LARGE_FTR_DATA_BLKS) defined in table OFCENG. ***Note:*** If not enough large feature data blocks are present, the following message appears: `WARNING—potentially not enough large FDBs allocated`.

Base automatic call distribution (ACD) (continued)

Office parameters by Base automatic call distribution (ACD) (Sheet 3 of 4)

Table name	Parameter name	Explanation and action
OFCENG	KSET_INTER_GRP_DISP	This parameter determines if information appears on the agent position display for calls that arrive from an outside ACD customer group. If set to Y, intergroup call information appears. If set to N, intergroup call information does not appear. The default is N.
OFCENG	ACD_OVERFLOW_BLOCKS	This parameter determines the number of ACD extension blocks. The system requires these extension blocks for all queued and ringing ACD calls. The number entered is the maximum number of queued or ringing calls at any given time. To handle the worst conditions possible, the value entered must be the sum of the number of agent positions added to the sum of the MAXCQSIZ fields of all ACD groups in table ACDGRP. The default value is 30.

Base automatic call distribution (ACD) (continued)

Office parameters by Base automatic call distribution (ACD) (Sheet 4 of 4)

Table name	Parameter name	Explanation and action
OFCSTD	ACD_AGENTQ_AUDIT_INTERVAL	This parameter specifies how many minutes elapse between successive executions of the agent queue audit. This audit inspects queues of idle, busy, and not ready agents. This audit reinitializes queues that are defective. When maintenance action completes, this audit recovers any deactivated agent positions. If this parameter is set to 0, the audit runs every 30 s. The recommended values are in the range 60 min to 120 min.
OFCSTD	ACD_CALL_QUEUE_AUDIT_INTERVAL	This parameter specifies how many minutes elapse between successive executions of the ACD call queue audit. This audit inspects call queues. If the audit finds a defective call queue, the audit initializes the call queue at the point where the audit found the bad queue. If this parameter is set to 0, the audit runs every 30 s. The recommended value is 1 min.

Datafill sequence

The tables that require datafill to implement Base Automatic Call Distribution appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Base Automatic Call Distribution (Sheet 1 of 2)

Table	Purpose of table
OFCENG	Office Engineering. This table contains data on engineering parameters for the office. See “Datafilling office parameters" for how Base ACD affects office parameters.
OFCSTD	Office Standard. This table contains data on standard parameters for the office. See “Datafilling office parameters" for how Base ACD affects office parameters.
Note: Use SERVORD to enter data in this table. Procedures and examples of data entry are not available. See SERVORD for an example of how to use SERVORD to enter data in this table.	

Base automatic call distribution (ACD) (continued)

Datafill requirements for Base Automatic Call Distribution (Sheet 2 of 2)

Table	Purpose of table
AUDIO	Audio Interlude. Describes specified broadcasts to present to ACD callers. These broadcasts occur when the system routes calls to the incoming call queue. These broadcasts can occur when night service begins.
ACDGRP	Automatic Call Distribution Group. Defines and describes the ACD groups.
ACDRTE	Automatic Call Distribution Routing. Defines the following: • improvement overflow routes for an ACD group • the audio groups that the ACD group can use • the IBNRTE and OFRT numbers to which the ACD group can point
ACDSGRP	Automatic Call Distribution Subgroup. Defines and describes ACD subgroups.
DNROUTE	Directory Number Route. Lists all ACDDNs.
ACDLOGIN	The ACD Login ID Password table. Defines valid ACD login numbers and passwords. This table assigns login numbers to customer groups.
DNATTRS	Directory Number Attributes. Stores information about the attributes of an MDC line. This table stores information that appears on the agent display. The agent display contains this information when the ACDDISP option for the ACD group is entered in table ACDGRP.
KSETLINE (Note)	Business Set and Data-Unit Line Assignment. Contains data of DN appearances on business sets. Each key that relates to a DN on a business set used for ACD requires an entry. Enter data in this table through service orders.
KSETFEAT (Note)	Business Set and Data-Unit Feature. Describes the line features that can be assigned to a business set that ACD uses. Enter data in this table through service orders.
IBNFEAT (Note)	ISDN Routing Map. Describes line features for ACD lines. Enter data in this table through service orders.
KSETINV (Note)	Business Set and Data-Unit Inventory. Lists the business set and add-on module data. An entry must be present in this table for each line card slot assigned to a business set used for ACD. Enter data in this table through service orders.
Note: Use SERVORD to enter data in this table. Procedures and examples of data entry are not available. See SERVORD for an example of how to use SERVORD to enter data in this table.	

Base automatic call distribution (ACD) (continued)

Datafilling table AUDIO

Table AUDIO defines specified broadcasts for ACD callers. The ACD callers receive these broadcasts when the system routes calls to the incoming call queue. Callers receive these broadcasts when night service begins.

Datafill for Base Automatic Call Distribution for table AUDIO appears in the following table. Fields that apply to Base Automatic Call Distribution appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table AUDIO (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Description
AUDIOKEY		refer to subfields	Audio key field. This field contains subfields GROUP and FTRINDEX.
	GROUP	Audio1 - Audio512	Group. Enter an audio group name. Valid entries are from Audio1 to Audio512.
	FTRINDEX	ACDQ	Feature index. Enter the feature that requires a broadcast or announcement. Enter ACDQ.
ROUTES		refer to subfield	Routes. This field contains subfield CHOICE.
	CHOICE	ANN, MUSIC, SILENCE, RINGING, REPEAT	Audio choice. Enter the audio treatment to apply to calls that wait in an ACD incoming call queue. Enter ANN, MUSIC, SILENCE, RINGING, or REPEAT.
If you enter SILENCE or RINGING, subfield TIME appears:			
	TIME	0 - 1800	Time. Enter a number from 0 to 1800. An entry of 0 provides continuous silence or ringing. This entry is valid as the last entry.
If you enter ANN, subfields AR, CYCLE, and ANNCLLI appears:			
	AR	Y or N	Audible ringing. Enter Y if subscriber must hear audible ringing before connection to the announcement trunk occurs. Enter Y if subscriber must hear audible ringing before the announcement returns to the beginning of an announcement cycle. Enter N if the subscriber must hear silence before the announcement begins.

Base automatic call distribution (ACD) (continued)

Datafilling table AUDIO (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Description
	CYCLE	1 - 30	Announcement cycles. Enter the number of announcement cycles to apply to calls in the incoming call queue. Valid entries are from 1 and 30.
	ANNCLLI	alphanumeric	Announcement CLLI. Enter the 1- to 16-character alphanumeric name of the CLLI of the announcement trunk. Table ANNS and table ANNMEMS identify this name.
If you enter MUSIC, subfields MUSICLLI and TIME appear:			
	MUSICLLI	alphanumeric	Music CLLI. Enter the 1- to 16-character alphanumeric name of the CLLI of the audio trunk. Table ANNS and table ANNMEMS contain this name.
	TIME	0 - 1800	Time. Enter a number from 0 to 1800. An entry of 0 provides continuous silence or ringing. This entry is valid as the last entry.
If you enter REPEAT, subfield ROUTE appears:			
	ROUTE	2 - 4	Route. Enter the route number where the repeat sequence begins. Valid entries are from 2 to 4.

Datafill example for table AUDIO

Sample datafill for table AUDIO appear in the following example. In this example, calls in the ACD incoming call queue receive ringing.

MAP example for table AUDIO

```
AUDIOKEY
                                        ROUTES


_____________________________________________________________
AUDIO1 ACDQ                             (RINGING 12) $
```

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP

Table ACDGRP defines and describes ACD groups and options that associate with the group.

Datafill for Base Automatic Call Distribution for table ACDGRP appear in the following table. The fields that apply to Base Automatic Call Distribution appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table ACDGRP (Sheet 1 of 15)

Field	Subfield or refinement	Entry	Description
ACDNAME		alphanumeric	ACD group name. Enter the 1- to 16-character alphanumeric name of the ACD group.
CUSTGRP		alphanumeric	Customer group name. Enter the 1- to 16-character alphanumeric name of the customer group that owns this ACD group. Table CUSTENG defines this name.
ACDRNGTH		0, 12 - 60	ACD ring threshold. Enter the number of seconds until the following events occur: • the system presents an ACD call, that an agent does not answer, to the next available agent position • the system queues the call at the front of the incoming call queue The system activates the Make Set Busy on the agent position that does not answer the call. Valid entries are 0 and 12 to 60. The value must be less than the ring time-out parameter of table OFCENG. A value of 0 indicates the system does not place calls, that an agent does not answer, back in the queue.
THROUTE		refer to subfields	Threshold route. This field specifies the required destination of overflow calls. This field specifies a destination when the number of calls exceeds the MAXCQSIZ or MAXWAIT parameter. This field contains subfields TABNAME and INDEX. For information on how to limit the route selection, refer to the TABEN option in table ACDRTE.

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 2 of 15)

Field	Subfield or refinement	Entry	Description
	TABNAME	IBNRTE, IBNRT2, IBNRT3, IBNRT4, OFRT, OFR2, OFR3, OFR4	Table name. Enter the table name to which overflow calls route. The following entries are valid: • IBNRTE • IBNRT2 • IBNRT3 • IBNRT4 • OFRT • OFR2 • OFR3 • OFR4
	INDEX	1 - 1023	Index. Enter the number assigned to the route list. Valid entries are from 1 to 1023.
NSROUTE		refer to subfields	Night service route. This field specifies the route of incoming calls if Make Set Busy is active for the agents in an ACD group. This field specifies the route if operating company personnel activates the Night Service feature. This field contains subfields TABNAME and INDEX. For information on how to limit the route selection, refer to the TABEN option in table ACDRTE.
	TABNAME	IBNRTE, IBNRT2, IBNRT3, IBNRT4, OFRT, OFR2, OFR3, OFR4.	Table name. Enter the table name to which the system routes incoming calls when the ACD group enters night service. The following entries are valid: • IBNRTE • IBNRT2 • IBNRT3 • IBNRT4 • OFRT • OFR2 • OFR3 • OFR4

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 3 of 15)

Field	Subfield or refinement	Entry	Description
	INDEX	1 - 1023	Index. Enter the number assigned to the route list. Valid entries are from 1 to 1023.
PRIOPRO		0 - 255	Priority promotion timer. Enter the number of seconds a call waits at a specified priority level before promotion to the next higher level. Valid entries are from 0 to 255. A value of 0 indicates a time-out does not apply.
DBG		Y or N	Delayed billing. Enter Y if billing starts when agent answers call. Enter N if billing starts when the caller receives a delay announcement from a recording. Enter N if system presents the caller to an idle agent.
MAXCQSIZ		0 - 511	Maximum call queue size. Enter the maximum number of calls that the incoming call queue can have at one time. The option MAXCQLMT must be large enough to accommodate of changes to field MAXCQSIZ. Valid entries are from 0 to 511. A value of 0 indicates the system does not queue calls for this ACD group.
MAXWAIT		0 - 1800	Maximum wait time. Enter the maximum number of seconds that the system holds a call in the incoming call queue before the call overflows. Valid entries are from 0 to 1800. A value of 0 indicates that the system does not queue calls for this ACD group.
ACDMIS		Y or N	Automatic Call Distribution Management Information System. Enter Y if this ACD group has the ACDMIS feature assigned. If this group does not have the feature assigned, enter N.
If you enter Y, subfields POOL, SUBPOOL, ACDVFG, and MISOPTS appear:			
	POOL	alphanumeric	ACD pool name. Enter the 1- to 16-character alphanumeric name of the pool for this ACD group.
	SUBPOOL	alphanumeric	ACD subpool name. Enter the 1- to 16-character alphanumeric name of the subpool for this ACD group and pool.

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 4 of 15)

Field	Subfield or refinement	Entry	Description
	ACDVFG	Y or N	ACD virtual facility group. Enter Y to observe data and use counts on the virtual facility groups (VFG) the ACD group uses route calls. Enter the VFGs in table VIRGRPS before you assign the VFGs to an ACD group in table ACDGRP.
If you enter Y, subfield VFG appears:			
	VFG	alphanumeric	Virtual facility group. Enter the 1- to 6-character alphanumeric identifier of the VFG to which the ACD group links.
	MISOPTS	DEFLOB, WALKAWAY	Management information system options. Enter WALKAWAY if the group has the walk-away feature. Enter a 3-digit code for the activity the agent performs in the walk-away or not ready mode. This code ranges from 000 to 999. Valid entries are DEFLOB and WALKAWAY.
If you enter DEFLOB, subfield LOBVAL appears:			
	LOBVAL	000 - 999	Line of business value. Enter the specified line of business value. Valid entries are from 000 to 999.
MSQS		Y or N	Multistage queue status. Allows operating company personnel and agents to determine which ACD groups require help. Operating company personnel can determine if additional agents or a distribution of agent positions are necessary. This addition or distribution can improve the processing of incoming calls. Enter Y if this ACD group has MSQS assigned. Enter N if this ACD group does not have MSQS assigned.
If you enter Y, subfields T1, T2, T3, CHOICE, SDPOINTS, MSQS_DISP, and KEYLAMP appear:			
	T1	0 - 2400	Threshold one. Defines the first queue threshold range in seconds for each ACD group. Thresholds provide a visible display of the queue thresholds of an ACD group. The T1 must be less than or equal to T2. When the monitored threshold is the wait time (CHOICE = WAIT), T1 must be greater than or equal to 5. Valid entries are from 0 to 2400.

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 5 of 15)

Field	Subfield or refinement	Entry	Description
	T2	0 - 2400	Threshold two. Defines the second queue threshold range in seconds for each ACD group. The T2 must be less than or equal to T3. When the monitored threshold is the wait time (CHOICE = WAIT), a buffer of 5 s is enforced between each threshold. When the monitored threshold is the incoming call queue (CHOICE = CALLQ), the system enforces a buffer of 1 s between each threshold. Valid entries are from 0 to 2400.
	T3	0 - 2400	Threshold three. Defines the third queue threshold range, in seconds, for each ACD group. The T3 must be greater than or equal to T2. When the monitored threshold is the wait time (CHOICE = WAIT), the system enforces a buffer of 5 s between each threshold. When the monitored threshold is the incoming call queue (CHOICE = CALLQ), the system enforces a buffer of 1 s between each threshold. Valid entries are from 0 to 2400.
	CHOICE	WAIT, CALLQ	Choice. Enter WAIT to indicate that the threshold ranges identify the wait time of the call at the head of the incoming queue. Enter CALLQ to indicate the threshold ranges identify the incoming call queue size.
	SDPOINTS	refer to subfield	Signal distributor point selector. This subfield contains subfield SDSEL.
	SDSEL	Y or N	Signal distributor point selector. Enter Y if the system prompts the subscriber for three signal distributor points. Each point contains a signal distributor group number and a signal distributor point number. Enter N if signal distributor points do not associate with the ACD group.
If you enter Y, subfields SDGRP1, SDPT1, SDGRP2, SDPT2, SDGRP3, and SDPT3 appear:			

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 6 of 15)

Field	Subfield or refinement	Entry	Description
	SDGRP1	0 - 511	Signal distribution group number one. Defines the hardware location of the signal distribution card in table SDGRP. Valid entries are from 0 to 511.
	SDPT1	0 - 6	Signal distribution point one. Enter the number on the signal distribution card. The currently named ACD group for the MSQS option has this point. The system assigns this point. Valid entries are from 0 to 6.
	SDGRP2	0 - 511	Signal distribution group number two. Defines the hardware location of the signal distribution card in table SDGRP. Valid entries are from 0 to 511.
	SDPT2	0 - 6	Signal distribution point two. Enter the number on the signal distribution card. The currently named ACD group for the MSQS option has this point. The system assigns this point. Valid entries are from 0 to 6.
	SDGRP3	0 - 511	Signal distribution group number three. Defines the hardware location of the signal distribution card in table SDGRP. Valid entries are from 0 to 511.
	SDPT3	0 - 6	Signal distribution point three. Enter number on the signal distribution card. The currently named ACD group for the MSQS option has this point assigned. Valid entries are from 0 to 6.
	MSQS_DISP	refer to subfield	Multistage queue status display. This subfield contains subfield DISPLAY.
	DISPLAY	Y or N	Display selector. Enter Y. This entry allows the current queue threshold to appear on the alphanumeric display of the telephone set. This threshold appears when the system presents an agent in an ACD group with an incoming ACD call. Enter N to prevent the display of the threshold value.
If you enter Y, subfield DINTRVL appears:			

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 7 of 15)

Field	Subfield or refinement	Entry	Description
	DINTRVL	0 - 180	Display interval. Enter the number of seconds between threshold information updates on the display of an agent. Valid entries are from 0 to 180.
	KEYLAMP	refer to subfield	MSQS key/lamp. This subfield contains subfield LAMP.
	LAMP	Y or N	MSQS key/lamp. Enter Y to select the MSQS-Key/Lamp feature, which displays the status of the queue on the lamp that associates with the Disp Queue key. The default value is N.
If you enter Y, subfield LINTRVL appears:			
	LINTRVL	5 - 180	Lamp interval. Enter the number of seconds between threshold information updates of the status of the incoming call queue. This entry applies to the lamp that associates with the MSQS-Key/Lamp feature. Valid entries are from 5 to 180.
DISTRING		INBOUND, OUTBOUND, NONE, BOTH	Distinctive ringing. Distinguishes between the ringing of ACD inbound, ACD outbound, and non-ACD calls. Enter INBOUND, OUTBOUND, NONE, or BOTH. The default is NONE for no distinction. When set to INBOUND, OUTBOUND, or BOTH, field DRING of table CUSTSTN must be set to the correct selector.
OBSWTONE		Y or N	Observe agent warning tone. Enter Y if an agent must receive a tone to indicate that the system observes the line. If OBSWTONE is set to Y, make an entry in table STN. Refer to the data schema section of this document for additional information on table STN. Enter N if the system must not send a warning tone.

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 8 of 15)

Field	Subfield or refinement	Entry	Description
FRCNGTSV		Y or N	Forced route clearing night service. This field specifies if the system must clear calls in the queue on night service activation. This field can specify if the calls must stay in the queue until the caller abandons the call. Feature AD3993, Clear Call Queues on Night Service Activation, is part of feature package NTXL34AA. Enter Y if feature AD3993 is present, and the system must clear call queues on night service activation. If you enter Y in this field, you cannot enter option QTOMSB in the OPTIONS field. Enter N if the system must not send a warning tone. The default value is N.
If you enter Y, subfield CLRRTE appears:			
	CLRRTE	Y or N	Clearing route. Enter N if the system must deflect calls to the normal night service route. Enter Y if the system must present a call clearing message or announcement to the callers that deflect from the queue.
If you enter Y, subfields TABNAME and INDEX appear:			
	TABNAME	IBNRTE, IBNRT2, IBNRT3, IBNRT4, OFRT, OFR2, OFR3, OFR4	Table name. Enter the valid table name that contains the route to use to clear the call. The following entries are valid: • IBNRTE • IBNRT2 • IBNRT3 • IBNRT4 • OFRT • OFR2 • OFR3 • OFR4
	INDEX	0 - 1023	Index. Enter index of the route to use to clear calls. Valid entries are from 0 to 1023.

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 9 of 15)

Field	Subfield or refinement	Entry	Description
OPTIONS		ACDADMIN	Options - ACDADMIN. Enter ACDADMIN to select configuration security. Option ACDADMIN is not compatible with ACDMIS.
If you enter option ACDADMIN, subfield ADMINGRP appears:			
	ADMINGRP	1 - 255	Administration group. Enter the number of the ACD administration group. Valid entries are from 1 to 255.
OPTIONS		ACDCPK	Options - ACDCPK. Enter ACDCPK (ACD call park). This entry allows the system to park ACD calls against another DN. The system can recall calls if an agent does not answer the calls after the recall timer expires.
If you enter option ACDCPK, subfield CPKRECALL appears:			
	CPKRECALL	Y or N	Call park recall. Enter Y if the system must recall the parked call to the agent that initiates the call park request. The system must recall the parked call if an agent does not answer the call in a specified period of time. If the system must not recall the parked call, enter N.
If you enter Y, subfield CPKRTMR appears:			
	CPKRTMR	12 - 240	Call park timer. Enter the number of seconds a parked call must go unanswered before the system recalls the call. The system recalls the call to the agent that initiates the call park request. Valid entries are from 12 to 240 s.
OPTIONS		ACDDISP	Options - ACDDISP. Enter ACDDISP to activate the ACD Calling Name/Calling Number Display feature. This feature allows an improvement of agent response to calls, and an improvement of call processing. If you do not enter ACDDISP option, the ACD called name and ACDDN do not appear.
If you enter option ACDDISP, subfield DISPDIGS appears:			

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 10 of 15)

Field	Subfield or refinement	Entry	Description
	DISPDIGS	0 - 7	Display digits. Enter the number of ACDDN digits that the system must display. Valid entries are from 0 to 7. A value of 0 indicates that ACDDN digits do not appear in the display. The ACD called name appears in the display if table DNATTRS contains the name.
OPTIONS		ACDPSAP	Options - ACDPSAP. Enter ACDPSAP to make the agent set an ACD public safety answering point. For additional information on the ACDPSAP feature, refer to the data schema section of this document.
If you enter option ACDPSAP, subfield ANONCALL appears:			
	ANONCALL	Y or N	Anonymous call. Enter Y if calls terminate at the PSAP. Enter N if calls do not terminate at the PSAP.
OPTIONS		ACDXFER	Options - ACDXFER. Enter ACDXFER (ACD call transfer) to allow an agent to transfer an ACD call to the In Calls key of another agent.
If you enter option ACDXFER, subfields CTQSIZE and CTRECALL appear:			
	CTQSIZE	0 - 42	Call transfer queue size. Indicates the number of transferred calls that can wait in queue for agents in a specified customer group. Valid entries are from 0 to 42. A value of 0 indicates the system can transfer transferred calls to idle agents. The system cannot transfer transferred calls to the queue.
	CTRECALL	refer to subfield	Call transfer recall. This subfield contains subfield CXRRECALL.
	CXRRECALL	Y or N	Call transfer recall. Enter Y to allow the transfer of the call to a recall agent. This transfer can occur if the subscriber does not answer the call in a specified period of time. The system cannot transfer the call to a recall agent, enter N.
If you enter Y, subfield XFERTMR appears:			

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 11 of 15)

Field	Subfield or refinement	Entry	Description
	XFERTMR	12 - 120	Call transfer timer. Enter the number of seconds before the system recalls a transferred call. The system recalls the call to the agent that initiates the transfer request. Valid entries are from 12 to 120 s.
OPTIONS		AUDIO	Options - AUDIO. Audio capability operates with the AUDIOGRP option.
If you enter option AUDIO, subfields RANTH, RINGING, and AUDIOGRP appear:			
	RANTH	0, 6 - 60	Recorded announcement threshold. Operates with the RINGING option. Enter the number of seconds that an incoming call waits in a queue with audible ringing before announcement occurs. Valid entries are 0 and from 6 to 60. If you enter 0 and the RINGING field is set to N, callers receive immediate announcement. A value of 0 is not valid if RINGING is set to Y.
	RINGING	Y or N	Ringing. Enter Y if the system provides ringing to queued calls when an agent is not available to answer the calls. The RANTH option specifies the length of time between announcements. Do not enter Y if RANTH is set to 0. Do not enter Y if continuous ringing occurs for the calls. Enter N if queued calls do not receive ringing. Option RANTH must be set to 0.
	AUDIOGRP	AUDIO1 - AUDIO512	Audio group. Enter the name of the audio group to enter in table AUDIO. Option ACDQ in this table specifies that the announcement applies to calls. Valid entries are from AUDIO1 to AUDIO512.
OPTIONS		MAXCQLMT	Options - MAXCQLMT. If the system must set the maximum value for MAXCQSIZ (maximum call queue size), enter MAXCQLMT.
If you enter option MAXCQLMT, subfield CQLMT appears:			

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 12 of 15)

Field	Subfield or refinement	Entry	Description
	CQLMT	0 - 511	Call queue limit. Enter the maximum value to which MAXCQSIZ can change. Use table control or load management. Valid entries are from 0 to 511.
OPTIONS		MGTRPT	Options - MGTRPT. Enter MGTRPT if a management report interface is available.
OPTIONS		NONIMCUT	Options - NONIMCUT. Enter NONIMCUT (non-immediate cutoff) if you must maintain the connection to the caller when you use the Not Ready key. If this option is not available, the system disconnects the caller when you press the Not Ready key.
OPTIONS		NRONSDN	Options - NRONSDN. Enter NRONSDN to provide not ready functionality when an SDN is active.
OPTIONS		OBSREST	Options - OBSREST. Enter observe agent restriction (OBSREST). Supervisors observe agents in the ACD group that are in calls that arrive on the In Calls key of the supervisor. Supervisors cannot observe agents in calls that arrive on an SDN.
OPTIONS		ORGANN	Options - ORGANN. Enter ORGANN to select an original group announcement.
OPTIONS		OVFLINQ	Options - OVFLINQ. Enter OVFLINQ (incoming overflow queue). This entry allows the system to service specified types of calls, like priority 0, first. This entry establishes a size for an incoming overflow call queue.
If you enter option OVFLINQ, subfields SERVICE, MAXVQSIZ, and MAXVQLMT appear:			
	SERVICE	OVFLIN, POFIRST, OLDEST	Service. Valid entries are OVFLIN, P0FIRST, and OLDEST. Enter the type of queued calls to service first. The types are incoming overflow, priority 0, or oldest.

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 13 of 15)

Field	Subfield or refinement	Entry	Description
	MAXVQSIZ	0 - 511	Maximum overflow queue size. Enter the maximum number of calls that the overflow queue can have at one time. Valid entries are from 0 to 511. Entries in this field cannot exceed the maximum call queue size set for the group in field MAXCQSIZ.
	MAXVQLMT	Y or N	Maximum value of the maximum overflow queue size. Enter Y to set the maximum value for MAXVQSIZ.
If you enter Y, subfield VQLMT appears:			
	VQLMT	0 - 511	Maximum value of the maximum overflow queue size. Enter the maximum value to which you can change MAXVQSIZ. Use table control or load management. Valid entries are from 0 to 511.
OPTIONS		QSL	Options - QSL. Enter QSL to select queue status lamps.
If you enter option QSL, subfields SDGRPNO and SDPOINT appear:			
	SDGRPNO	0 - 511	Signal distribution group number. Enter the signal distribution group number. This number defines the hardware location of the signal distribution card in table SDGRP. Valid entries are from 0 to 511.
	SDPOINT	0 - 6	Signal distribution point. Enter the signal distribution point number of the signal distribution card. The system assigns the point to the currently named ACD group for the QSL option. Valid entries are from 0 to 6.
OPTIONS		QTOMSB	Options - QTOMSB. Enter queue calls to an ACD group with all agents make set busy (QTOMSB). This entry allows the system to queue calls to an ACD group with every agent logged out. The system can queue calls to an empty ACD group. You cannot enter this option if you enter a Y in field FRCNGTSV.

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 14 of 15)

Field	Subfield or refinement	Entry	Description
OPTIONS		RCLNOTIF	Recall notification. Enter option RCLNOTIF for enhanced recall notification. This entry allows any agent within the ACD group presented with a recalled ACD call to receive recall notification.
OPTIONS		RCLQUEUE	Recall queue. Enter RCLQUEUE to allow enhanced control of the recall to ACD DN queuing behaviour.
OPTIONS		TIMECXR	Options - TIMECXR. Enter ACD call transfer with time (TIMECXR). This entry allows the system to time insert a call that transfers from one ACD group to another ACD group. The system inserts this call at the priority 0 queue of the destination group.
OPTIONS		TMDELOFL	Options - TMDELOFL. Enter time delay overflow (TMDELOFL) to allow calls to overflow to another ACD call queue. This event occurs when the calls wait a specified period of time.
If you enter option TMDELOFL, subfields TIME and OFLTYPE appear:			
	TIME	0 - 1800	Time. Enter the length of time that a call can wait in the ACD call queue before the system deflects the call. The system can deflect the call to an overflow queue. Valid entries are from 0 to 1800 s.
	OFLTYPE	ALLPRIO, PRI0ONLY	Overflow type. Valid entries are ALLPRIO and PRI0ONLY. Enter ALLPRIO if the TMDELOFL option applies to the priorities of calls. Enter PRI0ONLY if priority 0 calls must deflect to the next queue. This event occurs when the length of time specified in the TIME subfield expires.
If you enter PRI0ONLY, subfield START appears:			

Base automatic call distribution (ACD) (continued)

Datafilling table ACDGRP (Sheet 15 of 15)

Field	Subfield or refinement	Entry	Description
	START	P0ONLY, IMMEDIAT	Start. Valid entries are P0ONLY and IMMEDIAT. Enter P0ONLY to indicate that timing starts when the system places calls in the priority 0 call queue. Enter IMMEDIAT if timing starts when calls arrive.
OPTIONS		VARWRAP	Options - VARWRAP. Enter VARWRAP to select a variable wrap-up time for the ACD group.
If you enter option VARWRAP, subfield DWRPTIME appears:			
	DWRPTIME	0 - 600	Default wrap-up time. Enter the default wrap-up time for the whole ACD group. Valid entries are from 0 to 600 s. For an entry of zero, the release guard time delay of 1 s is not present. For an entry other than zero, the release guard time delay of 1 s occurs.
OPTIONS		DMCT	Deny malicious call termination. Enter DMCT. This option identifies that the system assigns DMCT to the group. Assign DMCT to the group must have DMCT assigned before agents in the group can use DMCT.
OPTIONS		NOANSWER	Enter NOANSWER to prevent the propagation of the answer message to the network.

Datafill example for table ACDGRP

Sample datafill for table ACDGRP appear in the following example. This example defines the group ACDGRP1 as an ACD group.

MAP example for table ACDGRP

```
ACDNAME      CUSTGRP ACDRNGTH        THROUTE
   NSROUTE PRIOPRO DBG MAXCQSIZ MAXWAIT
                   ACDMIS
      MSQS                      DISTRING OBSWTONE
                                      OPTIONS
_____________________________________________________________
ACDGRP1        MDC1        15         IBNRTE 100
 IBNRTE 401      5    N       5      20
               Y POOL1 SUBPOOL1 N                $
       Y   5   10  15  WAIT N Y 10 Y 20 BOTH  N
             Y  Y   OFRT   1003
                       (OBSREST)  (ACDADMIN 155) $
```

Error messages for table ACDGRP

The following error messages apply to table ACDGRP.

Error messages for table ACDGRP

Error message	Description
`CAUTION - The value for DINTRVL is potentially harmful. Please confirm its acceptability with switch engineering personnel.`	This caution message appears when you enter a value of 0 to 19 in the DINTRVL subfield of field MSQS. Edit the datafill and enter a value from 20 to 180.

Datafilling table ACDRTE

Table ACDRTE defines the following:

- the improvement of overflow routes for ACD groups
- the audio treatments that ACD groups use
- the tables to which ACD groups point

Datafill for Base Automatic Call Distribution for table ACDRTE appear in the following table. The fields that apply to Base Automatic Call Distribution

Base automatic call distribution (ACD) (continued)

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

Datafilling table ACDRTE (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Description
ACDGRP		alphanumeric	ACD group. Enter the 1- to 16-character alphanumeric name of the ACD group to which the datafill of field OPTION applies.
OPTNAME		AUDIO	Option name - AUDIO. Specifies the audio groups in table AUDIO that are valid for the specified ACD group.
		CIFROUTE	CIFROUTE. Specifies the route calls take if the controlled interflow option is active.
		FIAUDIO	FIAUDIO. Specifies that each incoming call receives an announcement before the system presents the calls to an idle agent. The calls receive an announcement before the system places the calls in the queue.
		FOAUDIO	FOAUDIO. Specifies that calls that the system reroutes receive an announcement before the system reroutes the calls. The system reroutes the calls because an overflow occurs.
		NSAUDIO	NSAUDIO. Specifies that calls receive an announcement if the calls arrive after the system activates night service.
		OVFL	OVFL. Specifies the ACD groups to which the system reroutes overflow calls.
		TABEN	TABEN Specifies all the table entries available for routing.
		TMDTHRTE	TMDTHRTE. Specifies the route to use to reroute threshold overflow.
OPTION		AUDIO	Option - AUDIO. Specifies the audio groups in table AUDIO that are valid for the specified ACD group.
If you enter option AUDIO, subfield VECTOR appears:			

Base automatic call distribution (ACD) (continued)

Datafilling table ACDRTE (Sheet 2 of 5)

Field	Subfield or refinement	Entry	Description
	AUDIOENT_ VECTOR	alphanumeric	Audio vector. Enter a valid audio group name. This name is in table AUDIO. Valid entries are from 1 to 8 audio group names.
OPTION		CIFROUTE	Option - CIFROUTE. Specifies the route calls take if the controlled interflow option is active. For information on how to limit route selection, refer to the TABEN option in table ACDRTE.
If you enter option CIFROUTE, subfield CIFRTE appears:			
	CIFRTE	refer to subfields	Controlled Interflow route. Specifies the route calls take when controlled interflow is ON. This subfield contains subfields TABNAME and INDEX.
	TABNAME	IBNRTE, IBNRT2, IBNRT3, IBNRT4, OFRT, OFR2, OFR3, OFR4.	Table name. Enter the valid table name that contains the route to use for controlled interflow. Valid entries are IBNRTE, IBNRT2, IBNRT3, IBNRT4, OFRT, OFR2, OFR3, and OFR4.
	INDEX	0 - 1023	Index. Enter the index of the route to use for controlled interflow. Valid entries are from 0 to 1023.
OPTION		FIAUDIO	Option - FIAUDIO. Specifies the audio group to use for incoming call announcements.
If you enter option FIAUDIO, subfield FIAUDGRP appears:			
	FIAUDGRP	AUDIO1 - AUDIO512	Incoming call announcement group. Enter the valid audio group number of the announcement that specified incoming calls receive. The system queues or presents the calls to an agent. Enter the audio group in table AUDIO. Assign the audio group as ACD. Valid entries are from AUDIO1 to AUDIO512.
OPTION		FOAUDIO	Option - FOAUDIO. Specifies the audio group to use for overflow call announcements.
If you enter option FOAUDIO, subfield FOAUDGRP appears:			

Base automatic call distribution (ACD) (continued)

Datafilling table ACDRTE (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Description
	FOAUDGRP	AUDIO1 - AUDIO512	Overflow announcement group. Enter the valid audio group number of the announcement that threshold overflow calls receive before the system reroutes the calls. Enter the audio group in table AUDIO. Assign the audio group as ACD. Valid entries are from AUDIO1 to AUDIO512.
OPTION		NSAUDIO	Option - NSAUDIO. Specifies the audio group to use when the system presents an announcement to calls received after night service becomes active.
If you enter option NSAUDIO, subfield NSAUDGRP appears:			
	NSAUDGRP	AUDIO1 - AUDIO512	Night service audio group. Enter the night service audio group name to use for the night service announcement. This audio group must be in table AUDIO and assigned as ACD before you can make this entry. Valid entries are from AUDIO1 to AUDIO512.
OPTION		OVFL	Option - OVFL. Specifies routing for overflow calls.
If you enter option OVFL, subfield OVFLLIST appears:			
	OVFLLIST	alphanumeric	Overflow list. Enter the valid ACD group name(s) that table ACDGRP specifies. The system must send overflow calls from the specified ACD group to these ACD group names. You can enter a maximum of four valid ACD group names.

Base automatic call distribution (ACD) (continued)

Datafilling table ACDRTE (Sheet 4 of 5)

Field	Subfield or refinement	Entry	Description
OPTION		TABEN	Option - TABEN. Specifies the route IDs for the ACD group to use. The route IDs are in the following tables: • IBNRTE • IBNRT2 • IBNRT3 • IBNRT4 • OFRT • OFR2 • OFR3 • OFR4 • AUDIO Enter a maximum of ten valid table entry routes. When you enter TABEN, specify the routes the ACD group must use in this field. The assignment of ACD routes does not require TABEN. Refer to options CIFROUTE and TMDTHRTE in table ACDRTE. Refer to options THROUTE and NSROUTE in table ACDGRP.
If you enter option TABEN, subfield TABENTRY_VECTOR appears:			
	TABENTRY_ VECTOR	alphanumeric	Table entry vector. Enter the table route ID. Enter the route table index number.
If you enter option TDMTHRTE, subfields TABNAME, INDEX, and TMDTHRTE_TIME appear:			

Base automatic call distribution (ACD) (continued)

Datafilling table ACDRTE (Sheet 5 of 5)

Field	Subfield or refinement	Entry	Description
	TABNAME	IBNRTE, IBNRT2, IBNRT3, IBNRT4, OFRT, OFR2, OFR3, OFR4.	Table name. Enter the valid table name. This name contains the route the system must use to route threshold overflow. The following entries are valid: • IBNRTE • IBNRT2 • IBNRT3 • IBNRT4 • OFRT • OFR2 • OFR3 • OFR4
	INDEX	0 - 1023	Index. Enter the index number of the route the system must use to route threshold overflow. Valid entries are from 0 to 1023.
	TMDTHRTE_ TIME	0 - 1800	Time delay threshold route time. Enter the number of seconds a call sits in the queue before the system transfers the call. The system can transfer the call to a specified overflow route. The call sits in the queue at the original or overflow ACD group. Valid entries are from 0 to 1800.

Datafill example for table ACDRTE

Sample datafill for table ACDRTE appear in the following example. In this example, the ACD group REPAIR overflows calls to the ACD group CUST_SERV. A call to the ACD group REPAIR remains in the queue 120 s before the call transfers to the overflow route.

MAP example for table ACDRTE

```
ACDGRP           OPTNAME                    OPTION
-------------------------------------------------------
REPAIR         OVFL  OVFL (CUST_SERV)  $
REPAIR     TMDTHRTE       TMDTHRTE IBNRTE 400 120
REPAIR        TABEN      (IBNRTE 400) (OFRT 120) $
```

Datafilling table ACDSGRP

Table ACDSGRP defines the subgroups that the system uses to associate supervisors with an ACD group. The subgroup number provides a link between the supervisors and the agents. Each ACD group can have a maximum of 255 subgroups. A subgroup number of zero indicates the subgroup facility is not required.

Datafill for Base Automatic Call Distribution for table ACDSGRP appear in the following table. The fields that apply to Base Automatic Call Distribution appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table ACDSGRP (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Description
ACDGROUP		alphanumeric	Automatic Call Distribution group name. Enter the 1- to 16-character alphanumeric name of the ACD group.
SUBGROUP		1 - 255	Automatic Call Distribution subgroup number. Enter the number assigned to this subgroup. Valid entries are from 1 to 255.
RECORDER		refer to subfield	Recorder. Select one type of customer-supplied equipment to record emergency calls that arrive on the Emergency key. This field contains subfield CHOICE.

Base automatic call distribution (ACD) (continued)

Datafilling table ACDSGRP (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Description
	CHOICE	NONE, TRUNK, LINE	Choice. Enter NONE, TRUNK, or LINE. NONE = no recording equipment TRUNK = recording equipment interfaced as a trunk circuit LINE = recording equipment interfaced as a line circuit
If you enter TRUNK for CHOICE, subfield CLLI appears:			
	CLLI	alphanumeric	Common language location identifier. Enter the alphanumeric CLLI code of the trunk group to which the recording equipment connects.
If you enter LINE for CHOICE, subfield LEN appears:			
	LEN	line equipment number of ACD group	Line equipment number. Enter the line equipment number (LEN) of the ACD group. The LEN contains: • site (alphabetic or blank) • frame (0-99) • unit (0-9) • drawer (0-23) • circuit (0-31) Defines the line circuit to which the recording equipment connects. ***Note:*** Recording equipment that the subscriber supplies can send a continuous off-hook signal to the system. If this event occurs, assign COD and FRS line options on the line. You can wire a signal distribution with the line.

Datafill example for table ACDSGRP

Sample datafill for table ACDSGRP appear in the following example. In this example, the ACD group ACDGRP1 has the subgroup number 1 assigned.

MAP example for table ACDSGRP

```
ACDGROUP          SUBGROUP           RECORDER
-------------------------------------------------------
ACDGRP1                1                 NONE
```

Datafilling table DNROUTE

Datafill for Base Automatic Call Distribution for table DNROUTE appear in the following table. The fields that apply to Base Automatic Call Distribution appear in this table. See the data schema section of this document for a description of the other fields.

Note: Table DNROUTE replaces table WRDN in BCS33 and later versions.

Datafilling table DNROUTE (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Description
DNRESULT		refer to subfields	Directory number result. This field contains subfields DN_SEL, FEAT, ACDGRP, and DNAREA.
	DN_SEL	FEAT	Directory number selector. For ACDDNs, enter the DN selector FEAT.
	FEATURE	ACD	Feature. Enter ACD.
	ACDGRP	alphanumeric	ACD group. Enter the 1- to 16-character alphanumeric name of the ACD group for this ACDDN. This entry must be the same as the entry that appears in field ACDNAME of table ACDGRP.
	DNAREA	refer to subfields	Directory number area. This subfield contains subfields DNTYPE, TRUNK, and LINE, or DNTYPE and DNPRIO.
If the DN is the primary ACDDN for the ACD group, complete fields DNTYPE, TRUNK, and LINE.			
	DNTYPE	PRIM	Directory number type. Enter PRIM. The DN is currently the primary DN for the ACD group.

Base automatic call distribution (ACD) (continued)

Datafilling table DNROUTE (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Description
	TRUNK	0 - 3	Trunk priority. Enter the priority of trunk calls that terminate on this primary ACDDN. Valid entries are from 0 to 3. The highest priority is 0.
	LINE	0 - 3	Line priority. Enter the priority of line calls that terminate on this primary ACDDN. Valid entries are from 0 to 3. The highest priority is 0.
If the DN is a supplementary ACDDN for the ACD group, complete fields DNTYPE and DNPRIO.			
	DNTYPE	SUPP	Directory number type. Enter SUPP. The DN is an additional DN for the ACD group.
	DNPRIO	0 - 3	Directory number priority. Enter the priority number for calls that terminate on this ACDDN. Valid entries are from 0 to 3. The highest priority is 0.

Datafill example for table DNROUTE

Sample datafill for table DNROUTE appear in the following example. In this example, the system assigns the primary DN of (919) 362-9999 to the ACD group ACDGRP1.

MAP example for table DNROUTE

```
AREACODE OFCCODE STNCODE    DNRESULT
---------------------------------------------------------
919 362 9999 FEAT ACD ACDGRP1 PRIM 0 1
```

Datafilling table ACDLOGIN

Table ACDLOGIN defines the valid ACD login numbers and passwords. This table assigns logins to customer groups.

Datafill for Base Automatic Call Distribution for table ACDLOGIN appear in the following table. The fields that apply to Base Automatic Call Distribution

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

Datafilling table ACDLOGIN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Description
LOGINID		0001 - 9999	The ACD agent login identification number. Enter the four-digit agent login ID. Valid entries are from 0001 to 9999.
CUSTGRP		refer to subfield	Customer group. This field contains subfield CUSTSEL.
	CUSTSEL	Y or N	Customer group selector. Enter Y if the switch checks if the customer group that associates with the agent login ID matches the customer group. The customer group is in the In Calls key of the set to which the agent logs in. Enter N if the switch does not check customer group.
If you enter Y, subfield CUSTGRP appears:			
	CUSTGRP	alphanumeric	Customer group. Enter the 1- to 16-character alphanumeric name of the customer group that associates with the previously entered login ID.
PSWD		refer to subfield	Password. This field contains subfield PSWDSEL.
	PSWDSEL	Y or N	Password selector. Enter Y if the login procedure requires a password. Enter N if the procedure does not require a password.
If you enter Y, subfield PSWD appears:			
	PSWD	0001 - 9999	The ACD agent login password. Enter the four-digit ACD login password. Valid entries are from 0001 to 9999.
OPTIONS		VARWRAP	Options - VARWRAP. Enter VARWRAP to assign a wrap-up time to each agent. The login ID of the agent that you enter determines wrap-up time.
If you enter option VARWRAP, subfield WRPTIME appears:			

Base automatic call distribution (ACD) (continued)

Datafilling table ACDLOGIN (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Description
	WRPTIME	0 - 600	Wrap-up time. Enter the number of seconds of the wrap-up time for the agent. Valid entries are from 0 to 600 s. The system removes the release guard time delay of 1 s for an entry of zero. For an entry other than zero, the release guard time delay occurs.
OPTIONS		MISGROUP	Options - MISGROUP. Causes the system to enforce subpool/subpool password security.
If you enter option MISGROUP, subfield ACDGRP appears:			
	ACDGRP	alphanumeric	ACD group name. Enter the name of the ACD group that you entered before in table ACDGRP to which this agent belongs.
OPTIONS		PAQ	Options - PAQ. Sets a personal agent queue for calls parked at an ACD agent position.
If you enter option PAQ, subfield PAQSIZE appears:			
	PAQSIZE	0 - 42	Personal agent queue size. Enter the maximum number of calls an agent can have in the personal queue. Valid entries are from 0 to 42.

Datafill example for table ACDLOGIN

Sample datafill for table ACDLOGIN appear in the following example. In this example, the system does not check the agent with the password 0001. The system must verify that the customer group for an agent login ID matches the customer group of the In Calls key. This key is for the set currently logged in. The agent must not provide a password when the agent logs in. The system assigns the variable wrap-up time feature to the agent. The system places the agent in an ACDMIS group.

MAP display example for table ACDLOGIN

```
LOGINID          CUSTGRP    PSWD          OPTIONS
-------------------------------------------------------
0001               N        N
           ( VARWRAP 10)   ( MISGROUP   MISGRP1) $
```

Datafilling table DNATTRS

Table DNATTRS stores information about the attributes of an MDC line. This table stores the information that appears on the agent display. This information appears on the agent display when the ACDDISP option for the ACD group is in table ACDGRP.

Datafill for Base Automatic Call Distribution for table DNATTRS appear in the following table. The fields that apply directly to Base Automatic Call Distribution appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table DNATTRS

Field	Subfield or refinement	Entry	Description
KEY		alphanumeric	Key field. Enter the ACDDN.
DATA		refer to subfields	Data. This field contains subfields NETNAME and NETOPTS.
	NETNAME	PUBLIC, PRIVATE	Network name. Enter PUBLIC or PRIVATE.
	NETOPTS		Network options. Enter NAME.
If you enter NAME, subfield DNNAME appears:			
	DNNAME	alphanumeric	Directory number name. Enter the 1- to 15-character name. This name appears on the agent display when the ACDDISP option for the ACD group is in table ACDGRP.

Datafill example for table DNATTRS

Sample datafill for table DNATTRS appear in the following example. In this example, the system assigns the name CATALOG to the DN (919) 362-9999 . The CATALOG appears on a display when an incoming call to this DN arrives. The option ACDDISP must be in table ACDGRP for the ACD group.

Base automatic call distribution (ACD) (continued)

MAP example for table DNATTRS

```
KEY
                                                    DATA
OPTDATA
_____________________________________________________________
919 362 9999
(PUBLIC (NAME CATALOG ) $ ) $
$
```

Tools for verifying translations

Basic line-to-line translation tables that a non-ACD telephone accesses appear in TRAVER for ACD. The TRAVER for ACD does not describe the procedure to access ACD tables. The Base Automatic Call Distribution does not use tools for verifying translations.

SERVORD

Use SERVORD to enter data in the following tables:

- KSETLINE
- KSETFEAT
- KSETINV
- IBNFEAT

The SERVORD can add or delete an ACD station, or add a new ACD feature. If these events occur, the system enters the correct information in these tables.

Table KSETLINE contains the data of DN appearances on business sets. Each DN-related key used for ACD on a business set must have an entry in this table.

Table KSETFEAT describes the line features assigned to a business set. This table describes the line features used for ACD.

The data for business sets and add-on modules appears in table KSETINV. Each line card slot assigned to a business set used for ACD must have an entry in this table.

Table IBNFEAT describes line features for ACD lines.

Base automatic call distribution (ACD) (continued)

SERVORD limits

Base Automatic Call Distribution features contain the following limits when service orders are used to assign features to a supervisor set:

- Assign observe agent (OBS) and supervisor (SUPR) options to sets that contain the ACD option.
- Assign the display queue status (DQS) option to a set that contains a display.
- An agent status lamp (ASL) must associate with a specified agent position. This agent position must be in the same customer group as the set that contains the ASL.

The following limits apply to the agent status lamp SDN feature when service orders are used to implement the feature:

- Assign the ASLSDN feature to an agent status lamp that monitors a 2500 set.
- Assign an SDN to the key number that the ASLSDN service order prompt specifies.

SERVORD prompts

The following SERVORD prompts appear in the following table:

- prompts to assign agent features to an agent position
- prompts to assign supervisor features to a supervisor set

SERVORD prompts for Base Automatic Call Distribution (Sheet 1 of 4)

Prompt	Valid input	Description
AAK_ ACDGRP	1-16 alphanumeric characters	Enter the ACD group to which the supervisor with the answer agent feature belongs.
AAK_ACDSGRP	Alphanumeric	Enter the ACD subgroup to which the supervisor with the answer agent feature belongs.
ACDGRP	1-16 alphanumeric characters	Enter the ACD group to which this station belongs.
ACDSGRP	0-255	Enter the number of the ACD subgroup to which this ACD station belongs.
AGENT_LEN	Numeric	Enter the line equipment number of the agent to monitor.
ASLDN	2-8	Enter the key number of the SDN of the agent to monitor.

Base automatic call distribution (ACD) (continued)

SERVORD prompts for Base Automatic Call Distribution (Sheet 2 of 4)

Prompt	Valid input	Description
CLSUP_ MSBOVRD	Y or N	Enter Y if the agent can override make set busy with the Call Supervisor feature. If the agent cannot perform the override, enter N.
DIFFINC	Y or N	Enter Y if the incoming agent group is different from the ACD group of the supervisor. If the incoming agent group is the same as the ACD group, enter N.
DN	7 digits	Enter the directory number.
FORCING	Y or N	Enter Y if call forcing is necessary. If call forcing is not necessary, enter N.
GROUP	1-16 alphanumeric characters	Enter the customer group name from table CUSTHEAD for this ACD group.
IDNUM	Y or N	Enter Y if the system must assign an identification number to the agent. If assignment of an ID is not necessary, enter N.
KEY	1-69	In the Calls key and SUPR option must be assigned to key number 1. The other features must be assigned to key numbers 2 to 69.
LATANAME	Alphanumeric	Enter the local access transport area name that associates with this DN.
LCC	PSET, M5009, M5112, M5212, M5312, IBN	Enter the line class code for the ACD set.
LTG	0-511	Enter the line treatment group.
LEN_OR_LTID	Numeric	Enter the line equipment number of this station.
MSBOVRD	Y or N	Enter Y if the system can override the Make Set Busy Override feature of the agent. If the system cannot perform this override, enter N.
NCOS	0-511	Enter the network class of service for this station.

Base automatic call distribution (ACD) (continued)

SERVORD prompts for Base Automatic Call Distribution (Sheet 3 of 4)

Prompt	Valid input	Description
OPTION	AAK, ACD, ACDNR, AEMK, ASL, CAG, CIF, CLSUP, DASK, DQS, DQT, EMK, LOB, MSB, NGTSRVCE, OBS, OBSREST, SUPR	Enter the following features: • AAK = Ans Agent key • ACD = In Calls key • ACDNR = Not Ready key • AEMK = Ans Emerg key • ASL = Agent status lamp • CAG = Call Agent key • CIF = Interflow key • CLSUP = Call Supervisor key • DASK = Display Agent Status key • DQS = Display Queue Status key • DQT = Disp Queue key • EMK = Emergency key • LOB = Line of Business key • MSB = Make Busy key • NGTSRVCE = Night Serv key • OBS = Obs Agent key • OBSREST = Observe restricted • SUPR = Supervisor option
OPTKEY	1-69	Assign In Calls key and SUPR option to key number 1. Other features are assigned to key numbers 2 to 69.
POSID	0001-9999	Enter the identification number assigned to the agent or supervisor set.
PRIMARY ACD	1-16 alphanumeric characters	Enter the primary ACD group for this supervisor.
PRIMARY_ACDSGRP	Alphanumeric	Enter the primary ACD subgroup for this supervisor.
RINGING	Y or N	Enter Y if physical ringing is necessary. If ringing is not necessary, enter N.

Base automatic call distribution (ACD) (continued)

SERVORD prompts for Base Automatic Call Distribution (Sheet 4 of 4)

Prompt	Valid input	Description
SNPA	3 digits	Enter the serving numbering plan area code for this station.
SUBGRP	0-7	Enter the subgroup of the customer group.

SERVORD example for adding Base Automatic Call Distribution

The following SERVORD example describes how to use the SERVORD command NEW to add an agent position.

SERVORD example for Base Automatic Call Distribution in prompt mode

```
>SERVORD
SO:
>NEW
SO_NUMBER: NOW 91 03 19 PM
>(CR)
DN:
>2454024
LCC:
>M5212
GROUP:
>MDC1
SUBGRP:
```

Base automatic call distribution (ACD) (continued)

SERVORD example for Base Automatic Call Distribution in prompt mode (continued)

```
>1
NCOS:
>1
SNPA:
>919
KEY:
>1
RINGING:
>Y
LATANAME:
>NILLATA
LTG:
>0
LEN_OR_LTID:
>2001
OPTKEY:
>1
OPTION:
>ACD
FORCING:
>Y
ACDGRP:
>ACDGRP1
ACDSGRP:
>1
IDNUM:
>Y
LATANAME:
>Y
POSID:
>4024
IBN_ACD_OPTION:
>$
OPTKEY:
>3
OPTION:
>ACDNR
OPTKEY:
```

Base automatic call distribution (ACD) (end)

SERVORD example for Base Automatic Call Distribution in prompt mode (continued)

```
>7
OPTION:
>MSB
KEYLIST:
>$
OPTKEY:
>8
OPTIONI:
>3WC
OPTKEY:
>$

COMMAND AS ENTERED:
NEW NOW 91 03 19 PM     2454024 M5212 MDC1 1 1 919 1 Y
NILLATA 0 HOST 02 0 00 01 ( 1 ACD Y ACDGRP1 1 Y 4024 $ 1)
( 3 ACDNR ) ( 7 MSB $ ) ( 8 3WC ) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
```

History

SN07 (DMS)

Added RCLQUEUE entry field OPTION under CR Q00812364 for SN07 (DMS).

Call Forcing Tone Optionality

Ordering codes

Functional group ordering code: ACD00001

Functionality ordering code: does not apply

Release applicability

DMSCCM04 and later versions

Requirements

The Call Forcing Tone Optionality does not have requirements.

Description

The Automatic Call Distribution (ACD) distributes calls to a group of agents in an ACD group. Service industries must have a large number of answering positions available to answer a large number of incoming calls. These industries can use ACD. All of the agents can be busy. In this condition, the order of arrival and the priority of the dialed directory number (DN) determine the order of calls. If Call Forcing is active, the first idle agent receives the first call from the high-priority queue.

The Call Forcing Tone Optionality provides current options for Call Forcing. These options are as follows:

- the ability to present or to not present a call alerting signal at the telephones of agents in an ACD group
- the ability to present the signal at a specified location at the telephones
- the ability to override the group assignment for Call Forcing and for alerting tone delivery location. This option applies to separate agents in the group.

Operation

The refinement FORCING appears as an option in tables ACDGRP, ACDLOGIN and ACDENLOG. This definition allows an operating company end user to select or omit Call Forcing for an ACD group. If you select Call Forcing, the operating company can specify if the headset, handset or telephone speaker receives the alerting tone. You can limit separate agents from the same group, these agents cannot receive Call Forcing. You can allow agents to receive the alerting signal at a location other than the location defined for the group.

The TONE_DEST is a refinement for the option FORCING. This refinement is in tables ACDGRP, ACDLOGIN and ACDENLOG. Refinement

Call Forcing Tone Optionality (continued)

TONE_DEST has the values HSET, BASE or NONE. These three tables contain the same definition for option FORCING and the refinement TONE_DEST.

Effect of FORCING on table ACDGRP

You can enter or omit option FORCING for subfield OPTION in table ACDGRP. If you omit this option for a tuple, the members of the group that this tuple defines cannot use Call Forcing. To make this option available, operating company personnel can enter data in table ACDLOGIN or table ACDENLOG.

If table ACDGRP has option FORCING assigned, the refinement of this option is TONE_DEST. You can enter the refinement TONE_DEST as HSET, BASE or NONE.

The value HSET of refinement TONE_DEST specifies that the handset or headset of a telephone receives the Call Forcing alerting signal. The telephone in use must allow Call Forcing. The value BASE of refinement TONE_DEST specifies that the speaker of the telephone receives the Call Forcing alerting signal. The telephone in use must allow Call Forcing for this action to occur.

You can enter the refinement TONE_DEST as HSET or BASE. The Call Forcing alerting signal is available at the specified location for each agent in the group. Data in table ACDLOGIN or table ACDENLOG can override the data for each agent in the group. In section Effect of FORCING on table ACDLOGIN or table ACDENLOG of this feature you will find a description of the override path.

You can select NONE for refinement TONE_DEST in table ACDGRP. Call Forcing can be available for any agent in the group. An agent can receive Call Forcing if an override of this refinement TONE_DEST datafill occurs. This override occurs for separate agents in table ACDLOGIN or table ACDENLOG.

Effect of FORCING on table ACDLOGIN or table ACDENLOG

Three tables contain the same definition of option FORCING and the refinement TONE_DEST. Table ACDGRP defines group characteristics. Tables ACDLOGIN and ACDENLOG define characteristics of agents in these groups. Table ACDLOGIN or table ACDENLOG can define an agent. Both these tables cannot define an agent. The datafill for Call Forcing in tables ACDLOGIN and ACDENLOG can moderate the values for Call Forcing for each agent. These assigned values are from Call Forcing in table ACDGRP.

You can enter or omit option FORCING for subfield OPTION of tables ACDLOGIN or ACDENLOG. If you omit this option the Call Forcing Tone

Call Forcing Tone Optionality (continued)

transfers to the destination, indicated in table ACDGRP. If option FORCING is not in table ACDGRP, Call Forcing is not available to the agents in this group.

You can select NONE as the value of refinement TONE_DEST for a separate agent. This selection occurs in table ACDLOGIN or table ACDENLOG. If this event occurs, Call Forcing is not active for the agent. This data allows you to exclude specified agents in a group from Call Forcing. You can retain the data in table ACDGRP for most agents in the group.

You can assign BASE or HSET to the group in table ACDGRP. If this event occurs, each group member or agent, receives the Call Forcing alerting signal at the specified location. You can override the specified location in table ACDLOGIN or in table ACDENLOG. The refinement TONE_DEST datafill defines the agent at a specified location. This location determines the table you choose to perform the override. You can use this override ability to customize Call Forcing to match the requirements of separate agents.

The following table includes a description of Call Forcing Tone Optionality datafill. In the table, *Blank* indicates that the Call Forcing Option is not entered. The value *Manual* indicates that Call Forcing is not active and you must enter calls manually.

Datafilling options for Call Forcing Tone Optionality (Sheet 1 of 2)

Table ACDGRP FORCING datafill	Table ACDGRP TONE_DEST datafill	Agent FORCING datafill	Agent TONE_DEST datafill	Result
			Hset	Hset
Yes	Hset	Yes	Base	Base
			None	Manual
		Blank	N/A	Hset
			Hset	Hset
Yes	Base	Yes	Base	Base
			None	Manual
		Blank	N/A	Base
			Hset	Hset
Yes	None	Yes	Base	Base

Call Forcing Tone Optionality (continued)

Datafilling options for Call Forcing Tone Optionality (Sheet 2 of 2)

Table ACDGRP FORCING datafill	Table ACDGRP TONE_DEST datafill	Agent FORCING datafill	Agent TONE_DEST datafill	Result
			None	Manual
		Blank	N/A	Manual
			Hset	Manual
Blank	N/A	Yes	Base	Manual
			None	Manual
		Blank	N/A	Manual

Interactions between tables

The ACD agents that use tables ACDGRP, ACDLOGIN and ACDENLOG can use FORCING. The agent data is in table ACDGRP. The position data is in table KSETLINE. If the data in these tables does not match, the agent data overrides the position data. If an ACD group has FORCING assigned, all agents in the group use FORCING.

Translations table flow

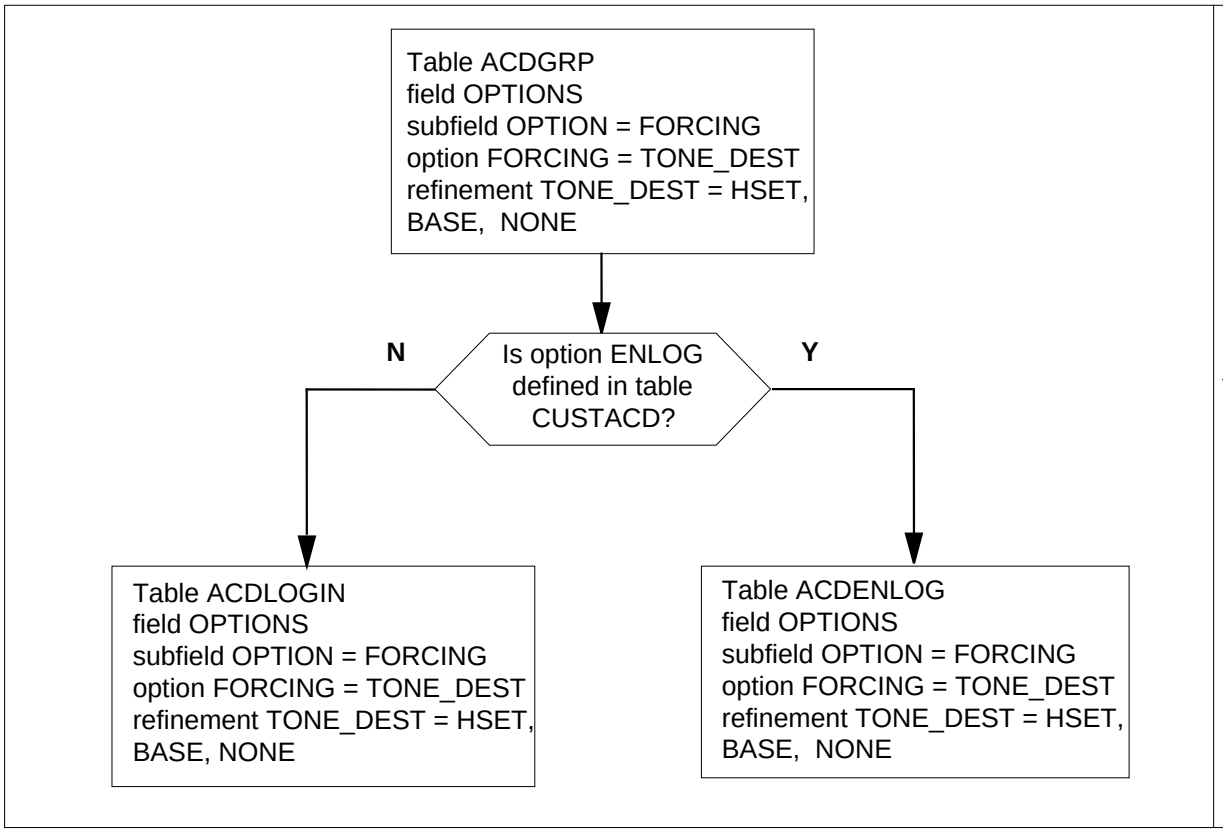
A description of the Call Forcing Tone Optionality translations tables appears in the following list:

- Table ACDGRP (Automatic Call Distribution Group) contains entries that define specified customer groups and the ACD functionalities associated with each group.
- Table ACDLOGIN (Automatic Call Distribution Login ID Password) maps ACD agent login IDs to an associated password. This table maps customer groups to associated ACD login IDs.
- Table ACDENLOG (Automatic Call Distribution Login Enhancement) allows multiple customer groups to use the full range of login identification for the ACD agents. Agents are not restricted to the range assigned to the group that contains the agents.

The translation process for Call Forcing Tone Optionality appears in the following flowchart.

Call Forcing Tone Optionality (continued)

Table flow for Call Forcing Tone Optionality



The following table indicates the datafill content that the flowchart uses.

Datafill example for Call Forcing Tone Optionality

Datafill table	Example data
ACDGRP	RALEIGH_E911 E911 15 OFRT 913 OFRT 913 120 N 2 120 N N NONE Y N (AUDIO 6 Y AUDIO1) (ACDDISP 0) (TMDELOFL 2 ALLPRIO) (OVFLINQ POFIRST 20 Y 511) (NONIMCUT) (ACDXFER 2 N) (ACDPSAP Y) (NRONSDN) (FORCING HSET) $
ACDLOGIN	2233 Y E911 Y 1111 (VARWRAP 20) (PAQ 5) (FORCING BASE) $
ACDENLOG	1 1111 Y Y E911 1111 (VARWRAP 5) (PAQ 2) (FORCING HSET) $

Limits

Call Forcing Tone Optionality has the same limits as standard Call Forcing. The XMS peripheral module (XPM) load must be XPM05 or later versions. If

Call Forcing Tone Optionality (continued)

XPM load is not XPM05 or a later version, Call Forcing tone delivery defaults to the telephone speaker.

Interactions

The Call Forcing Tone Optionality does not have functionality interactions.

Activation or deactivation by the end user

The Call Forcing Tone Optionality does not require activation or deactivation by the end user.

Billing

The Call Forcing Tone Optionality does not affect billing.

Station Message Detail Recording

The Call Forcing Tone Optionality does not affect Station Message Detail Recording.

Datafilling office parameters

The Call Forcing Tone Optionality does not affect office parameters.

Datafill sequence

The tables that require datafill to implement Call Forcing Tone Optionality appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Call Forcing Tone Optionality

Table	Purpose of table
ACDGRP	Automatic Call Distribution Group. This table contains entries that define specified customer groups and the ACD functionalities associated with each group.
ACDLOGIN	Automatic Call Distribution Login ID Password. This table maps ACD agent login IDs to passwords that correspond. The table maps customer groups to ACD login IDs that correspond.
ACDENLOG	Automatic Call Distribution Login Enhancement. This table allows multiple customer groups to use the full range of login identification for the ACD agents. The agents are not restricted to the range assigned to the group that contains the agents.
KSETLINE	Business Set and Data Unit Line Assignment. This table contains the DN appearances for business sets and data units. Refer to Interactions between tables for a description of how the tables interact. The Service Order system (SERVORD) can be used to enter data for table KSETLINE.

Call Forcing Tone Optionality (continued)

Datafilling table ACDGRP

Datafill for Call Forcing Tone Optionality for table ACDGRP appears in the following table. The fields that apply to Call Forcing Tone Optionality appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table ACDGRP

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		refer to subfield	OPTIONS. This field contains subfield OPTION.
	OPTION	FORCING	Option. This field contains the list of options and associated refinements assigned to the ACD group. Enter a maximum of 24 of the following options. If the ACD group requires less than 24 options, end the option list with a $. Enter FORCING and datafill refinement TONE_DEST.
	TONE_DEST	HSET, BASE, NONE	Tone destination. This refinement identifies the delivery destination of the Call Forcing alerting signal. Refinement TONE_DEST has the following values: • HSET indicates the delivery of the Call Forcing alerting signal to the headset or handset of a valid ACD telephone. • BASE indicates the delivery of the Call Forcing alerting signal to the speaker of a valid ACD telephone. • NONE indicates that Call Forcing is available to agents in this group. Call Forcing is available through customized datafill in table ACDLOGIN or table ACDENLOG. A default is not available.

Datafill example for table ACDGRP

Sample datafill for table ACDGRP appears in the following example.

Call Forcing Tone Optionality (continued)

MAP example for table ACDGRP

```
ACDNAME     CUSTGRP      ACDRNGTH      THROUTE      NSROUTE
 PRIOPRO       DBG         MAXCQSIZ    MAXWAIT      ACDMIS
 MSQS       DISTRING     OBSWTONE      FRCNGTSV     OPTIONS
----------------------------------------------------------------------
RALEIGH_E911    E911        15         OFRT 913      OFRT 913
  120         N             2           120             N
  N           NONE          Y             N
(AUDIO 6 Y AUDIO1) (ACDDISP 0) (TMDELOFL 2 ALLPRIO)
(OVFLINQ POFIRST 20 Y 511) (NONIMCUT) (ACDXFER 2 N) (ACDPSAP Y)
(NRONSDN) (FORCING HSET)  $
```

Datafilling table ACDLOGIN

Datafill for Call Forcing Tone Optionality for table ACDLOGIN appears in the following table. The fields that apply to Call Forcing Tone Optionality appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table ACDLOGIN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		refer to subfield	Options. This field contains subfield OPTION.

Call Forcing Tone Optionality (continued)

Datafilling table ACDLOGIN (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	OPTION	FORCING	Option. This subfield contains a list of the options available at the agent-station that this tuple defines. Call Forcing. Enter FORCING and datafill refinement TONE_DEST.
	TONE_DEST	HSET, BASE, NONE	Tone destination. This refinement signifies the delivery destination of the Call Forcing alerting tone. Refinement TONE_DEST has the following values: • HSET indicates the delivery of the Call Forcing alerting tone to the headset or handset of a valid ACD telephone. You must enter option FORCING for this group in table ACDGRP. • BASE indicates the delivery of the Call Forcing alerting tone to the speaker of a valid ACD telephone. You must enter option FORCING for this group in table ACDGRP. • NONE indicates that Call Forcing is not active for this agent.

Datafill example for table ACDLOGIN

Sample datafill for table ACDLOGIN appears in the following example.

MAP example for table ACDLOGIN

```
LOGINID    CUSTGRP        PSWD                  OPTIONS


-----------------------------------------------------------------------
2233          Y           E911    Y 1111        (VARWRAP 20) (PAQ 5)
(FORCING BASE)  $
```

Datafilling table ACDENLOG

Datafill for Call Forcing Tone Optionality for table ACDENLOG appears in the following table. The fields that apply to Call Forcing Tone Optionality

Call Forcing Tone Optionality (continued)

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

Datafilling table ACDENLOG

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		refer to subfield	Options. This field contains subfield OPTION.
	OPTION	FORCING	Option. This subfield contains a list of the options available at the agent-station this tuple defines. Call Forcing. Enter FORCING and datafill refinement TONE_DEST.
	TONE_DEST	HSET, BASE, NONE	Tone destination. This refinement signifies the delivery destination of the Call Forcing alerting tone. Refinement TONE_DEST has the following values: • HSET indicates the delivery of the Call Forcing alerting tone to the headset or handset of a valid ACD telephone. You must enter option FORCING for this group in table ACDGRP. • BASE indicates the delivery of the Call Forcing alerting tone to the speaker of a valid ACD telephone. You must enter option FORCING for this group in table ACDGRP. • NONE indicates that Call Forcing is not active for this agent.

Datafill example for table ACDENLOG

Sample datafill for table ACDENLOG appears in the following example.

MAP example for table ACDENLOG

```
PARTNO    LOGINID   ACTIVATE        CUSTGRP          PSWD
                                                     OPTIONS
-----------------------------------------------------------------------
   1      1111         Y            Y           E911 1111
                                                     (VARWRAP 5)
                                                     (PAQ 2)
                                                     (FORCING HSET)  $
```

Datafilling table KSETLINE

Datafill for Call Forcing Tone Optionality for table KSETLINE appears in the following table. The fields that apply to Call Forcing Tone Optionality appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table KSETLINE

Field	Subfield or refinement	Entry	Explanation and action
DNRESULT		refer to subfields	Directory number result. This field contains subfields RING, DN, CUSTGRP, SUBGRP, NCOS, SNPA, ACDINFO AND OPTLIST.
	ACDINFO	refer to refinement	ACD information. This field contains refinement ACDKEY.
	ACDKEY	AAK, AEMK, CAG, CLSUP, OR INCALLS	ACD key. The system uses this refinement to receive incoming ACD calls. Enter INCALLS if the system uses the key to receive incoming ACD calls. Enter datafill refinements ACDGRP, ACDSGRP and IDNUM.

Datafill example for table KSETLINE

Sample datafill for table KSETLINET appears in the following example.

MAP example for table KSETLINE

```
        KSETKEY
                FORMAT
                                                                DNRESULT
 ----------------------------------------------------------------------
 HOST  01 0 04 07 1
                      ACD     Y                5551234
                       BCSLAB1 1               0  518
           INCALLS     ACDGRP3   1 Y 4401
                                 (  ACDNR) $
```

Tools for verifying translations

The Call Forcing Tone Optionality does not use tools for verifying translations.

Call Forcing Tone Optionality (end)

SERVORD

The Call Forcing Tone Optionality does not use SERVORD.

Called About Number

Ordering codes

Functional group ordering code: ACD00001

Functionality ordering code: not applicable

Release applicability

NA009 and up

Prerequisites

This feature requires CompuCALL and Voice Response Unit (VRU) interfaces. Full installation requires prerequisite software or hardware.

Description

The Called About Number feature improves automatic call distribution (ACD). An external host computer can send reported called about number information from the VRU to the DMS-100 switch. The switch displays the called about number. The switch does not display the calling number on the p-phone of the terminating ACD group agent set. Subscribers do not need to enter the same information twice.

ACD tool

This feature modifies the existing ACD tool, ACDDEBUG.

Background Information

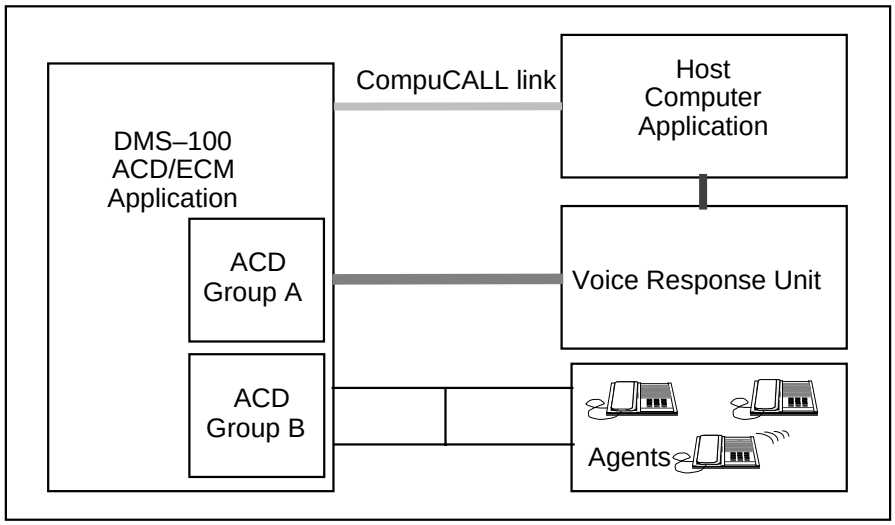
Automatic call distribution evenly distributes incoming calls to a central directory number from a designated number of telephone sets. These sets are called “agent positions". The system presents an incoming call to the agent position that has been idle for the longest period of time. When all agent positions are busy, the system places incoming calls in a queue until agents become available to answer them.

Extended call management (ECM) combines the capabilities of the DMS-100 switch ACD with the capabilities of external devices, such as host computers. ECM allows ACD subscribers to configure ACD call handling systems. These systems offer a large reduction in agent call handling time. This time reduction saves in costs of operation and improves quality in caller service. A key element of ECM is the switch computer application interface (SCAI). The SCAI allows a DMS-100 switch and an ACD host computer to exchange information through a protocol. This protocol is remote operation service element (ROSE). The SCAI provides information about calls to the host as the incoming ACD call arrives at the switch. The host sends commands to the switch to control call handling based on call- and caller-related data.

Called About Number (continued)

ACD subscribers can configure an ACD call handling system by installing a VRU in their call management system. The VRU ports are configured as ACD agents. The following figure shows the configuration of DMS-100 switch with VRU and compuCALL.

Configuration of DMS-100 switch with VRU and CompuCALL



The VRU can screen calls to determine the service requested by the subscriber. The VRU can collect related information about calls, such as billing number or insurance policy number. Call screening offers an important reduction in agent call handling time. The VRU can interface with CompuCALL. The VRU sends the call-related information to the host computer. The host computer uses this information to provide improved service to the caller.

Third party call control (TPCC) options enable the host computer to send the DMS-100 switch signaling commands for an agent position. This capability results in a reduction in agent call handling time and dialing errors.

Use TPCC for the following functions:

- outbound call-preview dialing
- consult and conference call
- consult and transfer call

Consult

When an ACD agent (controller) is involved in an active call, the agent can request establishment of a consult call through the host. The host sends a DV-ADD-PARTY message to the DMS-100 switch. The system puts the

original call party on hold. The system then places a call to the destination (consult party) that the host computer application specifies.

Transfer

The host application transfers the call by sending DV-TRANSFER-PARTY. The system drops the controller from the call. The system then creates a call between the held original call party and the consult party. The system transfers the call to the consult party even if the consult party does not answer the call.

Conference

The host application sends DV-CONFERENCE-PARTY to conference the call. The system establishs a three-way conference call for the controller with both the original call party and the consult party. The controller can transfer the call by sending DV-TRANSFER-PARTY. In this occurrence, the call transfer capability of the controller must be enabled on the DMS-100 switch.

Drop

The host sends DV-DROP-PARTY to release the consult party and re-establish the call between the controller and original call party. This release can occur after the system initiates or establishes the consult or conference call.

DV-ADD-PARTY improvements

This feature adds called about number information to the existing DV-ADD-PARTY message for improved AddParty functionality.

Operation

When subscribers call into the VRU (configured as an ACD group), the VRU prompts for the called about number and the type of service. The VRU sends this information to the host computer. Depending upon the type of service, the host computer determines to which ACD group to transfer the call. The host sends the DV-ADD-PARTY message to initiate a consult call with that ACD group. The host does this on behalf of the controller. The controller need not be in the associated environment with which the host application has an established session. The system presents the call to an agent in the terminating ACD group. Then the system displays the calling number on the selected agent set. Often, the calling number is not the same as the called about number.

The host has the called about number when it sends the DV-ADD-PARTY message to the switch. To display the called about number on the transferred-to ACD agent set, this feature introduces parameter calledAbtNo. This parameter is part of the existing DV-ADD-PARTY message and contains the called about number information.

Called About Number (continued)

The table below shows the DV-ADD-PARTY parameters in addition to parameter calledAbtNo.

Add Party Parameter Descriptions

Parameter name	M / O	Description
addPartyType	M	Enumerated type representing the ability to add the party strictly as a consult party for transferring calls. Also, it can add the party as a consult party for either transferring calls or conferencing both calls together. The available values are AddConsultParty and AddConsultforConf.
origAddress	M	This parameter identifies the originator of the call. It is a parameter with options. The parameter can be an ACD agent position ID or the station number of the device to originate the call. This call is originated for Centrex and RES lines In which it is an octet string.
destAddress	M	This parameter identifies the terminator of the call being set up. This parameter holds the dialed digits of the terminating device. This parameter is a string of IA5-encoded digits. These digits correspond to the exact number that the originator dials manually.
calledAbtNo	0	This parameter appears in the existing DV-ADD-PARTY message. The message contains the called about number that the user enters in the VRU. The parameter contains only the dialed digits. This parameter is a string of IA5-encoded digits.
Note: M/O: M represents a required parameter. O represents an optional parameter.		

All of these parameters are optional at the SCAI communications protocol level. At the ECM application level the parameters origAddress, destAddress, and addPartyType are required.

If all the parameters are correct, the DMS-100 switch returns a RETURN-RESULT message to the host. This message indicates that the consult call request is correct and now in effect.

Called About Number (continued)

To display the called about number, perform the following data entry:

- subscribe to the calledAbtNo parameter in DV-ADD-PARTY message by entering the CLDABTNO parameter in TPCC category, function ADDPTY, in Table SCAISSRV.
- subscribe the transferred-to ACD group to the feature by entering option CLDABTDSP in table ACDGRP.

Error messages

The system displays an error message on the transferred-to ACD agent set for the following reasons:

- DMS-100 switch does not receive the called about number even if both the subscriber and the terminating ACD agent have subscribed to Called About Number
- DMS-100 switch receives a wrong called about number

Add Party error conditions

The SCAI interface does not treat an incorrect called about number received from the host as an error condition. In occurrences of wrong or not available called about numbers, the system displays the error message `INVALID CLDABT #` on the transferred-to ACD agent set.

Any error conditions result in the call remaining in its current state. The system returns a RETURN-ERROR message to the host with an error cause value.

DV-ADD-PARTY error conditions are included below:

- message is not subscribed (not-allowed)
- any of the required parameters missing (missing-parameter with the missing parameter included)
- Position ID of the OrigAddress does not correspond to an ACD agent. The ACD agent must belong to the same subscriber group as the CompuCALL session over which DV-ADD-PARTY is sent. (invalid—parameter with value “InvalidOrigAddress")
- destination address contains other than dialable digits (incorrect—parameter with value “InvalidDestAddress")
- agent not logged in
- call did not reach the state capable of adding a consult party (Invalid—call state)

Called About Number (continued)

- AddPartyType is not a correct type (invalid—parameter with the value InvalidAddPartyType)
- conference resources unavailable for adding consult party for conference purpose (resource unavailable)

The system presents this list in the order of priority. In the RETURN-ERROR message, the system includes the first error condition the DMS-100 switch encounters and the missing or incorrect parameter.

Examples of wrong called about numbers

The called about number received from the host is not displayed if it is one of the following types. An error message displays on the transferred ACD agent set that indicates the called About number is incorrect. A return-result message is sent back to the host.

Incorrect called about numbers are as follows:

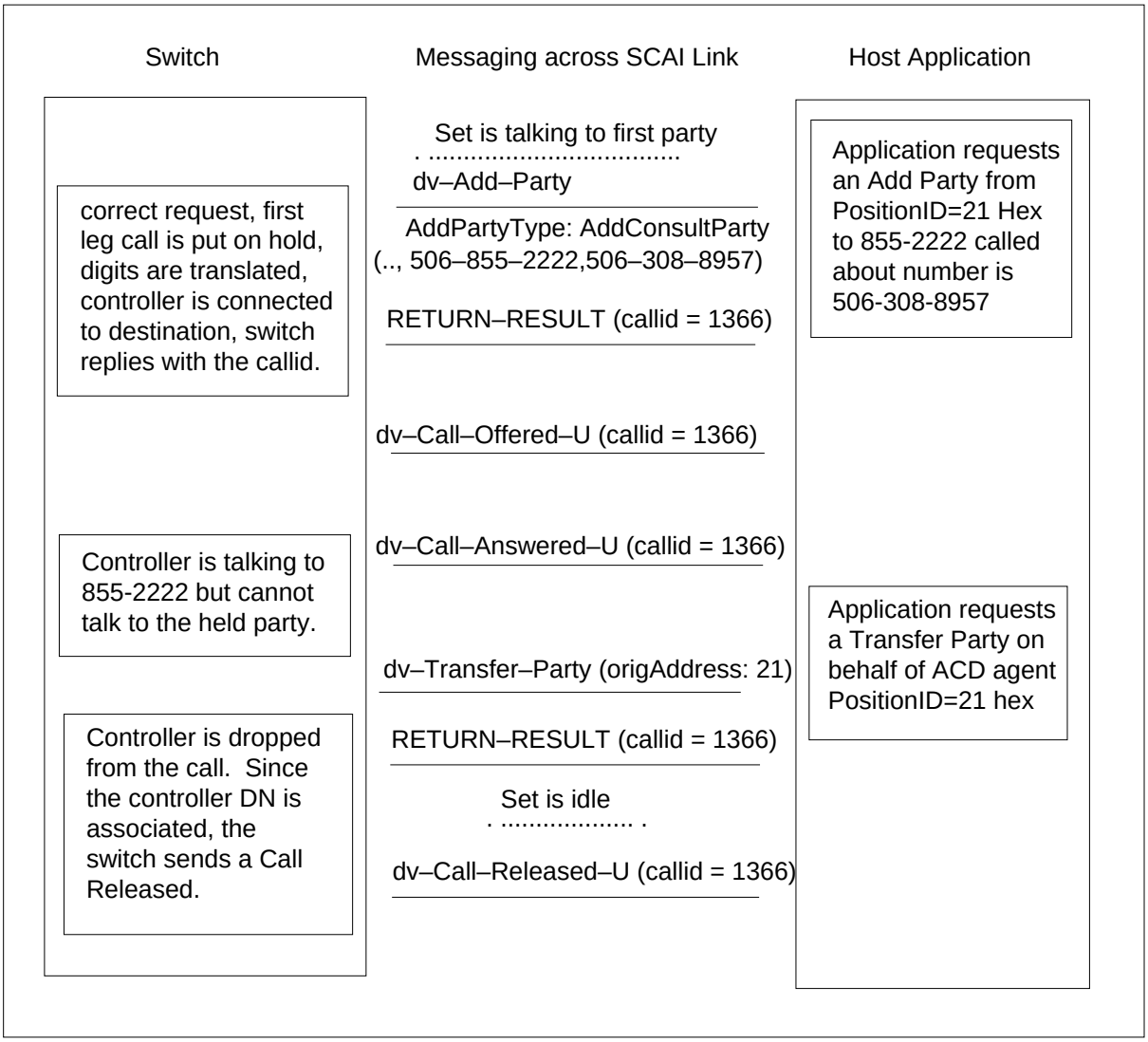
- number which is not a 10-digit number
- 10-digit called about number contains digits not in the 0 to 9 range
- conversion of ASCII digits received from the host failed
- called about number received from the host, but the subscriber does not subscribe to the called about number parameter
- called about number received from the host with incorrect tag address.

Message Flow Example

The following example shows a switch-host session when a ACD agent set with PositionID = 33 decimal (21 Hex) is talking to a local party (506-858-4444). The ACD agent requests originating a consult call to a third party whose destination address (DialedDigits) is 855-2222. The host also sends the called about number received from the VRU (DialedDigits) = 506-308-8957 in the DV-ADD-PARTY message. Following the successful acknowledgment of the add party message, the host requests a transfer party. The system connects the first party (506-858-4444) to the consult party (506-855-2222) and releases the set (our SCAI controller). Dv-DN-ASSOCIATE has associated the ACD DN that belongs to the SCAI controller set. Also in this example, the assumption is that at least one agent is idle in the transferred-to ACD group.

Called About Number (continued)

Add and transfer party message flow



Messaging protocols

Remote operations (RO) is of operation class 2. RO is sent by the host to the Meridian ACD CompuCALL application when a consult party is added to a call.

Add party coded example

As the message flow example above shows, the host requests the DMS-100 switch to set up a consult call. There is no intention to conference with the second party on behalf of the ACD agent. The PositionID of the ACD agent is 21 Hex. It is important to specify the Add Party type of addConsultParty. This specification prevents the switch from reserving a conference port. The

Called About Number (continued)

consultee party has destination address is 855-2222. The host also sends the called about number (506-308-8957), received from the VRU, in the DV-ADD-PARTY message. The switch verifies the request. If the request is correct, the switch responds with a callid in the RETURN-RESULT. This response indicates the consult call is initiated. If the DN is already associated, the call ID of the first leg call is used, If the switch receives the DV-ADD-PARTY message with a missing AddPartyType parameter, it sends a RETURN-ERROR message. This message indicates the AddPartyType parameter is missing.

Display of Called About Number on P-phone

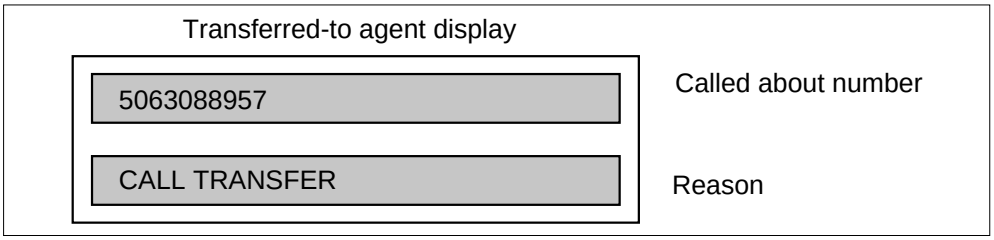
The host computer sends the called about number to the DMS-100 switch in the DV-ADD-PARTY message. The switch decodes this message and stores the called about number.

When the system presents the call to the terminating ACD agent, it displays the called about number, not the calling number.

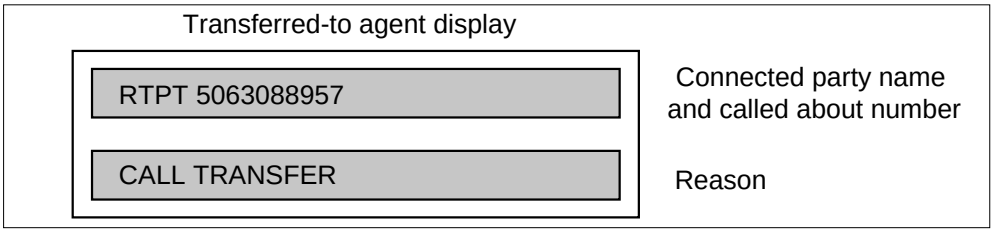
Display Formats:

The display formats are the same as those for the existing calling number display on an ACD agent set. The following examples show called about number display formats.

Agent display with correct called about number

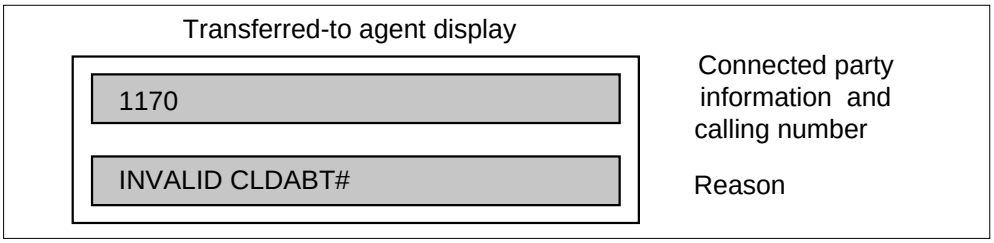


Agent display with correct number and calling name display feature assigned to customer group



Note: When the sum of name and called about number digits exceeds the display limit, the system displays only a name but not a called about number.

Agent display with error message for wrong called about number



Translations table flow

The Called About Number feature translations tables are described in the following list:

- Table SCAISSRV

  This feature introduces boolean option called about number (CLDABTNO) for category TPCC, function ADDPTY, in table SCAISSRV. This boolean option modifies the existing DV-ADD-PARTY message that the host computer sends to the switch. Option CLDABTNO contains the called about number that the user provides to the VRU on call origination. The system decodes the parameters in the enhanced DV-ADD-PARTY message and stores the called about number. When set to Y (yes), option CLDABTNO indicates the subscriber subscribes to Called About Number. When the DMS-100 switch receives the called about number from the host computer, it checks option CLDABTNO. When option CLDABTNO is Y and the host sends a correct called about number, the switch retrieves the called about number.

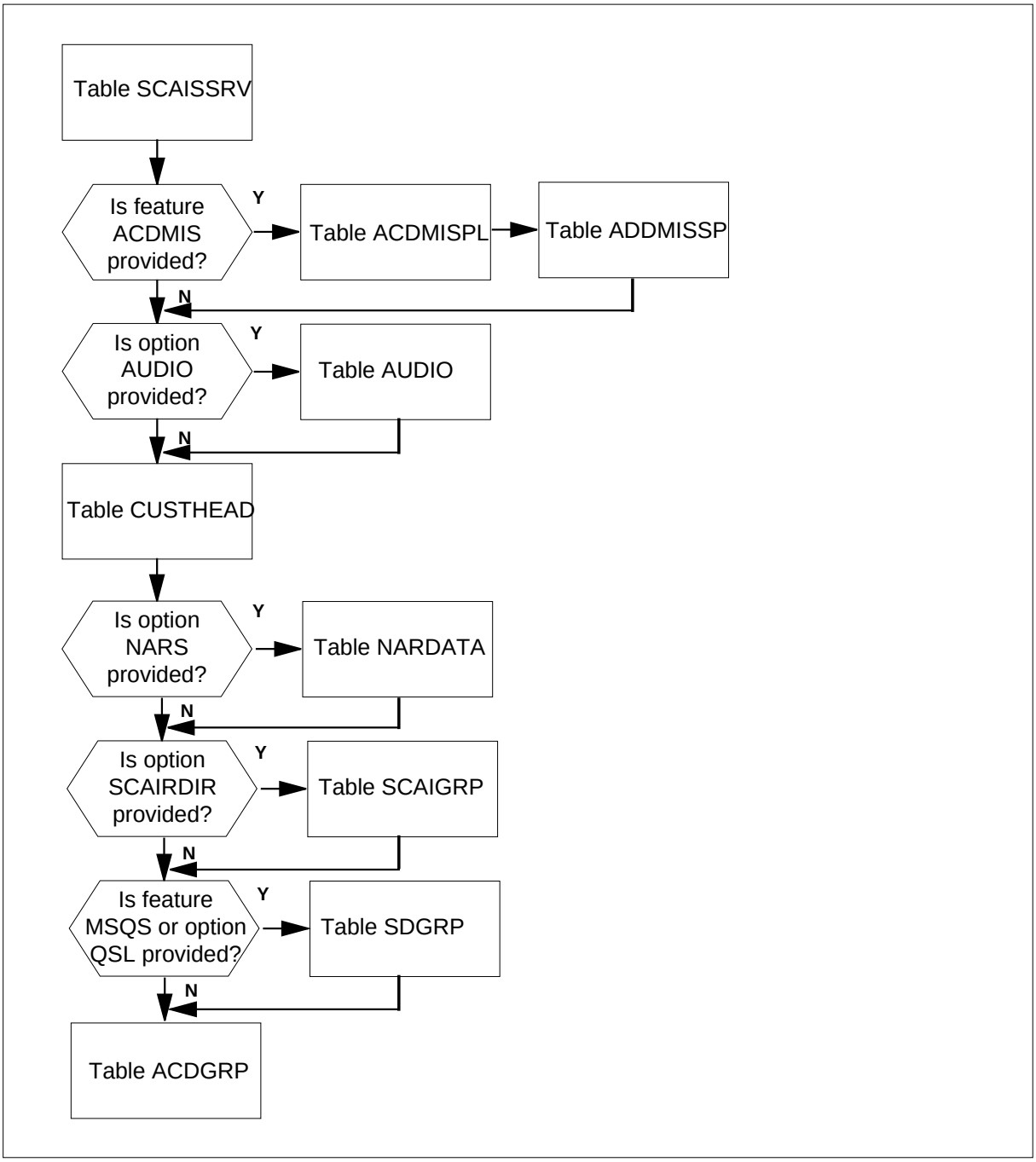
- Table ACDGRP

  The switch checks the option called about number display (CLDABTDSP) in table ACDGRP. If the ACD group subscribes to this option, the switch displays the called about number presented to the terminating ACD group agent. Otherwise, the system displays the calling number.

The Called About Number feature translation process is shown in the following flowchart.

Called About Number (continued)

Table flow for Called About Number



Called About Number (continued)

The following table lists the data entry content used in the flowchart.

data entry example for Called About Number feature

Data entry table	Example data
SCAISSRV	Y
ACDGRP	Y

Limitations and restrictions

The following limitations and restrictions applies to Called About Number feature:

- Called about number works with intranode CompuCALL.
- To display the called about number on the set of the transferred-to agent, you must assign option CLDABTDSP in table ACDGRP to the terminating transferred-to ACD group.
- Option CLDABTDSP in table ACDGRP is not compatible with option CDN.
- If the calling name and called about number exceeds the display length, the system displays only the calling name.
- The subscriber calls into the VRU and enters the called about number.
- An ACD group can initiate a call using the Make-Call and transfer the call to another ACD group. The system does not display the called about number information on the set of the transferred-to ACD agent.
- This feature displays called about number information when Add-Party is used at least once to transfer the call. When the system directly transfers a call using manual 3WC, call transfer (CXR), or CallEvent messages, the called about number is not displayed.
- When the call overflows from a transferred-to ACD group to another ACD group, the system does not display the called about number.
- Other restrictions and limitations of this feature are the same as those for existing DV-ADD-PARTY message.
- Other restrictions are the same as calling name and number display on an ACD agent set.

Interactions

The following paragraphs describe the interactions between Called About Number and other functionalities.

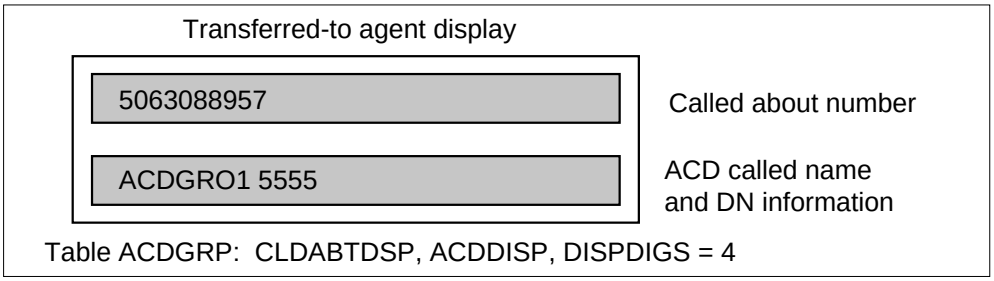
Called About Number (continued)

This feature provides the same interactions with other features as existing DV-ADD-PARTY message functionality.

The system assigns the ACD Name and Number display feature (ACDDISP) to the transferred-to ACD group under the following conditions:

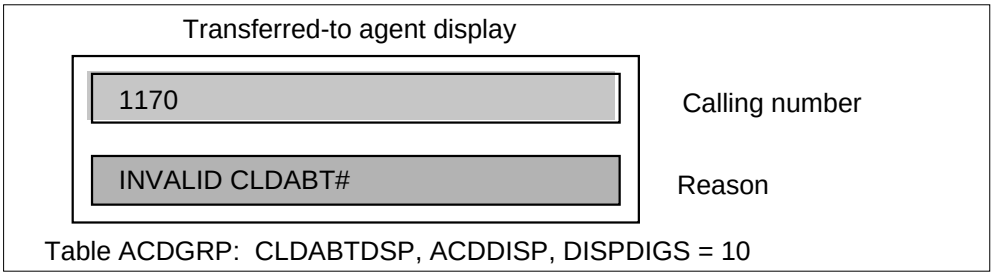
- Having received a correct called about number, the system displays the ACD called name and number. This event occurs when the INCALLS key presents or answers an ACD call.
- The top line of the display set contains the called about number. The figure below shows an example of the display set.

Agent display set



Having received a wrong called about number, the system displays an error message on the bottom line of the display set. The ACD called name and number appears, if there is enough space. The top line of the display set contains the calling number. The figure below shows an example of a display set with the error message.

Agent display set with error message



During E911 calling, the system does not display the called about number.

During E800 calling, the system displays the called about number instead of the calling number.

Called About Number (continued)

During multiple call transfer, after the system presents the call to a terminating ACD group agent, it transfers the call to another agent. The system displays the called about number on the final transferred-to ACD agent set depending upon the DV-ADD-PARTY message the host computer sends.

When the call presents ACD agent A, the system displays the called about number. If agent A tries to transfer the call to agent B, the host computer must send a DV-ADD-PARTY message to the switch. Depending upon the availability of the called about number, the host computer may or may not send the called about number to the switch. If the switch receives the called about number, the system displays the called about number on the agent B set.

A terminating agent can transfer a call again, using three-way calling (3WC) to another ACD group. Re-transfer is possible after the system presents the call using the ADDPTY message. (The ADDPTY message contains called about number information, and the TRANSFER-PTY message.) The system displays the called about number if you have assigned option CLDABTDSP to the next transferred-to ACD group.

Activation/deactivation by the end user

Called About Number requires no activation or deactivation by the end user.

Billing

Called About Number does not affect billing.

Station message detail recording

Called About Number does not affect Station Message Detail Recording.

Datafilling office parameters

Called About Number does not affect office parameters.

Called About Number (continued)

Data entry sequence

The following table lists the tables that require data entry to implement Called About Number. The tables are listed in data entry order.

Data entry tables required for Called About Number

Table	Purpose of table
SCAISSRV	Switch computer application interface subservices contains boolean values that indicate the CompuCALL messages provided for each subservice category by the SCAI link.
ACDGRP	Automatic call distribution group contains data for associating ACD features with customer groups.

Entering data in table SCAISSRV

The following table shows the data entry for Called About Number in table SCAISSRV. Only fields that apply directly to Called About Number appears. For a description of the other fields, refer to the data schema section of this document.

This feature modifies table SCAISSRV to include parameter CLDABTNO and associated information in the existing DV-ADD-PARTY message.

To display the called about number but not the calling number on the transferred-to ACD agents set, you must subscribe to parameter CLDABTNO in the DV-ADD-PARTY message.

This feature adds fixed subservice TPCC11$ in table SCAISSRV. This tuple has all the parameters in all the existing functions in TPCC category set to Y. This fixed subservice also contains parameter CLDABTNO in category TPCC, function ADDPTY set to Y.

Called About Number (continued)

All other, old TPCC default tuples have parameter CLDABTNO in category TPCC, function ADDPTY set to N.

Data entry for table SCAISSRV (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SUBSERV		alphanumeric (1 to 16 characters)	Subservice profile name. Enter the subservice profile name. This field is the key to table SCAISSRV. You can enter these subservice names in table SCAIPROF. When a SCAI group requires every function and associated parameter in a CompuCALL service category, enter the subservice names in table SCIAPROF. Each fixed subservice name consists of the category name, the batch change supplement (BCS) number or product, and the $ (dollar sign). For example, ACDEVENT34$ is the subservice name that includes every function and parameter in category ACDEVENT in BCS34. Do not use the $ (dollar sign) character in subservice names. The dollar sign is reserved for use in current and future fixed subservice names. Enter TPCC11$.
SPROFILE		see subfield	Subservice profile contents. This field consists of subfield CATEGORY.
	CATEGORY	TPCC	CompuCALL service category. Enter a CompuCALL service category. Enter third-party call control (TPCC). Enter refinement as shown in the field descriptions table in CATEGORY = TPCC.
FUNCTIONS		see subfield	Functions. This field consists of subfield FUNCTION. You can enter up to 13 functions. If less than 13 functions are required, end the list with a dollar sign ($).
	FUNCTION	ADDPTY	Enter add party (ADDPTY). Enter refinements OPTYPE, ORIGADDR, DESTDN, and CLDABTNO. Enter them as shown in the field descriptions for conditional entry table in FUNCTION = ADDPTY.

Called About Number (continued)

Data entry for table SCAISSRV (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
ADDPTY		see subfields	Add party. This field consists of refinements OPTYPE, ORIGADDR, DESTDN, and CLDABTNO.
	OPTYPE	Y or N	Operation type. Enter Y to select the operation type option. Otherwise, enter N (no).
	ORIGADDR	Y or N	origination address. Enter Y to select the originating address option. Otherwise, enter N.
	DESTDN	Y or N	Destination Directory Number. Enter Y to select the destination DN option. Otherwise, enter N.
	CLDABTNO	Y or N	Called about number. Enter Y to select the display called about number option. Otherwise, enter N.

Data entry example for table SCAISSRV

The following example shows sample data entry for table SCAISSRV.

MAP display example for table SCAISSRV

```
SUBSERV                                                  SPROFILE
-------------------------------------------------------------------
TPCC09$
TPCC (HOLDCALL ) (UNHOLDCALL ) (CALLUNHELD Y) (CONSULTEV Y)
(CONFEVNT Y) (TRANSFEREV Y) (ANSWCALL ) (RELSCALL Y) (ADDPTY Y Y Y N)
(CONFPTY Y) (DROPPTY Y Y) (TRANPTY Y) (MAKECALL Y Y) $


TPCC11$
TPCC (MAKECALL Y Y) (ADDPTY Y Y Y Y) (DROPPTY Y Y) (TRANPTY Y)
(CONFPTY Y) (HOLDCALL ) (UNHOLDCALL ) (CALLUNHELD Y) (CONSULTEV Y)
(CONFEVNT Y) (TRANSFEREV Y) (ANSWCALL ) (RELSCALL Y) (CONFPTY Y) $
```

Data entry for table ACDGRP

The following table shows the data entry for Called About Number in table ACDGRP. Only the fields that apply directly to Called About Number are

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

Data entry for table ACDGRP

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		see subfield	Options. This field consists of subfield OPTION.
	OPTION	CLDABTDSP	Option. This subfield contains the list of options and associated refinements that are assigned to the ACD group. Enter up to 24 of the following options. If less than 24 options are required, end the option list with a dollar sign ($). Enter Called About Number (CLDABTDSP) to display the called about number on the transferred-to ACD group agent set. The host computer sends the called about number in the TPC-ADD-PTY message.
Note: You can activate option CLDABTDSP for the ACD group when you add the tuple for the ACD group to table ACDGRP.			

Data entry example for table ACDGRP

The following example shows sample data entry for table ACDGRP.

MAP display example for table ACDGRP

```
ACDNAME   CUSTGRP   ACDRNGTH   THROUTE   NSROUTE
   PRIOPRO   DBG   MAXCQSIZ   MAXWAIT   ACDMIS
 MSQS  DISTRING  OBSWTONE  FRCNGTSV
OPTIONS
_____________________________________________________

CLDABTDSP $
```

Translation verification tools

Called About Number does not use translation verification tools.

SERVORD

Called About Number does not use SERVORD.

Enhanced Handling of ACD Re-Enqueued Calls

Ordering codes

Functional group ordering code: ACD00001

Functionality ordering code is not applicable

Release applicability

NA009 and up

Prerequisites

All the datafill information for this functionality is in this document. Prerequisite software or hardware may be necessary for complete use.

> ***Note:*** Either digital recorded announcement machine (DRAM) or an analog announcement machine can provide the Re-Enqueue Service Recorded Announcement and Music feature.

Description

This feature enhances the re-enqueuing mechanism in Automatic Call Distribution (ACD). Re-enqueued calls occur when they re-enter the group call queue after display to an ACD group agent. This feature improves the re-enqueuing mechanism by routing these calls to a special re-enqueue route when the re-enqueue timer expires. You can route the call to an announcement before it takes the re-enqueue route. The re-enqueue announcement and routing are optional, and you can datafill each ACD group.

This feature allows the ACD management information system (MIS) to control the re-enqueue data for the ACD group. To re-enqueue, use remote load management (RLM) commands. This feature also provides status information about the re-enqueued calls to the MIS.

This feature modifies the existing ACD tools, such as ACDDEBUG, ACDSHOW, and LOADMGMT.

Overview

Automatic Call Distribution allows even distribution of incoming calls to an ACD group in a number of answering agent positions. The system always presents an incoming call to the agent that is idle for the longest period of time. In the event that all agents are busy, the system places the call in a call queue. Then the call awaits pick up by the first available agent within the group.

Enhanced Handling of ACD Re-Enqueued Calls (continued)

Definition of re-enqueued ACD calls

The following descriptions demonstrate re-enqueued calls:

- The system presents the call to an agent position in the ACD group. The agent does not answer the call for a specified time span. You enter the ring threshold (ACDRNGTH) in table ACDGRP for the ACD group. If no other agents are available to handle the call, the system re-enqueues it at the head of the call queue.
- The system presents the call to an agent position in the ACD group. The agent presses the ACD not ready (ACDNR) key while ringing. If no other agents are available to handle the call, the system re-enqueues it at the head of the call queue.

Improvements for re-enqueued ACD calls

This feature provides the following improvements for the re-enqueued calls:

- Routes the re-enqueued calls to a specified route when the re-enqueue timer expires. If you do not specify the re-enqueue route, the system routes the call to the threshold route for that ACD group.
- Gives an optional re-enqueue announcement before routing to the re-enqueue route.
- Transmits the status of re-enqueued calls to the MIS.
- Allows the MIS to change the following by remote operations (RO):
  - re-enqueue timer
  - re-enqueue route
  - re-enqueue audio treatment
- Monitors and displays the quantity of re-enqueued calls by using operational measurements (OM).

Operation

This feature improves ACD re-enqueued call handling by routing the calls to a re-enqueue route. This improvement involves the following activities:

- provision re-enqueue options
- route the re-enqueued calls to a specified route
- measure the occurrence of re-enqueued calls that the system generates, routes, and abandons
- use modified MIS interface for the re-enqueued calls
- use modified tools that reflect enhanced functionality

Enhanced Handling of ACD Re-Enqueued Calls (continued)

Provision re-enqueue options

This feature provides the following options.

Option RENQTOUT in table ACDGRP

This feature introduces option RENQTOUT (re-enqueue timeout) in table ACDGRP. When you assign RENQTOUT to an ACD group, the system routes the re-enqueued calls to the re-enqueue route upon re-enqueue timeout. You datafill this route in table ACDRTE.

Option RENQTOUT takes a re-enqueue timer value as its argument. This option has the following format:

RENQTOUT <time>

where:

time is the maximum time in seconds a re-enqueued call waits in the queue before routing. The range is 0 to 1800.

Exception: Specifying time as zero (0) will not route the re-enqueued call to the re-enqueue route. The system treats the call as a re-enqueued call.

Option RENQRTE in table ACDRTE

This feature introduces option RENQRTE (re-enqueue route) in table ACDRTE. This option specifies the re-enqueue route. This option takes the destination route that the call will take. This option has the following format:

RENQRTE <route>

where:

route is a correct route entered earlier in the routing tables, for example, OFRT or IBNRTE.

> ***Note:*** When you assign option RENQTOUT without assigning RENQRTE to that ACD group, the re-enqueued call will take the basic threshold route.

Option RENQAUD in table ACDRTE

This feature introduces option RENQAUD (re-enqueue audio group) in table ACDRTE. This option causes re-enqueued calls to take the AUDIO route before routing to the re-enqueue route specified by RENQRTE. Option RENQAUD takes the audio group as its parameter. This option has the following format:

RENQAUD <audio group>

Enhanced Handling of ACD Re-Enqueued Calls (continued)

where:

audio group is a correct ACD AUDIO group in table AUDIO.

Route the re-enqueued calls to a specified route

If the re-enqueue condition passes while you assign option RENQTOUT to the ACD group, then the following occurs:

1. The re-enqueue timer starts with the timer value specified by option RENQTOUT in table ACDGRP.
2. The system re-enqueues the call at the head of the ACD group call queue.
3. When the timer expires and the call remains unanswered, the call takes the re-enqueue route specified by option RENQRTE. Before taking this re-enqueue route, the call takes the audio group route if you specified option RENQAUD.

Measure the occurrence of re-enqueued calls

When the re-enqueue condition occurs, the caller can abandon the call before it routes to the re-enqueue route. When callers generate, route, or abandon re-enqueued calls, the system pegs OMs. OM register ACDREQD measures the occurrences of re-enqueued calls.

This feature adds the following OM registers in the ACDGRP OM group:

- ACDRQRTE

  The system pegs ACDRQRTE when a re-enqueued call takes the re-enqueue route.

- ACDRQABN

  The system pegs ACDRQABN when the caller abandons a re-enqueued call.

Modified MIS interface for the re-enqueued calls

This feature improves the interface between the ACD switch and MIS. This interface supports the handling of re-enqueued calls for this feature. MIS can set the re-enqueue time, re-enqueue route, and re-enqueue audio group for an ACD group. The MIS application that runs on the down stream processor (DSP), sends remote load management request messages to the ACD switch.

Enhanced Handling of ACD Re-Enqueued Calls (continued)

The following table shows fields in option RENQTOUT.

CHANGE RENQTOUT - to change the re-enqueue time

Field	Field definition
ACD_GROUP	Primary ACD directory number (DN) of the group whose re-enqueue time you are changing.
ACD_GROUP_DN_COUNT	Number of digits in the primary ACD DN of the ACD group. The ACD DN can be up to ten digits.
NEW_RENQTOUT	Maximum amount of time (0 to 1800) a re-enqueued call remains enqueued before the system reroutes the call.

The following table shows fields in option RENQRTE.

CHANGE RENQRTE - to change the re-enqueue route

Field	Field definition
ACD_GROUP_DN	Primary ACD DN of the group whose re-enqueue route you are changing.
ACD_GROUP_DN_COUNT	Number of digits in the primary ACD DN of the ACD group. The ACD DN can be up to ten digits.
NEW_RENQRTE_INDEX	Route entry (0 to 1023) in the given route table.
NEW_RENQRTE_TABLE	Route table (0 to 1) used for re-enqueue routing. • 0 indicates use of table OFRT • 1 indicates use of table IBNRTE

Enhanced Handling of ACD Re-Enqueued Calls (continued)

The following table shows fields in option RENQAUDGRP.

CHANGE RENQAUDGRP - to change the re-enqueue audio group

Field	Field definition
ACD_GROUP_DN	Primary ACD DN of the group whose re-enqueue route you are changing.
ACD_GROUP_DN_COUNT	Number of digits in the primary ACD DN of the ACD group. The ACD DN can be up to ten digits.
NEW_RENQAUDGRP	New audio group used to provide re-enqueue announcement to a call before routing the call to the re-enqueue route.
Note 1: In response to remote load management request messages, the system sends acknowledgment messages to the return codes. The system does not change the return codes. ***Note 2:*** You must inform the MIS of the change in ACD configuration initiated locally from the MAP terminal using local LOADMGMT commands.	

The following table shows fields in option RENQTOUT.

RENQTOUT CHANGED - when re-enqueue time is changed

Field	Field definition
ACD_GROUP	Primary ACD DN of the group whose re-enqueue time you are changing.
ACD_GROUP_DN_COUNT	Number of digits in the primary ACD DN of the ACD group. The ACD DN can be up to ten digits.
NEW_RENQTOUT	Maximum amount of time (0 to 1800) a re-enqueued call remains enqueued before the system reroutes the call.

The following table shows fields in option RENQRTE.

RENQRTE CHANGED - when re-enqueue route is changed (Sheet 1 of 2)

Field	Field definition
ACD_GROUP_DN	Primary ACD DN of the group whose re-enqueue route you are changing.
ACD_GROUP_DN_COUNT	Number of digits in the primary ACD DN of the ACD group. The ACD DN can be up to ten digits.

Enhanced Handling of ACD Re-Enqueued Calls (continued)

RENQRTE CHANGED - when re-enqueue route is changed (Sheet 2 of 2)

Field	Field definition
NEW_RENQRTE_INDEX	Route entry (0 to 1023) in the given route table.
NEW_RENQRTE_TABLE	Route table (0 to 1) used for re-enqueue routing. • 0 indicates use of table OFRT • 1 indicates use of table IBNRTE

The following table shows fields in option RENQAUDGRP.

RENQAUDGRP CHANGED - when re-enqueue audio group is changed

Field	Field definition
ACD_GROUP_DN	Primary ACD DN of the group whose re-enqueue audio group you are changing.
ACD_GROUP_DN_COUNT	Number of digits in the primary ACD DN of the ACD group. The ACD DN can be up to ten digits.
NEW_RENQAUDGRP	New audio group used to provide re-enqueue announcement to call before routing the call to the re-enqueue route.
Note: When the system generates, routes, or abandons these re-enqueued calls, you must report these occurrences to the MIS.	

The following table shows field CALL_OFFERED_CSTATUS.

ACD Call Offered event message

Field	Field definition
CALL_OFFERED_CSTATUS	Indicates the status of the call offered to the destination ACD Group (range 0 to 21). 21 indicates the system is routing the ACD call to the re-enqueue route.

Enhanced Handling of ACD Re-Enqueued Calls (continued)

The following table shows field CALL_ABANDONED_CSTATUS.

ACD Call Abandoned event message

Field	Field definition
CALL_ABANDONED_CSTATUS	Indicates the status of the abandoned call. This feature introduces status bit RENQ to indicate an abandoned re-enqueued call.
Note: If an agent activates the ACD agent Not Ready (ACDNR) feature, causing the re-enqueue condition, report this agent to the MIS.	

This feature modifies the following field in the agent position event message.

Agent Position event message

Field	Field definition
POSITION_EVENT_EVENTTYPE	Indicates that an agent caused the event (range 0 to 26). 26 indicates that an agent activated the ACDNR feature, causing the system to re-enqueue the call.
Note: After the system establishes the session from the MIS during initialization, it sends ACD group data from the switch to the DSP.	

The following fields are added to the ACD Group Data message.

ACD Group Data message (Sheet 1 of 2)

Field	Field definition
RENQTOUT_TIME	Indicates the amount of time a re-enqueued call waits in the queue, before the system routes it (range 0 to 1800). A value of zero (0) indicates the call will not be routed to the re-enqueue route. If all the bits in this field are set to 1, this option is not subscribed.
RENQRTE_INDEX	Specifies which index in the routing table specified (RENQRTE_TABLE) to use for re-enqueue routing. If all the bits in this field are set to 1, this option is not subscribed.

Enhanced Handling of ACD Re-Enqueued Calls (continued)

ACD Group Data message (Sheet 2 of 2)

Field	Field definition
RENQRTE_TABLE	Specifies the routing table to use for re-enqueue routing. • 0 indicates use of table OFRT • 1 indicates use of table IBNRTE
RENQ_AUDIO_GROUP	Specifies the audio group used to provide re-enqueue announcement to call before routing the call to re-enqueue route (range 1 to 512). A value of zero (0) indicates not to use a re-enqueue audio group.

Modified tools that reflect enhanced functionality

Several tools display the status or change configuration of an ACD group. Because this feature adds new options to the ACD groups, changes to the following tools reflect the new functionality.

ACDSHOW

ACDSHOW displays the following re-enqueue options for an ACD group: time, route, and audio group. This feature modifies the GROUPINFO command and adds three new commands:

- RENQTOUT displays the re-enqueue time
- RENQRTE displays the re-enqueue route
- RENQAUD displays the re-enqueue audio group

These commands take the following format:

{RENQTOUT, RENQRTE, RENQAUD } <which group> {ALL, GROUP <Acd_grp?> }

LOADMGMT

The ACD load management set of commands, LOADMGMT, allows the following re-enqueue changes: time, route, and audio group assigned to an ACD group. Modification to the CHANGE command includes the following options: RENQTOUT, RENQRTE, and RENQAUD.

These commands take the following formats:

- CHANGE RENQTOUT <ACD_grp><time>
- CHANGE RENQRTE <ACD_grp><route>
- CHANGE RENQAUD <ACD_grp><audio group>

Enhanced Handling of ACD Re-Enqueued Calls (continued)

Message protocols

This feature modifies the following remote operations (RO) for the ACD/NACD MIS.

switchSendAcdGroupdata

The switchSendAcdGroupdata RO sends the updated ACDGroupData message. This message uses 150 (0 to 149) bytes. This feature adds an additional seven bytes to this message, making it 157 (0 to 156) bytes long. The byte layout of this message appears as follows.

Note: The table shows only a sample of the existing message fields. The new fields appear in bold.

Byte layout of the ACDGroupData message

Unit	Amount	Field
-- Bytes	0-4	node_id
-- Byte	5	node_id_dn_count
-- Bytes	150-151	renqtout_time
-- Bytes	152-153	rentqrte_index
-- Byte	154	renqrte_table
-- Bytes	155-156	renqaud_group

switchSendEvent

The switchSendEvent RO sends the following three event messages:

- ACDCallOffered
- ACDCallAbandoned
- AgentPositionEvent

ACDCallOffered event message The byte layout of this message remains unchanged. This message has CALL_OFFERED_CSTATUS as a one-byte field (byte 15). This field can take 256 values (0 to 255). Only 21 states (0 to 20) of this field are active. This feature introduces the 20-second state as the re-enqueued call status.

New CALL_OFFERED_CSTATUS : 21 The system deflects the ACD call to the re-enqueue route at re-enqueue timeout. When assigned, the re-enqueue route is a special re-enqueue route for that ACD group. The system treats this route as a basic threshold route.

Enhanced Handling of ACD Re-Enqueued Calls (continued)

ACDCallAbandoned event message The byte layout of this message is not changed. This message has CALL_ABANDONED_CSTATUS as a one-byte field (byte 15). Only the six least significant bits are used to indicate the possible call abandoned status. This size results in 63 different groups of states. The following figure shows the existing format of this field.

Existing format of field CALL_ABANDONED_CSTATUS

MSB	6	5	4	3	2	1	LSB	
		NSR-AN	CXR	TIME OVFL	RAN	BLO. CKED	L_QU EUED	
X	X	0	0	0	0	0	1	#1
X	X	0	0	0	0	1	0	#2
X	X	0	0	0	1	0	0	#4
X	X	0	0	1	0	0	0	#8
X	X	0	1	0	0	0	0	#10
X	X	1	0	0	0	0	0	#20

Note: If you abandon the call after the time delay overflow is met, the CALL_ABANDONED_CSTATUS is #8. You the abandon the call after call transfer is activated, the CALL_ABANDONED_CSTATUS is #10. This feature uses the seventh bit (last but one MSB bit) for the RENQ condition. If you abandon the call after it has re-enqueued, the CALL_ABANDONED_CSTATUS is #40. There are 127 different combinations available.

AgentPositionEvent message The byte layout of this message does not change. This message has POSITION_EVENT_EVENTTYPE as a one-byte field (byte 13). This field can take 256 values (0 to 255). You only use 26 states (0 to 25) of this field. This feature introduces the twenty-seventh state to indicate that an agent caused the re-enqueue condition by activation of the ACDNR feature.

switchSendLoadMgmtEvent

The switchSendEvent RO sends the load management event messages. There are 36 LoadMgmtEvent (CHOICE) messages. This feature introduces three new LoadMgmtEvent messages:

- RENQTIMEChanged
- RENQRTEChanged
- RENQAUDChanged

Enhanced Handling of ACD Re-Enqueued Calls (continued)

The following figure shows the byte layout for some of the LoadMgmtEvent messages.

Existing LoadMgmtEvent fields

Field	Value	Name
AgentPosReassigned	[0]	IMPLICIT OCTET STRING
ACDDNRessaigned	[1]	IMPLICIT OCTET STRING
	...	
RENQTOUTChanged	[36]	IMPLICIT OCTET STRING
-- Bytes	0-4	acd_group_dn
-- Byte	5	acd_group_dn_count
-- Bytes	6-7	new_renqtout_time
RENQRTEChanged	[37]	IMPLICIT OCTET STRING
-- Bytes	0-4	acd_group_dn
-- Bytes	5	acd_group_dn_count
-- Byte	6-7	new_renqrte_index
-- Byte	8	new_renqrte_table
-- Byte	9	reserved
RENQAUDChanged	[38]	IMPLICIT OCTET STRING
-- Bytes	0-4	acd_group_dn
-- Byte	5	acd_group_dn_count
-- Bytes	6-7	new_audio_group

dspRequestLoadMgmt

The dspRequestLoadMgmt RO is modified to send the load management request messages. There are 40 LoadMgmtRequest messages. This feature introduces three new LoadMgmtRequest (CHOICE) messages:

- ChangeRENQTOUT
- ChangeRENQRTE
- ChangeRENQAUD

Enhanced Handling of ACD Re-Enqueued Calls (continued)

The following figure shows the byte layout for some of the LoadMgmtRequest messages.

Byte layout for load management request messages

Field	Value	Name
ReassignAgentPos	[0]	IMPLICIT OCTET STRING
ReassignACDDN	[1]	IMPLICIT OCTET STRING
	...	
ChangeRENQTOUT	[40]	IMPLICIT OCTET STRING
-- Bytes	0-4	acd_group_dn
-- Byte	5	acd_group_dn_count
-- Bytes	6-7	new_renqtout_time
	[41]	IMPLICIT OCTET STRING
-- Bytes	0-4	acd_group_dn
-- Byte	5	acd_group_dn_count
-- Bytes	6-7	new_renqrte_index
-- Byte	8	new_renqrte_table
-- Byte	9	reserved
	[42]	IMPLICIT OCTET STRING
-- Bytes	0-4	acd_group_dn
-- Byte	5	acd_group_dn_count
-- Bytes	6-7	new_audio_group

Logs

This feature introduces logs RMAN139, RMAN140, and RMAN141. The system generates these RMAN logs when the DSP issues the following remote load management commands:

- CHANGE RENQTOUT changes the re-enqueue timeout value
- CHANGE RENQRTE changes the re-enqueue route
- CHANGE RENQAUD changes the re-enqueue audio group

Enhanced Handling of ACD Re-Enqueued Calls (continued)

The system generates log LMAN100 when the LOADMGMT tool requests a change.

User interface tools

This feature modifies the ACDSHOW and LOADMGMT user interface tools.

ACDSHOW changes

ACDSHOW displays the re-enqueue route and re-enqueue audio group assigned to an ACD group. The ACDSHOW enhancement includes modifications to the GROUPINFO subcommand to display the re-enqueue data for the ACD group. This enhancement also includes the addition of three commands. Commands RENQTOUT, RENQRTE, and RENQAUD, which show the re-enqueue time, route, and audio group.

LOADMGMT changes

LOADMGMT includes the commands, CHANGE RENQTOUT, CHANGE RENQRTE, and CHANGE RENQAUD. These commands allow the ACD administrator to change the configuration of an ACD group.

Operational measurements (OM)

This feature introduces the following OM registers.

- ACDRQRTE counts the number of calls routed to the re-enqueue route.
- ACDRQABN counts the number of abandoned re-enqueued calls. The caller abandons the re-enqueued call before the system routes the call.

This feature also uses the existing OM register ACDREQD. ACDREQD counts the number of calls re-enqueued caused by ring timeout or activation of the ACDNR feature while ringing.

Translations table flow

The following list describes the Enhanced Handling of ACD Re-Enqueued Calls translations tables:

- Table ACDMISPL

  This feature defines a protocol version for field PROTOCOL in table ACDMISPL. You must specify this protocol version in order for the ACD MIS system to use the following messages: CHANGE RENQTOUT, CHANGE RENQRTE, CHANGE RENQAUD, and ACD GROUP DATA.

- Table ACDGRP

  This feature adds option RENQTOUT (re-enqueue timeout) in table ACDGRP. This option specifies optional routing for an ACD re-enqueued call. This option contains subfield TIME. TIME is the maximum time in

Enhanced Handling of ACD Re-Enqueued Calls (continued)

seconds a re-enqueued call waits in the queue before routing. TIME takes any value from 0 to 1800. Specifying time as 0 seconds will not route the re-enqueued call to the re-enqueue route. The system treats a re-enqueued call to which you assigned zero (0) wait time as a normal re-enqueued call.

- Table ACDRTE

  This feature introduces two options in table ACDRTE:

  — option RENQRTE (re-enqueue route)

  This option specifies the destination route of the call. ROUTE is a correct route you entered earlier in the routing tables, like OFRT or IBNRTE. When you assign option RENQTOUT without assigning RENQRTE to that ACD group, the re-enqueued call takes the basic threshold route.

  — option RENQAUD (re-enqueue audio group)

  This option specifies the audio group name (AUDIO1 through AUDIO512) of the re-enqueue audio. This option causes re-enqueued calls to take the AUDIO route before routing to the re-enqueue route specified by RENQRTE. This option takes the audio group as its parameter. AUDIO GROUP is a correct ACD audio group in table AUDIO.

The following flowchart shows the Enhanced Handling of ACD Re-Enqueued Calls translation process.

Table flow for Enhanced Handling of ACD Re-Enqueued Calls

Enhanced Handling of ACD Re-Enqueued Calls (continued)

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

Datafill example for Enhanced Handling of ACD Re-Enqueued Calls

Datafill table	Example data
ACDMISPL	MIS1 POOL1 BCS43 110 N
ACDGRP	ACDGRP1 BNR 12 OFRT 99 IBNRTE 99 2 N 20 20 Y MIS1 MIS1SUB N $
ACDRTE	ACDGRP1 RENQAUD RENQAUD AUDI01

Limitations and restrictions

The following limitations and restrictions apply to Enhanced Handling of ACD Re-Enqueued Calls:

- Patch JLZ53 provides routing of the re-enqueued calls only when the ring time-out condition occurs. It does not provide routing for re-enqueued calls caused by other conditions. It routes the call to a customer-defined route instead of re-enqueuing the call. Table ACDQDVRT specifies the route for each ACD group.
- This feature is not compatible with patch JLZ53. Patch JLZ53 does not allow the system to re-enqueue the call in case of ring timeout.
- This feature does not use ACDQDVRT data for routing the calls. During ONP, the system does not transfer table ACDQDVRT data. You must enter re-enqueue options for the ACD groups that require re-enqueue routing functionality.

Interactions

The following paragraphs describe the actions between Enhanced Handling of ACD Re-Enqueued Calls and other functionalities.

RENQTOUT and CDN

RENQTOUT and CDN (controlled directory number) options in table ACDGRP are not compatible. Now, table ACDGRP allows the assignment of 29 options to an ACD group. Option CDN is compatible only with option AUDIO.

Enhanced Handling of ACD Re-Enqueued Calls (continued)

Interaction with Call Overflow

Consider the following call description:

1. A call is in the call queue of ACD group A. Because of the overflow condition, the call overflows to ACD group B. Now the call is in the queues of both the ACD groups.
2. The system presents the call to an agent of group B. The system now de-queues the call from both of the ACD group queues.
3. The agent of group B does not answer the call or is not available. The system re-queues the call in the ACD group B call queue.

During these events, the call will move according to the configuration of group B and not according to group A. If group A, but not group B, has option RENQTOUT, the RENQTOUT feature does not apply to this call.

Interaction with option TABEN in table ACDRTE

The route should belong to the route list of option TABEN under the following condition:

- you assigned option RENQTOUT to an ACD group in table ACDGRP
- you assigned option TABEN to an ACD group in table ACDRTE
- you changed the RENQRTE for that ACD group in table ACDRTE

Interaction with option AUDIO in table ACDRTE

The audio group should belong to the audio group list of option AUDIO under the following condition:

- you assigned option RENQTOUT to an ACD group in table ACDGRP
- you assigned option AUDIO to an ACD group in table ACDRTE
- you changed the RENQAUD for that ACD group in table ACDRTE

Attendant console interaction

When the attendant console extends calls to the ACD group, ring threshold timeout does not apply. The ringing agent can continue to activate ACDNR. When no other agent is available, the system re-enqueues the call in the ACD group call queue.

If the call still involves the attendant console, the system does not start the re-enqueue timer when it re-enqueues the call. The re-enqueue timer starts when the attendant console releases the call.

FOBS interaction

The Flexible Observe Agent (FOBS) feature displays the status of the re-enqueued call on the ACD supervisor display set. When the re-enqueue timer expires, the system shows this status (`RENQ AUDIO`) if the caller receives the re-enqueue announcement. The supervisor continues to monitor the call.

When the system routes the call to re-enqueue route, the supervisor display set displays RENQRTE for 5 seconds. When the system routes the call to the re-enqueue route, FOBS will not continue to follow the call. The system routes the call outside the ACD environment.

Activation/deactivation by the end user

Enhanced Handling of ACD Re-Enqueued Calls requires no activation or deactivation by the end user.

Billing

Enhanced Handling of ACD Re-Enqueued Calls does not affect billing.

Station Message Detail Recording

Enhanced Handling of ACD Re-Enqueued Calls does not affect Station Message Detail Recording.

Datafilling office parameters

Enhanced Handling of ACD Re-Enqueued Calls does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Enhanced Handling of ACD Re-Enqueued Calls. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Enhanced Handling of ACD Re-Enqueued Calls

Table	Purpose of table
ACDMISPL	ACD MIS pool contains data for establishing pools and their associated passwords and protocols.
ACDGRP	ACD group contains data for associating ACD features with customer groups.
ACDRTE	ACD routing contains data for defining ACD groups.

Enhanced Handling of ACD Re-Enqueued Calls (continued)

Datafilling table ACDMISPL

The following table shows the datafill related to Enhanced Handling of ACD Re-Enqueued Calls for table ACDMISPL. Only those fields that apply directly to Enhanced Handling of ACD Re-Enqueued Calls are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table ACDMISPL (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
POOL		alphanumeric (1 to 16 characters)	Pool name. Enter the pool name that defines a pool.
PASSWORD		alphanumeric (5 to 8 characters)	Password. Enter the password for this pool. Any entry outside the range indicated for this field is invalid.
PROTOCOL		BCSnn, BCS43	Protocol. Enter the BCS increment in which the protocol first appears. Enter BCS43 to specify the new remote load management request and event messages, and the modified call event messages.

Enhanced Handling of ACD Re-Enqueued Calls (continued)

Datafilling table ACDMISPL (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OUTEVENT		10 to 200	Out event buffer size. Enter the Automatic Call Distribution Management Information System (ACDMIS) out event queue size for the subscriber group. Office parameter ACD_MIS_OUT_EVENT_BUFFER_SIZE in table OFCENG specifies the default. ***Note:*** The value in field OUTEVENT defines the size of each ACDMIS pool out event buffer size. Apply the following formula to each pool and all additional pool values to determine the total memory impact of OUTEVENT: Value for each pool = value of field OUTEVENT × 192 Total = value for pool A + value for pool B + ... + value for pool n, where pool n is the last tuple in the table. The memory impact is in bytes.
BUNDLING		Y or N	Bundling. This field specifies if the ACDMIS message bundling option applies to the pool. Enter Y or N.

Datafill example for table ACDMISPL

The following example shows sample datafill for table ACDMISPL.

MAP display example for table ACDMISPL

```
POOL PASSWORD PROTOCOL OUTEVENT BUNDLING
---------------------------------------------------------
ACDFM0 ACDFM0 BCS32 110 N
```

Datafilling table ACDGRP

The following table shows the datafill related to Enhanced Handling of ACD Re-Enqueued Calls for table ACDGRP. Only fields that apply directly to

Enhanced Handling of ACD Re-Enqueued Calls (continued)

Enhanced Handling of ACD Re-Enqueued Calls are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table ACDGRP

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		see subfield	Options. Subfield OPTION contains the list of 25 options and associated refinements that are assigned to the ACD group. If less than 25 options are required, end the option list with a dollar sign ($).
	OPTION	REQTOUT	Option. Field OPTION allows the addition of option RENQTOUT. Option RENQTOUT allows enhanced routing of ACD re-enqueued calls. You can add option RENQTOUT to the existing ACD group. You can also assign it to the ACD group when you add a tuple for the ACD group to table ACDGRP.
		TIME	Time. This refinement specifies the re-enqueue time value for the ACD group. The correct range is 0 to 1800. If TIME is 0, the re-enqueued call for that ACD group will not have the enhanced re-enqueue routing feature.

Datafill example for table ACDGRP

The following example shows sample datafill for table ACDGRP.

MAP display example for table ACDGRP

```
ACDNAME CUSTGRP ACDRNGTH THROUTE NSROUTE PRIOPRO DBG MAXCQSIZ
MAXWAIT ACDMIS MSQS DISTRING OBSWTONE FRCNGTSV OPTIONS
-----------------------------------------------------------------------
ACDGRP2 CGA 12 OFR3 1 OFR3 1 OFR3 1 0 N 12 20 N N NONE N N $
```

Datafilling table ACDRTE

The following table shows the datafill related to Enhanced Handling of ACD Re-Enqueued Calls for table ACDRTE. Only fields that apply directly to

Enhanced Handling of ACD Re-Enqueued Calls (continued)

Enhanced Handling of ACD Re-Enqueued Calls are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table ACDRTE

Field	Subfield or refinement	Entry	Explanation and action
OPTNAME		see subfield	Option name.
	OPTION		Option. This field allows the addition of options RENQRTE and RENQAUD. These two options specify enhanced routing of ACD re-enqueued calls. ***Note:*** Assign option RENQTOUT to the ACD group in table ACDGRP before you assign options RENQRTE and RENQAUD.
	RENQRTE		Re-enqueue route. Option RENQRTE contains the subfield ROUTE.
	ROUTE	TABNAME: {OFRT OFR2 OFR3 OFR4, IBNRTE IBNRT2 IBNRT3 IBNRT4} INDEX: {0 to 1023}	Route. This subfield specifies the re-enqueue route for the ACD group. This is the route to which the re-enqueued ACD calls for that group will be routed, on expiration of the re-enqueue timer. ***Note:*** For option RENQRTE, enter the specified route in the routing table.
	RENQAUD		Re-enqueue audio. Option RENQAUD contains the subfield RENQAUDGRP.
	RENQAUDGRP		Re-enqueue audio group. This subfield specifies the audio group used for the re-enqueue announcement.
		AUDIO1 to AUDIO511	Audio group. ***Note:*** Enter the specified audio group in table AUDIO and assign it to the ACD feature.

Datafill example for table ACDRTE

The following example shows sample datafill for table ACDRTE.

Enhanced Handling of ACD Re-Enqueued Calls (end)

MAP display example for table ACDRTE

```
ACDGRP OPTNAME OPTION
-------------------------------------------------------
CGAACD1 TABEN  TABEN (OFRT 300) (OFRT 301) $
```

Translation verification tools

Enhanced Handling of ACD Re-Enqueued Calls does not use translation verification tools.

SERVORD

Enhanced Handling of ACD Re-Enqueued Calls does not use SERVORD.

MACD Nodal Service Observing

Ordering codes

Functional group ordering code: ACD00001

Functionality ordering code: ACD00006

Release applicability

BCS34 and later versions

Requirements

To operate, MACD Nodal Service Observing requires MDC Tailored MDC 1, MDC00012.

Description

The Flexible Call Observe (FOBS) feature allows a supervisor to monitor an ACD call for an ACD group, subgroup or ACD directory number (DN). The supervisor can monitor the call when the call enters the ACD system, through queuing, answer, network treatment or release. The display area of the telephone set of the supervisor tracks the state of the call. The supervisor can learn how the system handles incoming ACD calls. The supervisors can learn about the service according to calls, not according to agents.

When an idle agent answers the monitored call, the FOBS feature reverts to basic or extended observe agent (OBS) functionality. The OBS allows a supervisor to have a one-way listening path in to an active call.

A supervisor can use FOBS to monitor a call when the call remains on the switch of the supervisor. If Network ACD (NACD) overflows the call to another switch in the system, the feature cannot track the call.

The FOBS feature cannot be assigned to a single-line set (500/2500) in table IBNFEAT. The BASIC and EXTENDED Observe Agent features can be assigned to a supervisor set in table IBNFEAT.

Operation

The basic OBS feature allows an ACD supervisor to listen to an ACD agent that handles calls in the ACD group of the supervisor. If the agent has an active call, the supervisor has a one-way listening path to the ACD call of the agent.

Extended OBS allows a supervisor to listen to an ACD or non-ACD call where an ACD agent is active. The ACD agent must be in an ACD group in the customer group of the supervisor. Non-ACD calls are calls received or placed with the secondary number (SDN) of the agent.

MACD Nodal Service Observing (continued)

A Flexible Call Observe key is assigned to a supervisor set in table KSETFEAT or with the Service Order system (SERVORD). Each Flexible Call Observe key has an associated ACD group, ACD subgroup or ACDDN, called the monitoring target. Each supervisor set can have multiple Flexible Call Observe keys assigned. Normally, each Flexible Call Observe key associates with a different monitoring target.

The supervisor now has more than a one-way listening path to an agent that is active on an ACD call. The supervisor can track an ACD call before an agent answers the call. The supervisor can follow the call through stages like queuing, overflow routing and answer. When an agent answers the call, this feature reverts to OBS functionality.

If an ACD agent answers a monitored call, the agent can receive a warning tone. Only the agent hears the tone. To specify the tone in table ACDGRP, select the OBSWTONE option. When you select the tone, the tone is provided for FOBS and OBS.

ACD group as monitoring target

If the monitoring target is an ACD group, the FOBS feature waits for the next incoming call for the ACD group. The FOBS must be active for this action to occur. The ACDDN the caller dials to reach the ACD group does not affect call selection. An ACD group can have a maximum of 17 assigned DNs. The priority of the incoming call does not affect call selection.

ACDDN as monitoring target

If the monitoring target is an ACDDN, the FOBS feature waits for the next incoming call for the ACDDN. The DN can be a primary or auxiliary DN.

ACD subgroup as monitoring target

If the monitoring target is an ACD subgroup, the FOBS feature waits for the next call for the subgroup. When the objective is a subgroup, the FOBS feature can monitor the call when the call appears to an agent. Calls in a queue are not associated with a subgroup. The subgroup is determined when the call appears to an idle agent.

Feature states

The FOBS feature is in one of the following states:

- inactive
- suspend
- monitor

- observe
- suspend (delay)

Inactive

The feature is not in use and the FOBS lamp is off.

Suspend

The FOBS feature is active. The FOBS feature does not monitor a call. When a call arrives in the call queue for the monitoring target, the feature moves to monitor mode.

Monitor

The ACD supervisor tracks a call that is not answered. The call can be queued or presented to an agent.

Observe

The supervisor has a one-way listening path to the agent that answers the call. The FOBS feature now reverts to OBS functionality.

Suspend (delay)

The call cannot be observed. The system updates the display of the supervisor with the reason why the call cannot be observed. The display appears for 5 s before a new call is selected for observation. Calls cannot be observed if the caller disconnects, the agent disconnects or the call overflows off the switch.

The state of the key lamp in each feature state appears in the following table.

Status of key lamp in feature state

FOBS lamp states **Feature state**	**Lamp state**
Inactive	Off
Suspend	Winks 120 times for each minute
Monitor	Winks 60 times for each minute
Observe	On
Suspend (delay)	On

MACD Nodal Service Observing (continued)

Display area

The format for the FOBS display at the set of the supervisor appears in the following figure.

Note: The display does not match the following format when the call is in suspend or suspend (delay) mode. During the suspend mode, the ACD group name and the monitoring target appears in the display. During the suspend (delay) mode, the ACD group name, the called ACDDN and the reason the call cannot be observed appear in the display.

FOBS display format

```
Area 1                    Area 2

Area 3   Area 4           Area 5
```

The following list describes the information that each Area contains:

- Area 1 contains the ACD group name where the monitored call is queued. This area contains a maximum of eight characters.
- Area 2 contains the ACDDN that the caller dials. This area contains a maximum of seven numbers.
- Area 3 contains the call status. The call status can be the following:
  - Q, the call is in the queue of the ACD group
  - P, the call appears to an idle agent
  - A, an agent answers the call
  - LQ, the call is logically queued
- Area 4 contains the total time the caller waits until an agent answers the call. This number can be 0. This area contains a maximum of four digits.
- Area 5 contains the DN of the agent that answers the call. The call can be logically queued in a second ACD group. When this event occurs, this area contains the ACD group name of the second ACD group. The second ACD group is where the call is logically queued. This area contains a maximum of seven numbers.

MACD Nodal Service Observing (continued)

Feature examples

A general example of the FOBS feature appears in the following flow chart. There are many different methods to use this feature. This flowchart describes one feature example. This flowchart provides examples of the display of the supervisor at different stages of monitoring.

In this example, the monitoring target for the supervisor is the ACD group ACDGRP1. The supervisor presses the Flexible Call Observe key when the feature is inactive. When the next call for ACDGRP1 with the DN of 7225550 arrives, the call goes in the incoming call queue. When the ACD agent with the DN of 7227634 becomes idle, the call appears to that agent. After the agent answers the call, the display of the supervisor indicates that the call waited in the incoming call queue. The call waited for 54 s. When the agent or caller disconnects, a 5 s timer starts. This delay occurs to give the supervisor time to read the information on the display before the information clears. After the 5 s timer expires, the supervisor enters the suspend mode.

MACD Nodal Service Observing (continued)

FOBS feature example

Monitoring target: ACDGRP1
Dialed DN: 7225550
Agent's DN: 7227634
Wait time: 54 seconds

Supervisor presses Flexible Observe Agent key in inactive state. Display for feature in suspend mode.	ACDGRP1 FOBS GR
New call is queued for ACD group ACDGRP1. Display for feature in monitor mode.	ACDGRP1 7225550 Q
Call is presented to an idle agent. Display for feature in monitor mode.	ACDGRP 7225550 P 7227634
Agent answers call. Display for feature in monitor mode.	ACDGRP1 7225550 A 7227634 T 54
Agent or caller hangs up. A 5 s timer starts. Display for feature in suspend (delay) mode.	ACDGRP1 7225550 CALL TERMINATED
Five-second timer expires. Display for feature in suspend mode.	ACDGRP1 FOBS GR

MACD Nodal Service Observing (continued)

The next incoming call for a monitoring target is not always answered at the monitoring target. Features like time delay overflow (TMDELOFL), controlled interflow (CIF) and immediate overflow route calls to different destinations. When a feature reroutes calls because of overflow, FOBS monitors the call when the call remains on the original switch. The ACD group can have NACD. When this event occurs, set the overflow group selector to LCL (local) in table NACDGRP to allow the ACD to monitor the call.

Note: If the monitoring target is a subgroup, the overflow features do not apply to the monitoring target.

Enhanced overflow

Enhanced overflow allows an ACD group to deflect calls to one of four ACD groups. Enhanced overflow allows this action when the maximum wait time (MAXWAIT) or maximum call queue size (MAXCQSIZ) parameter, set in table ACDGRP, is exceeded. Normally, the new incoming calls deflect to the threshold route (THROUTE) defined in table ACDGRP. Table ACDRTE defines enhanced overflow when you select the option OVFL (overflow). The first of the four groups with agents available or space available in their call queue receives the overflow call. If the four groups cannot accept the call, the call goes to the threshold route. The FOBS continues to monitor rerouted calls because of enhanced overflow.

Threshold routing

The FOBS monitoring ends if the call for FOBS monitoring reroutes to the threshold route that table ACDGRP defines. Monitoring ends because the MAXWAIT or the MAXCQSIZ parameters are exceeded.

Time delayed queue overflow

Time delayed queue overflow (TMDELOFL) is selected in table ACDGRP. TMDELOFL allows calls that wait more than a preset time in the queue of a group, to deflect to another ACD group. If agents are not idle in the second ACD group, agents in either group can answer the call. The call is physically queued at the original ACD group when the call is logically queued at the second ACD group. Table ACDRTE defines the overflow group. The FOBS continues to monitor rerouted calls or calls that are logically queued because of time delayed queue overflow.

Time delay threshold route

Time delay threshold route (TMDTHRTE) makes sure calls that are physically queued at the original group and logically queued at another group do not queue for too long. When the time delay threshold route timer expires, the call routes to the threshold route. The FOBS does not continue to monitor the call when the time delay threshold route timer expires.

MACD Nodal Service Observing (continued)

NACD immediate overflow

Immediate overflow allows an NACD group to deflect calls to another NACD group in the network. An NACD group can deflect calls if the queue threshold (QTHRESH) or wait threshold (WTHRESH) parameters set in table NACDGRP are exceeded. The FOBS monitors calls that reroute because of NACD immediate overflow if the destination NACD group is on the same switch. If the destination NACD group is on a different switch, monitoring of the call terminates. The NETWORK appears on the display. The suspend state is entered after a 5 s delay.

NACD time delay overflow

Incoming calls to an NACD group can reroute to another NACD group. Incoming calls can reroute if the call waits in the queue of the original group for more than a specified time. To set this time, enter the TMDELOFL option in table ACDGRP. If the destination group has idle agents, the call reroutes to this group. If the destination group does not have idle agents, the call remains physically queued at the queue of the original group. The call remains logically queued at the destination group. The first group with an idle agent receives the call. The FOBS continues to monitor calls that are time delay overflowed if the destination NACD group is on the same switch. If the destination NACD group is on a remote switch, monitoring of the call stops when the call is physically rerouted. The NETWORK appears on the display. The suspend state is entered after a 5 s delay. Monitoring of the call continues when the call is physically and logically queued.

Translations table flow

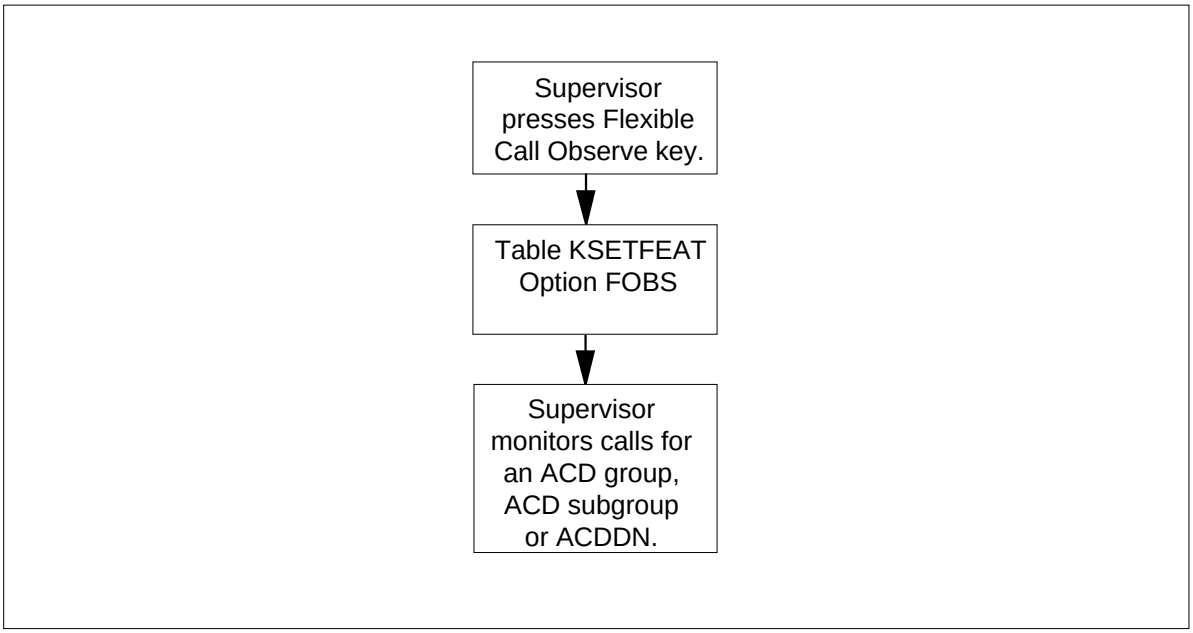
The MACD Nodal Service Observing translation table is:

- Table KSETFEAT (Business Set and Data-Unit Feature) describes the line features available for ACD lines. This table defines option FOBS. In this example, the supervisor with the line equipment number (LEN) of 0 0 8 18 has the FOBS feature assigned on key number 5. This supervisor can monitor calls for the ACD group ACDGRP2.

The MACD Nodal Service Observing translation process appears in the following flowchart:

MACD Nodal Service Observing (continued)

Table flow for MACD Nodal Service Observing



The datafill content that the flowchart uses appears in the following table. The key to which FOBS feature is assigned is 5. The monitoring target is ACDGRP2. The LEN of the supervisor is 0 0 8 18.

Datafill example for MACD Nodal Service Observing

Datafill table	Example data
KSETFEAT	HOST 0 0 8 18 5 OBS OBS FOBS GROUP ACDGRP2

Limits

The following limits apply to the MACD Nodal Service Observing:

- The FOBS feature cannot be used on single-line sets.
- The FOBS feature can be assigned to ACD supervisors with key sets with a display.
- Calls cannot be monitored if calls are rerouted with the Interflow key. The message CIF appears on the display for a 5 s before FOBS selects another incoming call.
- A supervisor can continue to monitor an overflowed call because of NACD. The supervisor can monitor the call if the call is overflowed to another ACD group on the switch of the supervisor.
- The Flexible Call Observe feature does not work with attendant consoles.

MACD Nodal Service Observing (continued)

- One Flexible Call Observe key can be used at one time.
- If table ACDGRP specifies the warning tone, the tone is provided for FOBS and OBS. To specify the warning tone, table ACDGRP selects the OBSWTONW.
- A call that is presented or queued to an agent because of ACD Transfer to In Calls key feature is not selected for monitoring.
- When an agent answers a monitored call, FOBS reverts to the observe agent functionality. If the observe agent functionality fails, the message CANNOT OBSERVE appears on the display area of the set of the supervisor. Reasons for failure of observe agent include insufficient conference three-port circuits and incompatible feature active during the call of the agent.

Interactions

The following paragraphs describe the interactions between the MACD Nodal Service Observing and other functionalities.

The FOBS interacts with other features like the OBS feature. Refer to Obs Agent key (BC1120) for more information.

Set music on hold key

If a monitored agent activates the set music on hold key, the FOBS feature enters the suspend state. If the agent answers the held call, the supervisor returns to observe mode.

Night service

A supervisor cannot monitor an ACD group, ACD subgroup or ACDDN that is in night service. If a supervisor selects a monitoring target in night service, NGTSRVCE appears on the display for 5 s. After the 5 s timer expires, the feature enters suspend mode.

If a call reroutes to an ACD group that is in night service, FOBS does not follow the call over the night service route. If the monitoring target is an ACD group or ACDDN, the display is updated. If the monitoring target is an ACD subgroup, the monitor is not updated.

Activation/deactivation by the end user

Activation

The supervisor presses the Flexible Call Observe key to activate the feature. The feature is in the suspend state until the next call for the monitoring target arrives. If the supervisor is active on a call, the FOBS feature is invoked. The system puts the call where the supervisor is active, on autohold. If the

supervisor presses the Flexible Call Observe key twice, the second key hit is ignored.

Conferencing

To enter conference mode, the supervisor must be in observe mode. In observe mode, the supervisor presses the Call Agent key.

Deactivation

The supervisor can press the Release key to deactivate FOBS. The supervisor can press a key on the set that involves autohold to deactivate FOBS. When the supervisor deactivates the feature, the FOBS lamps goes off. A 5 s delay occurs between the end of monitoring and the selection of a new call for the monitoring target. This delay makes sure that the supervisor has time to read the information on the display before the display clears.

Billing

The MACD Nodal Service Observing does not affect billing.

Station Message Detail Recording

The MACD Nodal Service Observing does not affect Station Message Detail Recording.

Datafilling office parameters

The MACD Nodal Service Observing does not affect office parameters.

Datafill sequence

The tables that require datafill to implement MACD Nodal Service Observing appear in the following table. Enter the tables in the correct entry order.

Note: Enter this table through SERVORD. Datafill procedures or examples are not provided. Refer to SERVORD for an example of how to enter this table through SERVORD.

Datafill requirements for MACD Nodal Service Observing

Table	Purpose of table
KSETFEAT	Business Set and Data-Unit Feature Table. Describes the features available for ACD agent and supervisor sets. This table defines option FOBS.

Tools for verifying translations

The MACD Nodal Service Observing does not use tools for verifying translations.

MACD Nodal Service Observing (continued)

SERVORD

The SERVORD is used to complete the datafill for the required table KSETFEAT.

Table KSETFEAT (Business Set and Data Unit Feature) describes the line features that can be assigned to ACD agent and supervisor sets. This table defines option FOBS.

The SERVORD is used to add features to ACD agent or supervisor sets. The FOBS feature is a suboption of OBS. The FOBS feature is added to a supervisor set through SERVORD.

SERVORD limits

There are no MACD Nodal Service Observing SERVORD limits.

SERVORD prompts

The SERVORD prompts used to assign MACD Nodal Service Observing to the ACD set of a supervisor appear in the following table.

SERVORD prompts for MACD Nodal Service Observing

Prompt	Valid input	Explanation
DN_OR_LEN	7-10 digits	Enter the DN or LEN of the set of the supervisor.
OPTKEY	1-69	Enter the key number to which the feature is assigned.
OPTION	OBS	Enter OBS for observe agent.
OBSTYPE	BASIC, EXTENDED, or FOBS	Enter the type of observation. If you enter BASIC, the supervisor receives basic OBS for an ACD group. If you enter EXTENDED, the supervisor receives extended OBS for agents in an ACD group in the same customer group. If you select FOBS, additional prompts appear.
FOBS_ ACDGROUP	1-16 alphanumeric characters	If the OBSTYPE is set to FOBS, enter the name of the ACD group the supervisor monitors.
FOBSTYPE	GROUP, SUBGROUP, or DN	If the OBSTYPE is set to FOBS, enter the type of FOBS.
FOBS_ACD_ SUBGROUP	1-255	If the FOBSTYPE is set to SUBGROUP, enter a valid ACD subgroup number.
FOBS_ACDDN	1-7 digits	If the FOBSTYPE is set to DN, enter a valid ACDDN.

SERVORD example for adding MACD Nodal Service Observing

The addition of MACD Nodal Service Observing to the set of a supervisor appears in the following SERVORD example. The MACD Nodal Service Observing is added on key number 4 with the the SERVORD command ADO. The supervisor can now observe calls that arrive for ACDGRP1.

SERVORD example for MACD Nodal Service Observing in prompt mode

```
SO:
> ADO
SONUMBER: NOW 92 01 7 AM
> (CR)
DN_OR_LEN:
> 7225028
OPTKEY:
> 4
OPTION:
> OBS
OBSTYPE:
> FOBS
FOBS_ACDGROUP:
> ACDGRP1
FOBSTYPE:
> GROUP
OPTKEY:
> $
COMMAND AS ENTERED:
ADO NOW 92 01 7 AM 7225028 (4 OBS FOBS ACDGRP1 GROUP) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
```

SERVORD example for MACD Nodal Service Observing in no-prompt mode

```
>ADO $ 7225028 4 OBS FOBS ACDGRP1 GROUP $
```

The addition of MACD Nodal Service Observing feature package to the set of a supervisor appears in the following service order example. The MACD Nodal Service Observing Package is on key number 4 with the SERVORD command ADO. The supervisor can now observe calls that arrive for subgroup 2 of ACDGRP1.

MACD Nodal Service Observing (continued)

SERVORD example for MACD Nodal Service Observing to monitor a subgroup in prompt mode

```
SO:
> ADO
SONUMBER: NOW 92 01 7 AM
> (CR)
DN_OR_LEN:
> 7225028
OPTKEY:
> 4
OPTION:
> OBS
OBSTYPE:
> FOBS
FOBS_ACDGROUP:
> ACDGRP1
FOBSTYPE:
> SUBGROUP
FOBS_ACD_SUBGROUP:
> 2
OPTKEY:
> $
COMMAND AS ENTERED:
ADO NOW 92 01 7 AM 7225028 (4 OBS FOBS ACDGRP1 SUBGROUP 2) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
```

SERVORD example for MACD Nodal Service Observing in no-prompt mode

```
>ADO $ 7225028 4 OBS FOBS ACDGRP1 SUBGROUP 2 $
```

The addition of the MACD Nodal Service Observing feature package to the set of a supervisor appears in the following service order example. The MACD Nodal Service Observing feature package is added on key number 4 with the SERVORD command ADO. The supervisor can now observe calls that arrive for the ACDDN 7223880.

MACD Nodal Service Observing (end)

SERVORD example for MACD Nodal Service Observing to monitor an ACDSDN in prompt mode

```
SO:
> ADO
SONUMBER: NOW 92 01 7 AM
> (CR)
DN_OR_LEN:
> 7225028
OPTKEY:
> 4
OPTION:
> OBS
OBSTYPE:
> FOBS
FOBS_ACDGROUP:
> ACDGRP1
FOBSTYPE:
> DN
FOBS_ACDDN:
> 613 722 3880
OPTKEY:
> $
COMMAND AS ENTERED:
ADO NOW 92 01 7 AM 7225028 (4 OBS FOBS ACDGRP1 ) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
```

SERVORD example for MACD Nodal Service Observing in no-prompt mode

```
>ADO $ 7225028 4 OBS FOBS ACDGRP1 DN 613 722 3880 $
```

MACD PIN Configuration and Control

Ordering codes

Functional group ordering code: ACD00001

Functionality ordering code: ACD00006

Release applicability

BCS35 and up

Prerequisites

To operate, MACD PIN Configuration and Control has the following prerequisite:

- MDC Tailored MDC 1, MDC00012

Description

In order to ensure that logon IDs are accessible only to a particular group of agents, four-digit agent login IDs can be partitioned among customer groups on the DMS-100 switch. Each time an agent attempts to log in, a check is made to determine if the telephone set being used is associated with the same customer group as the login ID. In addition, the customer can choose to require agents to enter a four-digit password in addition to the login ID. If passwords are required, a special dial tone is heard following the entry of the login ID and the verification that it is a valid ID for the customer group. If the password is accepted, the agent is logged into the group. If either the password check or the customer group check fails, the agent is presented with reorder tone.

PIN Number Configuration by Customer Group

This feature enhances the ACD login ID configuration to allow the use of the same login ID by multiple customer groups. In addition, this feature also enhances the load management CHANGE command to allow the ACD group supervisor to activate or deactivate agents' login IDs.

Operation

The login process begins when the agent either goes off-hook with the handset or presses the In Calls key; the lamp associated with the In Calls key lights and a special dial tone is given. The agent then enters a four-digit identification code between 0001 and 9999. If the login ID is valid, the customer group associated with the ACD agent position In Calls key is checked against the datafill in Table CUSTACD, and the option ENLOG is checked. If a tuple for the agent position is not found in Table CUSTACD, or option ENLOG subfield INUSE is set to N, a check is made for the login ID in Table ACDLOGIN and login proceeds normally through processing determined by that table. If a

MACD PIN Configuration and Control (continued)

tuple is found and option ENLOG subfield INUSE is set to Y, the partition number in the field PARTNO and the four-digit login ID are used to index into Table ACDENLOG. A check is make to see if the login ID for this partition is logged into any other ACD agent position. If it is logged in, a reorder tone is given. If the login ID for the partition is not logged in, the ACTIVATE field in Table ACDENLOG is checked to determine if the agent is a current member of the ACD group; if the agent has been deactivated, a reorder tone is given. The next check is made if field CUSTSEL is set to Y, and it determines if the customer group datafilled in the tuple associated with the login ID and the customer group identified with the In Calls key of the agent position set are the same. Reorder tone is given if the groups do not match. If CUSTSEL is set to N, login proceeds without this check.

> ***Note:*** If the ACD group to which the login ID belongs is a member of a pool, CUSTSEL must be set to Y and the customer group must be datafilled. The customer group information is necessary for ACD Management Information System (ACDMIS) command checking.

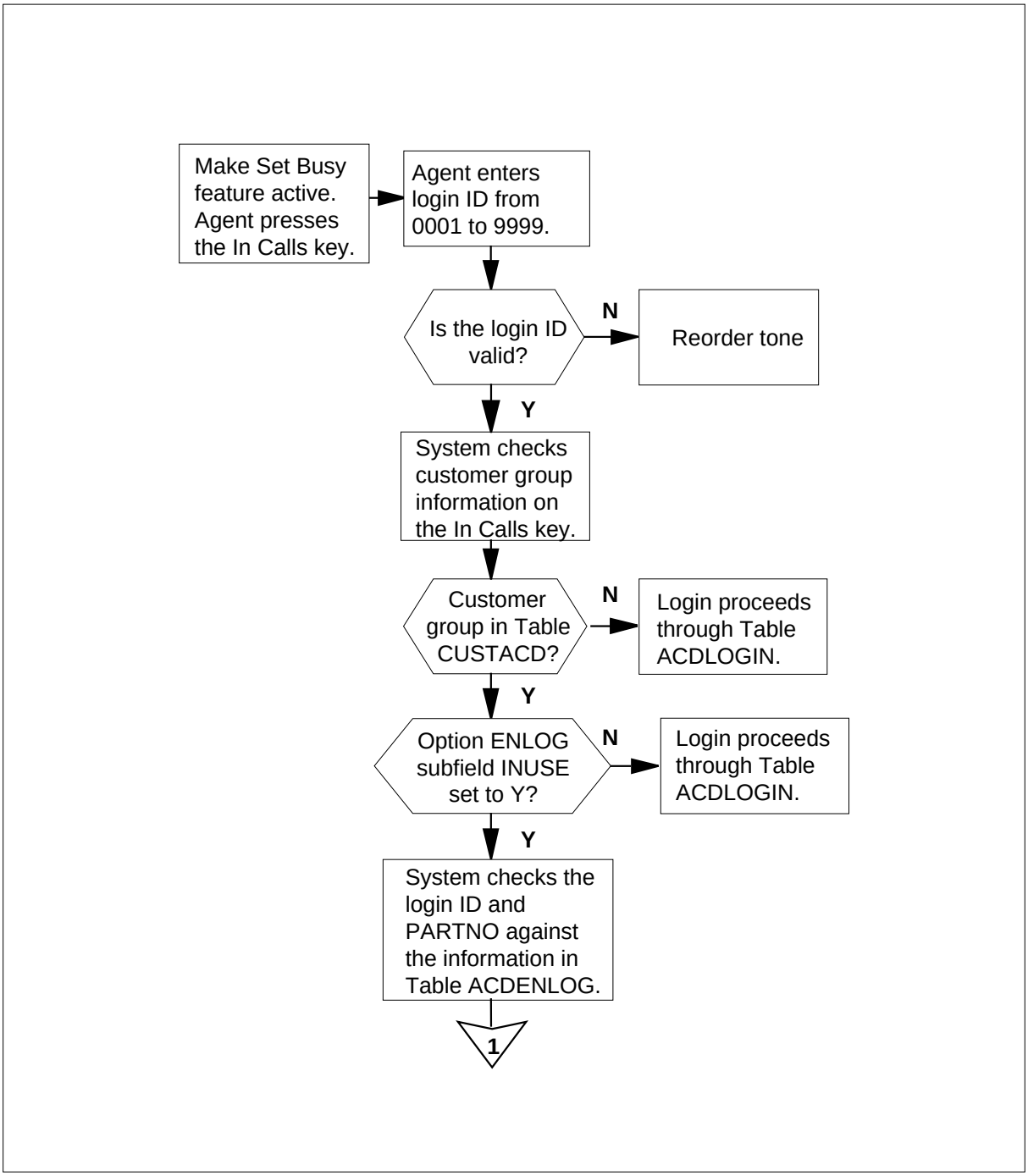
After checking for customer group restrictions is completed, Table ACDENLOG is checked to determine whether there is a password associated with the login ID. A Y datafilled in the field PSWDSEL determines that the agent will be given a special dial tone and will be required to enter a four-digit password number between 0001 and 9999. A reorder tone is given if the agent fails to enter a number, or enters an invalid number or a number that does not match the tuple. If the password option is set to N, the login proceeds without prompting the agent for a password. If all checks are passed, login is completed: the lamps associated with the In Calls key and the Make Busy key turn off, the Not Ready key lamp turns on, and the agent is placed into the ACD not ready queue.

Calls key and the Make Busy key turn off, the Not Ready key lamp turns on, and the agent is placed into the ACD not ready queue.

The following flowchart shows the login procedure with PIN number configuration by customer group.

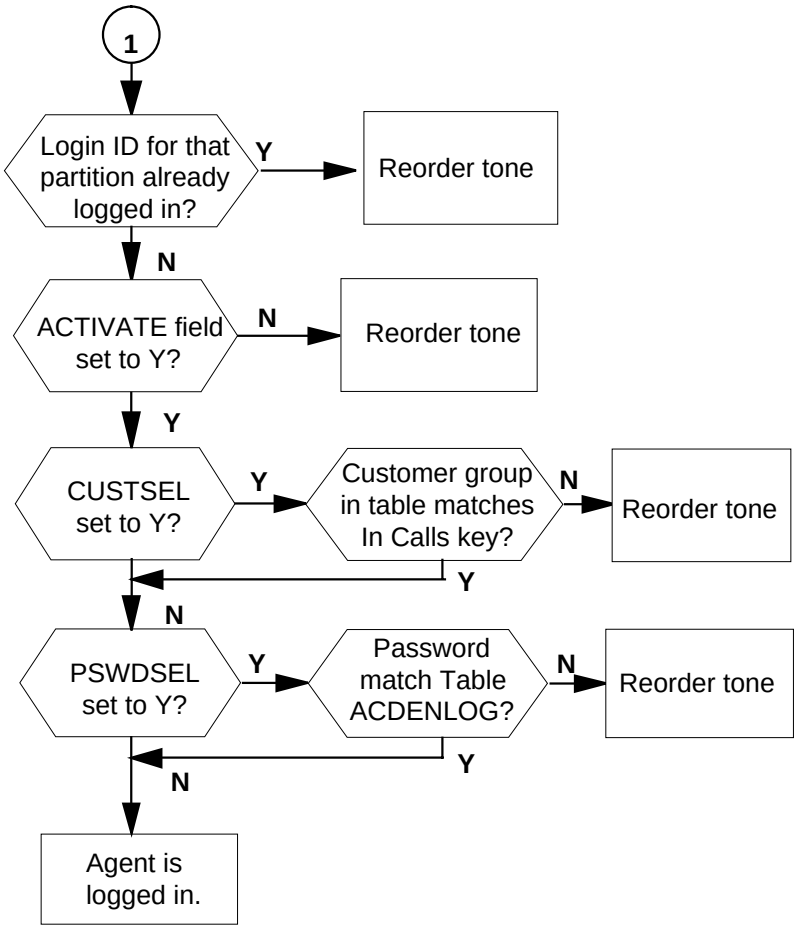
MACD PIN Configuration and Control (continued)

Flow of login procedure with PIN number configuration by customer group



MACD PIN Configuration and Control (continued)

Flow of login procedure with PIN number configuration by customer group (continued)



Translations table flow

The MACD PIN Configuration and Control translations tables are described in the following list:

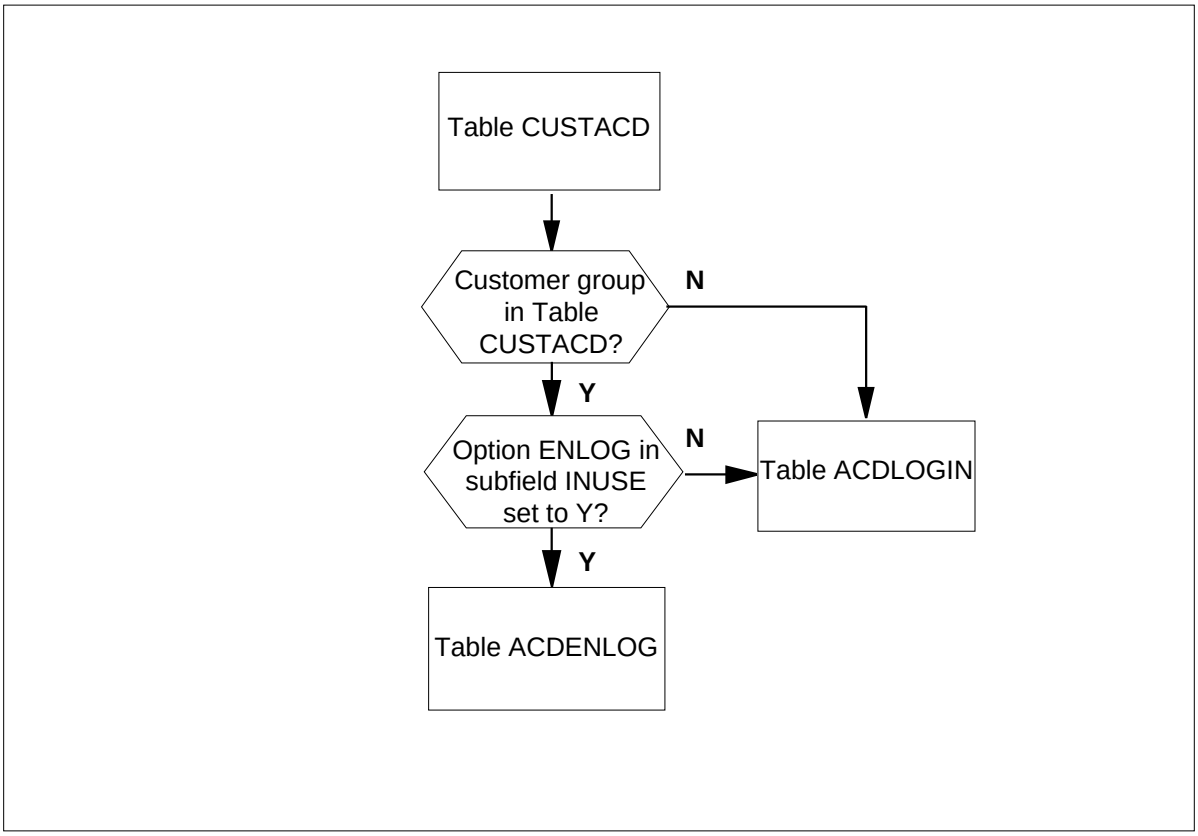
- Table CUSTENG lists the values for the engineering parameters and options for the MDC customer groups.
- Table CUSTACD indexes login IDs with partition numbers into Table ACDENLOG.

MACD PIN Configuration and Control (continued)

- Table ACDENLOG determines whether login IDs are active, and when applicable, maps customer groups to corresponding ACD login IDs within partitions and maps login IDs to corresponding passwords.
- Table ACDLOGIN maps when applicable, customer groups to corresponding ACD login IDs and maps login IDs to corresponding passwords.

The MACD PIN Configuration and Control translation process is shown in the flowchart that follows.

Table flow for MACD PIN Configuration and Control



MACD PIN Configuration and Control (continued)

The following table lists the datafill content used in the flowchart. The ACD group is ACDGRP1 The Clearing route is Y. The table name is OFRT. The Index is 1003.

Datafill example for MACD PIN Configuration and Control

Datafill table	Example data
CUSTACD	MDC1 ENLOG Y 005 CUSTGRPA ENLOG N 009
ACDLOGIN	0001 N N (VARWRAP 10) (MISGROUP MISGRP1) $
ACDENLOG	005 0001 N Y MDC1 Y 1234 (MISGROUP MISGRP1) 009 0002 N Y CUSTGRPA N $
CUSTENG	MDC1 5 5 N N PRIVATE 0 ACDCQLMT 1500 $

Limitations and restrictions

The following limitations and restrictions apply to MACD PIN Configuration and Control:

- Only one agent may be logged into an ACD agent position at a time.
- An agent may be logged into only one ACD agent position at a time with the same ID in the same partition. If an agent tries to log into another position with the same ID, reorder tone is given.
- Both the Make Busy key and the Not Ready key must be assigned to the agent position. For customers with BCS33 and higher, the Not Ready key is optional for login completion.
- The ACD agent position must be in the make set busy state for the agent to log in.
- Placing the ACD agent position in the make set busy state logs the agent off the set unless the agent is active on an ACD call, or an ACD call is ringing when the Make Busy key is pressed.
- When an agent is logging into an ACD agent position, if a valid login ID is not entered before normal digit timeout, a reorder tone is given.

MACD PIN Configuration and Control (continued)

- When the agent is logging into an ACD agent position, if a password is not entered before normal digit timeout, a reorder tone is given. This applies only when the password option in Table ACDENLOG or Table ACDLOGIN is set to Y.
- Pressing the Release key, a directory number (DN) key, or a feature key while logging into the ACD agent position cancels the login procedure.
- A login ID must be a four-digit number between 0001 and 9999.
- A password must be a four-digit number between 0001 and 9999.
- When make set busy is active, the agent may depress the ACD In Calls key to log into the agent position. If the Make Set Busy feature is deactivated before the agent completes entering the full four-digit login ID or the four-digit password (if applicable), a reorder tone is given and the agent is not logged in.
- The agent position must not have denied termination (DTM), plug up (PLP), or suspended line (SUS) assigned to it. If DTM, PLP, or SUS are assigned to the agent position during the agent's entry of the login ID, a reorder tone is given and the agent is not logged in. Similarly, if DTM, PLP, SUS, or denied origination (DOR) are assigned to the agent position during the agent's entry of the password, a reorder tone is given and the agent is not logged in.
- If the customer group is not datafilled in Table CUSTACD, it will be searched for in Table ACDLOGIN.
- Even if ALL_ACD_LOGIN_IDS_VALID is set to Y, when the customer group is datafilled in Table CUSTACD and the ENLOG INUSE field is set to Y, if the login ID is not found in the customer groups partition of ACDENLOG, the reorder tone is given.
- If the information associated with an agent position In Calls key indicates that Table ACDENLOG will contain the agent's login ID tuples, the login ID must be datafilled for the agent to log in.
- If a login ID is datafilled for the partition of the customer group of the ACD set trying to log in, and the options are both set to N, no additional checks are done.
- If the set has a display, when the password is entered it is not displayed.
- The passwords datafilled in Table ACDENLOG do not have to be unique.
- If a subpool for an ACDMIS contains ACD groups which belong to more than one customer group, then all the customer groups who have ACD groups within that subpool must be assigned the same partition number in Table CUSTACD.

- Changes in the datafill to transfer a login ID from Table ACDLOGIN to Table ACDENLOG will not be apparent to an ACD agent that is logged in. The transferral is only apparent when the agent has logged out and then logged in again.
- The fields PASSWORD and CUSTOMER must be compatible before the agent can be transferred to the new partition.
- Changes made to the login ID from the MAP (maintenance and administration position) or the downstream processor will not be apparent to the agent until he or she logs out and logs in again. Changes made to a logged in login ID always affect the datafill in the new partition.
- During the change process, if an agent is logged in, a new agent from the same customer group can log in using the same login ID if the first agent's ID has not yet been moved. The ACDMIS would not be able to acknowledge the new login message because it would believe the ACD agent has already logged in. The ACDMIS would not be able to determine which agent should receive future messages, for example logout messages.
- If an agent was not moved because of inconsistency in passwords, it is possible for another agent within the same customer group to log in using the same login ID. If the two agents belong to the same ACD group, messages for the two agents are indistinguishable.
- The ACDMIS will have problems when an agent that is logged in was not moved due to an inconsistency in the CUSTGRP field and then an agent from the same customer group attempts to log in using the same login ID. The ACDMIS has these problems because it tries to map the old login ID's DN to the new partition, even though the login ID was logged in under the original partition.

Interactions

The following paragraphs describe the interactions between MACD PIN Configuration and Control and other functionalities.

ACD In Calls key

The login process is started while the Make Set Busy feature is activated by pressing the ACD In Calls key. If login is required, no ACD calls are presented to an ACD agent position until an agent is logged into the position.

Make Set Busy feature

The Make Set Busy feature must be active for the agent to log into the ACD agent position.

The Make Set Busy feature can be activated by the agent pressing the Make Busy key, or the system will activate the Make Set Busy feature when the ring

MACD PIN Configuration and Control (continued)

threshold timer expires. The Make Busy key lamp is lit while the Make Set Busy feature is active. Whenever the Make Set Busy feature is activated, the agent will be logged off the ACD agent position unless talking on or ringing on an ACD call.

Agent status lamp

The agent status lamp on the supervisor set remains off until the agent has logged onto the set. The agent status lamp lamp is set to flashing when the agent is logged on and is placed in the ACD not ready state.

Release key

If the Release key is pressed while logging into the ACD agent position, the login feature is cancelled; the agent is not logged into the ACD agent position, and no ACD calls are presented.

Directory number keys

If a DN or a feature key is pressed while logging onto the ACD agent position, the login feature is cancelled; the agent is not logged into the ACD agent position, and no ACD calls are presented. If an agent presses a DN key, then presses the In Calls key, the effect of pressing the DN key is cancelled.

Activation/deactivation by the end user

This feature package is activated when an agent in the ACD group logs on.

The following table explains how to activate the ACD feature available from the MACD PIN Configuration and Control feature package.

Activation/deactivation of MACD PIN Configuration and Control by the end user

Agent Login

At agent position

1 With Make Busy key lamp lit, press In Calls key.

Response:

In Calls lamp lights, and special dial tone is heard.

2 Enter four-character login ID.

Response:

If login ID is valid, In Calls and Make Busy lamps turn off, and Not Ready lamp lights steadily.

3 Press Not Ready key.

Response:

Not Ready lamp turns off, and agent can receive ACD calls.

Agent login enhancement

At agent position

1 With Make Busy lamp lit, press In Calls key.

Response:

In Calls lamp lights, and special dial tone is heard.

2 Enter four-character login ID.

Response:

If customer group associated with agent login ID and customer group of the In Calls key match, agent receives special dial tone.

3 Enter four-digit password.

Response:

If password is valid, In Calls and Make Busy lamps turn off, and Not Ready lamp lights steadily.

4 Press Not Ready key.

Response:

Not Ready lamp turns off, and agent can receive ACD calls

Agent logout

At agent position

1 Press Make Busy key.

Response:

If agent is idle, agent is logged off, and Make Busy lamp lights. If agent is active on a call, agent is logged out when call is released.

Billing

MACD PIN Configuration and Control does not affect billing.

Station Message Detail Recording

MACD PIN Configuration and Control does not affect Station Message Detail Recording.

Datafilling office parameters

MACD PIN Configuration and Control does not affect office parameters.

MACD PIN Configuration and Control (continued)

Datafill sequence

The following table lists the tables that require datafill to implement MACD PIN Configuration and Control. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for MACD PIN Configuration and Control

Table	Purpose of table
CUSTENG	Customer Group Engineering. This table assigns customer groups.
CUSTACD	Customer Group Automatic Call Distribution. This table designates, by assigning option ENLOG which features are operational for each customer group. This table also assigns partitions in table ACDENLOG to each customer group. This table is not optional.
ACDLOGIN	ACD Login ID Password. This table checks login IDs if subfield INUSE of table CUSTACD is set to N.
ACDENLOG	Automatic Call Distribution Login Enhancement. This table allows multiple customer groups to use the same login ID for their ACD agents.

Datafilling table CUSTACD

The following table shows the datafill specific to MACD PIN Configuration and Control for table CUSTACD. Only those fields that apply directly to MACD PIN Configuration and Control are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table CUSTACD (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric	Customer group name. Enter the 1- to 16-character alphanumeric name of the customer group to which the ACD group belongs.
OPTIONS		ENLOG	Options - ENLOG. Enter ENLOG (enhanced login) so the login procedure is accessed using Table ACDENLOG.
If ENLOG is entered, subfields PARTNO and INUSE are presented:			

Datafilling table CUSTACD (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	PARTNO	0 to 256	Partition number. Enter the partition number to be assigned to the customer group for access into Table ACDENLOG. A value of 0 indicates the customer group uses Table ACDLOGIN and may not be used. Valid entries are from 0 to 256.
	INUSE	Y or N	Login table use. Enter Y so the login identification values are contained in Table ACDENLOG, not Table ACDLOGIN. Otherwise, enter N.

Datafill example for table CUSTACD

The following example shows sample datafill for table CUSTACD.

In the example, the customer group MDC1 is assigned partition 5 and the customer group CUSTGRPA is assigned partition 9. The example also shows that the login IDs for customer group MDC1 are checked in Table ACDENLOG, whereas the login IDs for customer group CUSTGRPA are checked in Table ACDLOGIN.

MAP display example for table CUSTACD

```
CUSTNAME          OPTIONS
_____________________________________________________________
     MDC1   (ENLOG  9 Y)$
 CUSTGRPA   (ENLOG  5 N)$
```

Datafilling table ACDENLOG

The following table shows the datafill specific to MACD PIN Configuration and Control for table ACDENLOG. Only those fields that apply directly to

MACD PIN Configuration and Control (continued)

MACD PIN Configuration and Control are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table ACDENLOG (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
PARTNO		0 to 256	Partition number. Enter the partition number assigned to the customer group in Table CUSTACD. Valid entries are from 0 to 256. ***Note:*** Even though 0 is a valid datafill entry, when entered, it will be rejected with a message.
LOGINID		4-digit number 0001 to 9999	ACD agent login identification number. Enter the four-digit agent login ID. Valid entries are from 0001 to 9999.
ACTIVATE		Y	Activate. A value of Y indicates that the login ID associated to the partition is activated. If the login ID is activated, an agent using the login ID can log in. This field is controlled by the load management command CHANGE ACTIVATE. For more information on load management commands, refer to *Commands Reference Manual,* 297-2663-819.
CUSTGRP		See subfield	Customer group. This field consists of subfield CUSTSEL.
	CUSTSEL	Y or N	Customer group selector. Enter Y if the switch checks to see if the customer group associated with the agent login ID matches the customer group datafilled for the In Calls key of the set to which the agent is logging in. Enter N if the customer group is not checked. ***Note:*** If an ACD group has the ACDMIS option assigned, there must be the customer group check to prevent ACDMIS message confusion.
If Y is entered, subfield CUSTGRP is presented:			
	CUSTGRP	alphanumeric (1 to 16 characters)	Customer group. Enter the 1- to 16-character alphanumeric name of the customer group associated with the previously entered login ID.

MACD PIN Configuration and Control (continued)

Datafilling table ACDENLOG (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
PSWD		See subfield	Password. This field consists of subfield PDWDSEL.
	PSWDSEL	Y or N	Password selector. Enter Y if a password is required during the login procedure. Enter N if no password is required.
If Y is entered, subfield PSWD is presented:			
	PSWD	4-digit number 0001 to 9999	ACD agent login password. Enter the four-digit ACD login password. Valid entries are from 0001 to 9999.
OPTIONS		VARWRAP	Options - VARWRAP. Enter VARWRAP to assign individual agents a unique wrap-up time based on their entered login ID.
If option VARWRAP is entered, subfield WRPTIME is presented:			
	WRPTIME	0 - 600	Wrap-up time. Enter the number of seconds of the wrap-up time for the agent. Valid entries are from 0 to 600 s. For an entry of zero, the one-second release guard time delay is removed. For an entry other than zero, the one-second release guard time delay occurs.
OPTIONS		MISGROUP	Options - MISGROUP. Causes the subpool/subpool password security to be enforced.
	ACDGRP	alphanumeric	ACD group name. Enter the name of the ACD group previously datafilled in Table ACDGRP to which this agent belongs.
OPTIONS		PAQ	Options - PAQ. Sets a personal agent queue for calls parked at an ACD agent position.
If option PAQ is entered, subfield PAQSIZE is presented:			
	PAQSIZE	0 - 42	Personal agent queue size. Enter the maximum number of calls an agent can have in his or her personal queue. Valid entries are from 0 to 42.

Datafill example for table ACDENLOG

The following example shows sample datafill for table ACDENLOG.

MACD PIN Configuration and Control (end)

In the example, the partitions 5 and 9 are assigned ACD features and options. Partition 5 has been assigned a login ID of 0001. Because there is an N datafilled in the ACTIVATE field, the agent associated with the login ID cannot log in. Partition 9 has been assigned a login ID of 0002. Because there is a Y datafilled in the ACTIVATE field, the agent associated with the login ID has been activated and can log in.

MAP display example for table ACDENLOG

```
PARTNO  LOGINID   ACTIVATE   CUSTGRP
                            PSWD             OPTIONS
_____________________________________________________________
5        0001        N       Y  MDC1
                        Y 1234  (MISGROUP MISGRP1)$
9        0002        Y       Y  CUSTGRPA
            N                       $
```

Translation verification tools

MACD PIN Configuration and Control does not use translation verification tools.

SERVORD

MACD PIN Configuration and Control does not use SERVORD.

3 Datafilling CompuCALL Base

The following chapter describes the CompuCALL Base, ACD00002, functionality.

ACD CompuCALL

Ordering codes

Functional group ordering code: ACD00002

Functionality ordering codes:

- ACD00007—CompuCALL for ACD
- ACD00008—Centrex Coordinated Voice and Data
- ACD00019—Basic Agent Desktop

Release applicability

BCS34 and later versions

Centrex Coordinated Voice and Data was introduced in NA05.

Basic Agent Desktop was introduced in NA07.

ICM Call Held Event Reporting was introduced for Automatic Call Distribution (ACD) customers, Meridian Digital Centrex (MDC) customers and Residential (RES) customers in NA015.

Requirements

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

Description

This document refers to the CompuCALL Base as CompuCALL. The CompuCALL feature is the Northern Telecom (Nortel) version of the American National Standards Institute (ANSI) switch/computer application interface (SCAI) standard. The ANSI SCAI standard allows computer applications between different platforms to communicate. The ANSI SCAI standard is based on the Open Systems Integration (OSI) model. The International Standards Organization (ISO) developed the OSI model. The OSI model is a standard design framework that allows different types of computers to communicate with each other.

With CompuCALL, the two computer systems that establish a peer-to-peer relationship are the DMS-100 switch and a host computer. Communication occurs over a dedicated telephone connection or over a public-switched network.

The data communications channel is between the switch and the computer. The data communications channel allows an operating company to provide

coordinated switch-based services to applications. These applications are on a computer of a customer.

CompuCALL customers

CompuCALLis a Meridian ACD option. CompuCALL is available for the following customers:

- Automatic Call Distribution (ACD) customers
- MDC customers
- Residential Enhanced Services (RES) customers
- SL-100 Private Branch Exchange (PBX) customers

CompuCALL functions

The CompuCALL functional group has the following functions:

- CompuCALL for ACD (ACD00007)
- Centrex Coordinated Voice and Data (ACD00008)
- Basic Agent Desktop (ACD00019)

CompuCALL for ACD

This function offers simultaneous delivery of voice and data information to ACD agents. This function offers abilities for call conferences, transferring and interworking with interactive voice response systems.

The CompuCALL for ACD feature provides the following services:

- Coordinated Voice and Data (CVD)
- Third-Party Agent Control (TPAC)
- Call Routing
- Resource Query
- ACD Third-Party Call Control (TPCC)

Centrex Coordinated Voice and Data

This function supports CompuCALL in the MDC environment. Voice and data information offers simultaneous display to a single-appearance MDC station.

Another name for the CompuCALL service to MDC lines is MDC CompuCALL Options. The CompuCALL service provides MDC station and lines.

ACD CompuCALL (continued)

Centrex Coordinated Voice and Data feature provides the following services:

- Coordinated Voice and Data
- SCAI Three-Way Calling
- Directory Number (DN) Query
- Call Initiation
- Message Waiting Indication
- Centrex (MDC) and RES Call Control

Basic Agent Desktop

This function improves CompuCALL abilities to provide basic ACD agent desktop functionality for users with Meridian Business Sets or EBS sets.

The CompuCALL Basic Agent Desktop function provides:

- Improvements to the ACD Third-Party Call Control and SCAI Three-Way Calling for MDC and RES lines
- Three-Way Call (3WC) and Call Transfer (CXR) options with lamp synchronization
- DMS-100 ACD Management Information System (MIS) notification for calls that originate, terminate, and release from secondary DNs with the CompuCALL control messages.
- Call Origination (or the dv-Make-Call message) without alert

Enhancements to the ACD Third-Party Call Control and SCAI Three-Way Calling services

The Basic Agent Desktop function improves the ACD Third-Party Call Control and SCAI Three-Way Calling services for MDC and RES lines. The improvements provide the following additional messages:

- dv-Call-Consult-Originated-U

  The switch sends this message to the host. The switch sends this message when one party of a two-party call activates a three-way call (3WC) or conference (CXR) call.

- dv-Call-Conferenced-U

The switch sends this message to the host when the controller presses the 3WC or CXR key. The controller presses the 3WC or CXR key to conference all parties of a consulted call to requests a conference.

- dv-Call-Transferred-U

  The switch sends this message to the host. The switch sends the message when the controller of a conference call releases and the call transfers. The first leg of the call transfers to the consulted party.

Note: The *controller* of the call is the party that starts a 3WC or CXR event. This event starts when the controller presses the 3WC or CXR key or performs a flash. The *first leg party* is the party connected to the controller in the established call.

Three-Way Call (3WC) and Call Transfer (CXR) options with lamp synchronization

The system updates 3WC and CXR lamps on an EBS set when the system sends following Third-Party Call Control messages. The system sends the messages to consult, conference, drop, or transfer calls:

- dv-Add-Party
- dv-Conference-Party
- dv-Drop-Party
- dv-Transfer-Party

The lamp update occurs if one of the following conditions occurs:

- the CompuCALL session logon version is SCAI09 or a later version
- the TPCC09$ or SCAI3WC09$ service profile is in use.

The EBS line can have a 3WC or CXR key and the line can associate with a CompuCALL session. If this event occurs the lamp update can occur. The lamp update occurs when the host computer processes the following 3WC or CXR event:

- dv-Add-Party message. The dv-Add-Party message can be processed and the system can send the Return-Result to the host computer. If this event occurs a three-way consult call initiates. The system determines the key on which the 3WC or CXR ability is present. The system turns the lamp on. With the dv-Add-Party message, the user cannot toggle between the first leg and second leg manually or with CAS. Another name for the second leg is the consult leg. A flash to the DN key lamp is not necessary

ACD CompuCALL (continued)

when the system places the caller on auto-hold. The system activates the DN key lamp and the 3WC or CXR lamp.

The consulted DN can answer the call and releases the consult call. When this condition occurs the system turns the 3WC or CXR lamp of the controller. If the controller releases the consult call the system turns the 3WC or CXR lamp of the controller off. The DN key rings to alert the user to answer the first leg call.

- dv-Conference-Party message: When the system processes the dv-Conference-Party message, the system turns the 3WC or CSR lamp off.
- dv-Drop-Party message, dv-Transfer-Party message: When the system processes the dv-Drop-Party message or the dv-Transfer-Party message, the system turns the 3WC or CSR lamp turns off.

The CompuCall Basic Agent Desktop function does not support 3WC and CXR lamp synchronization for 500/2500 sets.

ACD Management Information Systems

The DMS-100 ACD Management Information Systems (MIS) option sends a customer premise equipment (CPE) downstream processor (DSP) information about ACD events that occur in associated DMS-100 switches.

The ACD MIS data stream contains two types of messaging: event messaging and initialization messaging. The system generates ACD MIS event messages when ACD call and ACD position events occur. The Basic Agent Desktop function uses ACD agent position event messages to report calls originated, answered, and released. These messages use CompuCALL Call Control messages from secondary DNs (SDNs) to report calls.

The Basic Agent Desktop function sends the following ACD agent position event messages to report activity on SDNs.

- An agent position event message with a value of 5 for the POSITION_EVENT_EVENTTYPE parameter. This message occurs when a call originates with the dv-Make-Call message from an SDN
- An agent position event message with a value of 4 for the POSITION_EVENT_EVENTTYPE parameter. This message occurs when an incoming call to an SDN is answered with the dv-Answer-Call message.
- An agent position event message with a value of 6 for the POSITION_EVENT_EVENTTYPE parameter. This message occurs when an SDN releases with the dv-Release-Call, dv-Drop-Party, or dv-Transfer-Call message

Call Origination (or dv-Make-Call message) with no alerting

When a dv-Make-Call message originates without alerting, the system applies a buzz to the base of the telephone set. The call setup routes the call to the destination or the system applies a tone. The system applies a tone to the base of the telephone set. The call setup routes the call to the destination.

The switch performs the following validation of the Basic Agent Desktop MakeCallType subparameters for the dv-Make-Call message:

- verification that the Originating Agent or DN the OrigAddress field specifies is a Key Set and not a 2500/500 type set
- verification that the Originating Agent or DN is an ACD or CTX line

CompuCALL configurations

A CompuCALL configuration has the following elements:

- switch with DMS ACD, MDC, or RES software and CompuCALL software
- CompuCALL link or linkset that uses X.25 signaling protocol
- computer with application programming interface (API) software. The computer can understand and send CompuCALL messages and business application software. This software applies messages to customer center needs.
- each end user with a workstation or other output device connects to a LAN or a broadband network. Each end user has a telephone with a voice line to the switch. A television that connects to a broadband network is an example of an output device.

CompuCALL service options

CompuCALL is a service for ACD, MDC, and RES customers. CompuCALL is Meridian ACD.

The following CompuCALL service options are for ACD, MDC, or RES lines as each description indicates:

Coordinated Voice and Data

Coordinated Voice and Data allows the switch to send a call to the telephone of a user. The switch can send the call at the same time the computer sends computer files. The computer sends the files to the computer of the user or other output device. A TV is an example of an output device. Coordinated Voice and Data are only for ACD, MDC, and RES customers.

ACD CompuCALL (continued)

The following messages provide the Coordinated Voice and Data service:

- dv-Call-Answered-U
- dv-Call-Offered-U
- dv-Call-Queued-U
- dv-Call-Released-U
- dv-Call-Unheld-U
- dv-Call-Held-U

Third-Party Agent Control

Third-Party Agent Control (ACD only) allows the call center computer to log agents in and out. The call center computer can make the agent positions busy or not busy. The dv-Set-Feature provides the Third-Party Agent Control (TPAC) service.

Call Routing

Call Routing (ACD only) allows the call center to program the computer of the call center to redirect calls. For example, calls from gold card customers automatically transfer to special account representatives for special treatment.

The following messages provide the Call Routing service:

- dv-Call-Received-C
- dv-Call-Redirect

Resource Query

Resource Query (ACD only) allows the call center to query the switch for current ACD group traffic-load statistics. The dv-Resource-Query message provides the Resource Query service.

ACD Third Party Call Control

The ACD Third-Party Call Control (ACD only) allows the host computer to send signaling commands to the switch from a specified agent.

The following messages provide the ACD Third-Party Call Control service:

- dv-Answer-Call
- dv-Hold-Call
- dv-Release-Call
- dv-Unhold-Call

The Basic Agent Desktop function enhances the ACD Third-Party Call Control service. The enhancement provides the additional following messages:

- dv-Call-Consult-Originated-U
- dv-Call-Conferenced-U
- dv-Call-Transferred-U

SCAI Three Way Calling

The SCAI Three-Way Calling arranges a three-party call where caller, user, and expert talk to each other. The user and expert each see caller-related information. This information appears on the workstations of the user and the expert. The user and expert can transfer the call. The user can put the caller on hold to transfer the call. The SCAI Three-Way Calling is for MDC and RES customers only. The SCAI Three-Way Calling options are called conference, consult, and transfer functions.

The following messages provide the SCAI Three-Way Calling service:

- dv-Add-Party
- dv-Transfer-Party
- dv-Conference-Party
- dv-Drop-Party

The Basic Agent Desktop function enhances the SCAI Three-Way Calling service. This enhancement provides the following messages:

- dv-Call-Consult-Originated-U
- dv-Call-Conferenced-U
- dv-Call-Transferred-U

Directory Number (DN) Query

Directory Number (DN) Query sends a message to the switch from the host. This message requests information about a specified DN. The DN Query is for MDC and RES customers only. The switch responds with the following information when applicable:

- If the DN associates with the current session or another session, is not associated at all, or cannot associate with the session. For example, if the DN does not have the Enhanced Call Management (ECM) option assigned to that DN.
- The current call or line state of the DN. For example, idle, originating, dialing, talking, connected to a busy or ringing tone, held or locked out. A

ACD CompuCALL (continued)

message that indicates the locked-out state only occurs for a 500/2500 set that is left off hook.

- The current state of the message waiting or executive message indication.

The dv-DN-Query message provides the DN Query service:

Call Initiation

Call Initiation (MDC and RES customers only) allows the user to use the workstation keyboard. The user uses the keyboard to request the computer to dial an outgoing call. The user can request the computer to present the call to the telephone of the user when the number is ringing. The dv-Make-Call message provides the Call Initiation service.

Message Waiting Indication

Message Waiting Indication (MDC and RES customers only) notifies the host when a message waiting activation or deactiviation event occurs. The dv-Message-Waiting-U provides the Message Waiting Indication service.

Centrex (MDC) and RES Call Control

Centrex (MDC) and RES Call Control (MDC and RES only) allows the host computer to send signaling commands. The host computer sends the signaling commands to the switch for a specified agent.

The following messages provide the MDC and RES Call Control service:

- dv-Answer-Call
- dv-Hold-Call
- dv-Release-Call
- dv-Unhold-Call

Operation

CompuCALL allows a DMS switch to communicate and interact with a host computer over a CompuCALL link. This communication occurs with X.25 protocol and interfacing with the switch through a multi-protocol controller (MPC) or enhanced MPC (EMPC) card.

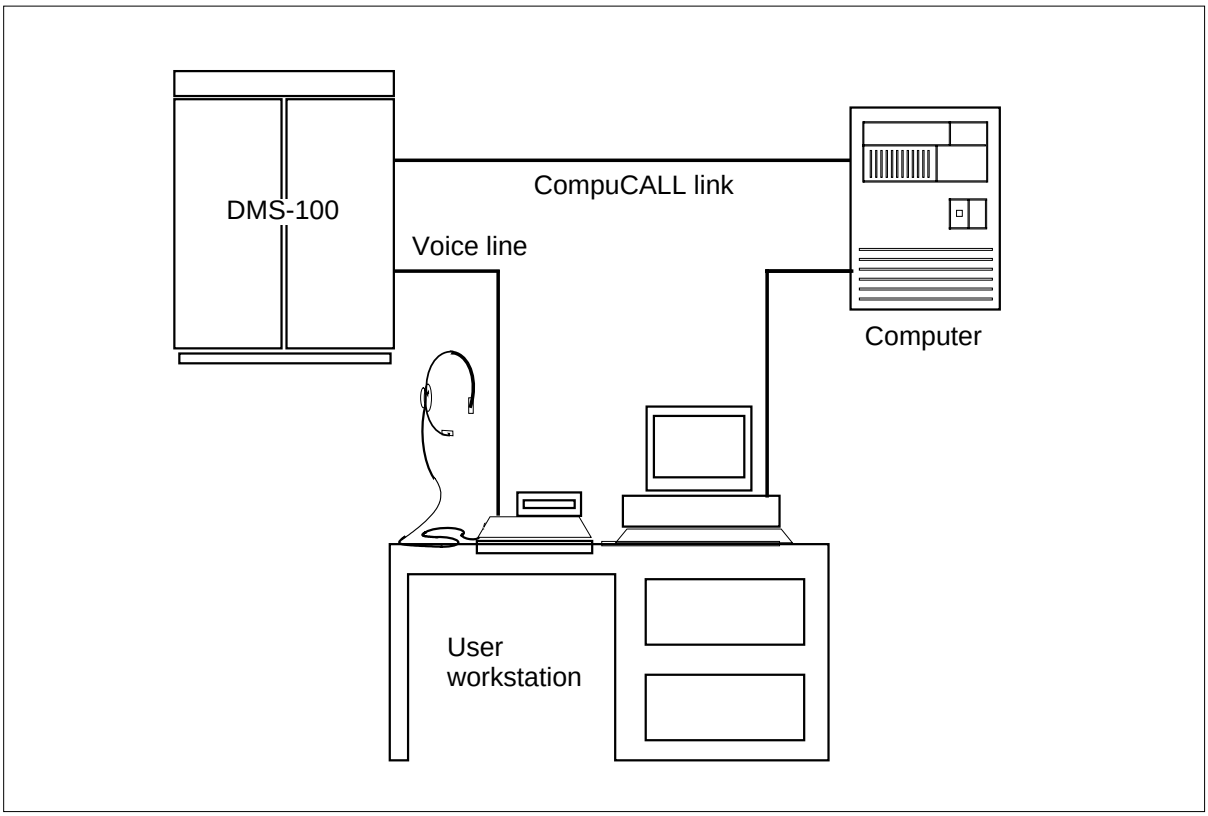
The EMPC/MPC card is in the IOC controller shelf of the switch. The card is a data transfer device that the card controls the flow of data between the switch and the computer. The CompuCALL link performs this data transfer.

A voice line connects the telephone set of the user to the switch. A data link allows the user to request the transfer of CompuCALL messages. The data

link is from the host computer to the workstation of the user. This data link allows the user to receive processed CompuCALL messages in a data screen.

Refer to the following figures ACD and MDC CompuCALL basic configuration and RES CompuCALL basic configuration for diagrams of CompuCALL configurations.

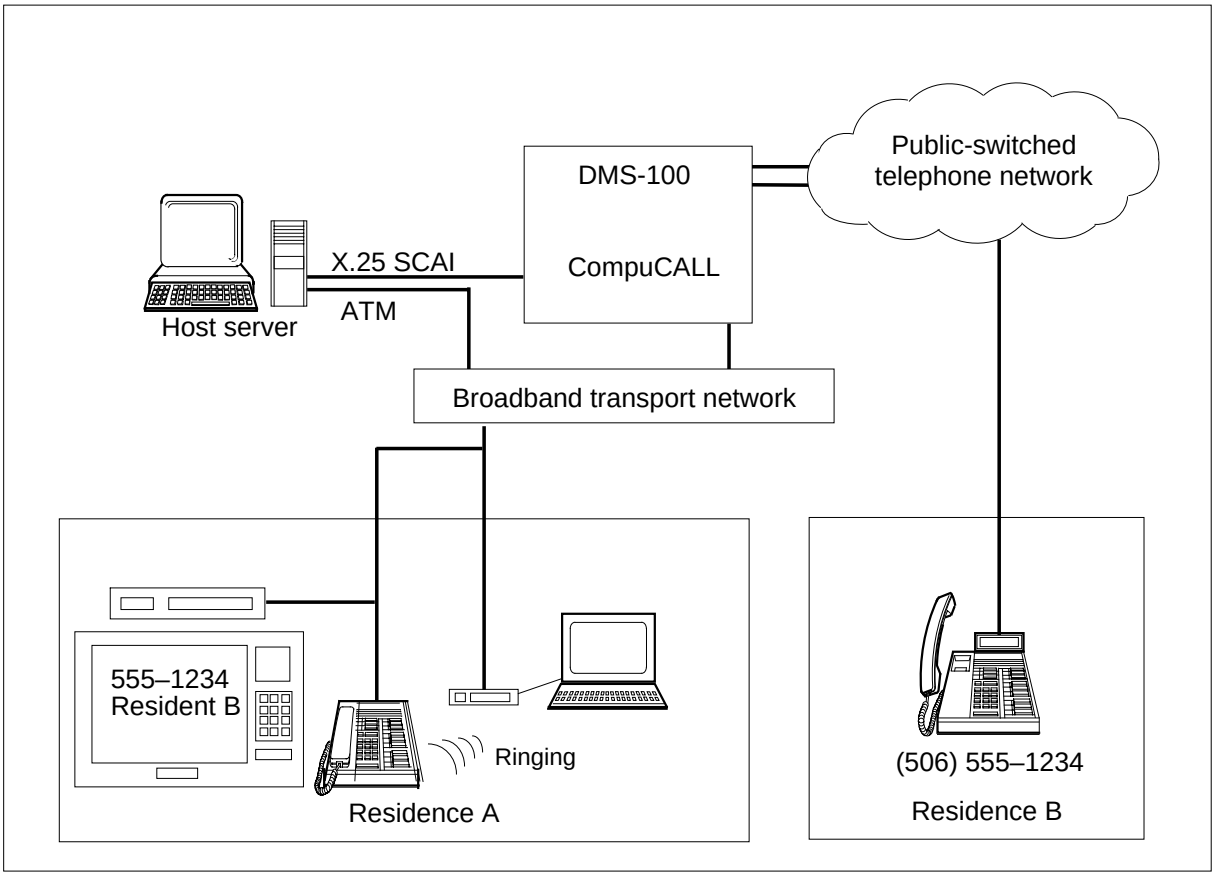
ACD and MDC CompuCALL basic configuration



The CompuCALL configuration for RES appears in the following figure.

ACD CompuCALL (continued)

RES CompuCALL basic configuration

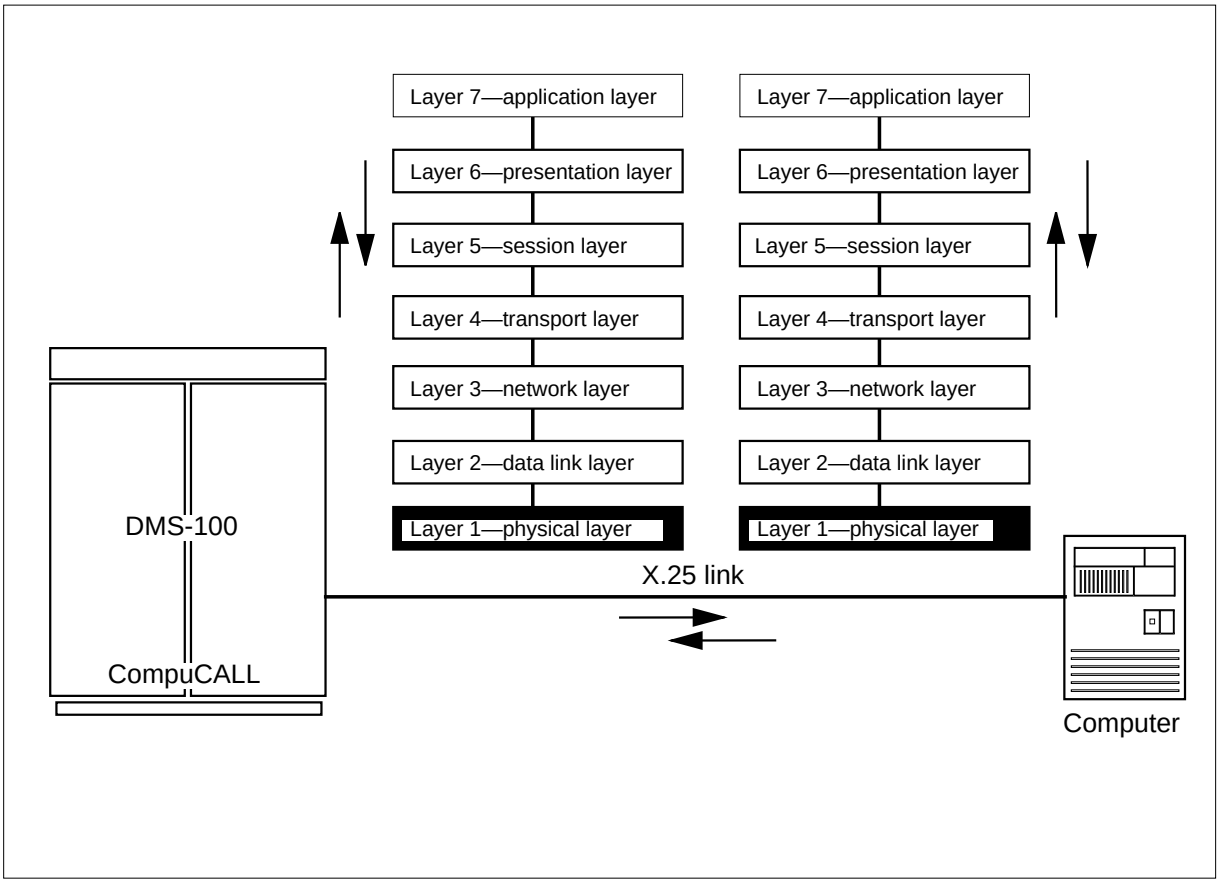


CompuCALL links and the OSI model

CompuCALL follows the OSI model when service occurs in a customer center for the first time. CompuCALL follows the OSI model for the addition of CompuCALL links.

The OSI model has seven layers. These layers appear in the following figure. The first layer is a physical layer. For communication to occur, the switch and customer center computer must support the correct layers. These layers must be on the switch and computer side of the model.

CompuCALL and the OSI model

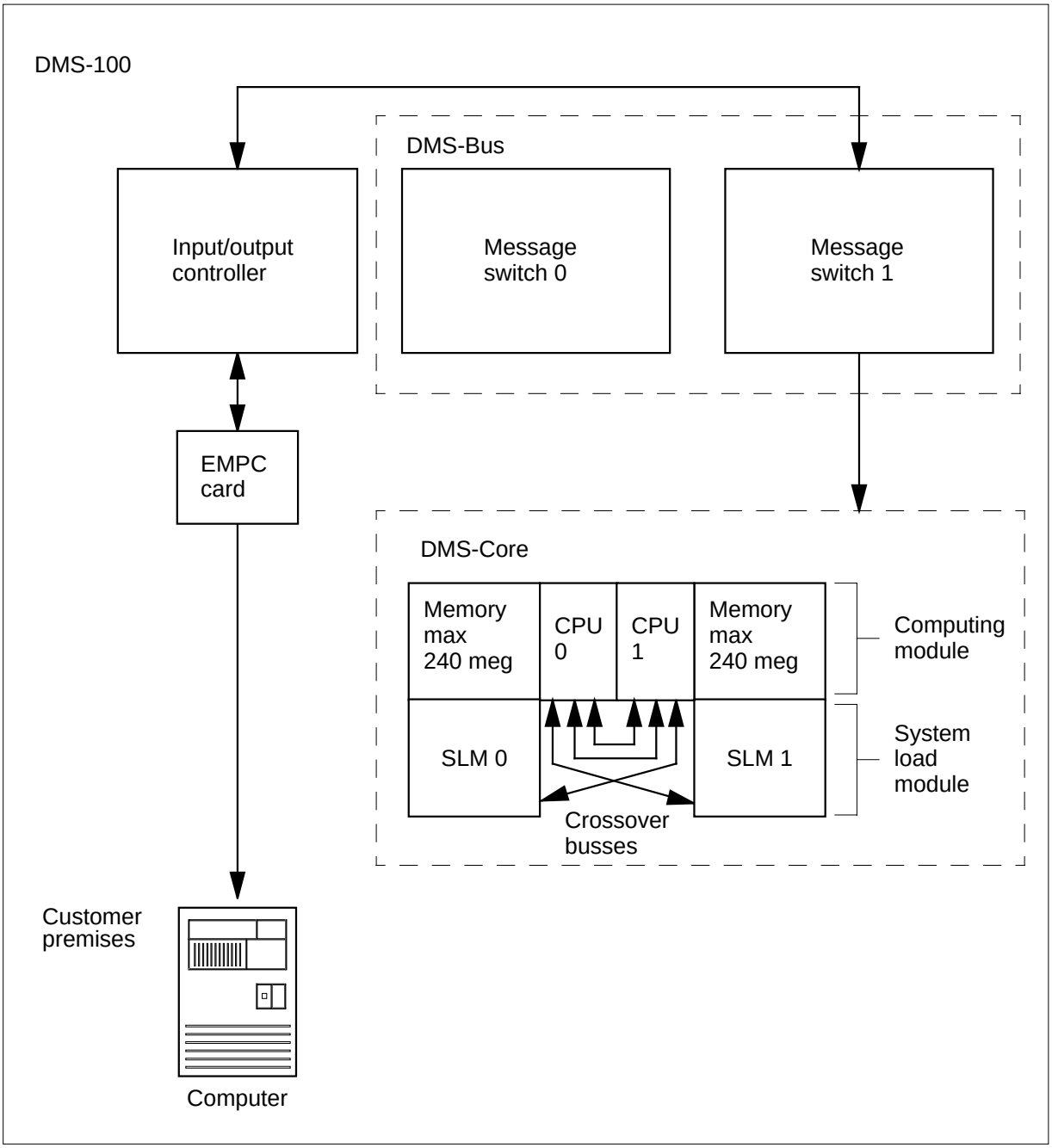


The physical layer has a maximum of four attributes: functional, mechanical, electrical, and procedural. When translations personnel enter table MPC at the switch, the switch acknowledges the MPC/EMPC card. For the physical layer to support CompuCALL messages, a switch-side data unit or synchronous modem coordinates with a like device. The preference is for an identical type device at the customer center to support the configuration.

The physical layer connection between switch and computer appears in the following figure.

ACD CompuCALL (continued)

Establishing a physical link



A summary how CompuCALL uses the seven-layer OSI model appears in the following table.

CompuCALL and the seven OSI layers

Layer		Activity
1	Physical	Layer 1 is the physical link between the customer center computer and the switch. The switch contains the: • MPC/EPC card • the wire to the computer • public-switched network (if one is in use) • data units or synchronous modems at each end
2	Data link	Layer 2 transfers information across the link. Layer 2 sends data frames with the necessary procedures for error detection and recovery.
3	Network	At layer 3 the system arranges the X.25 link. This link establishes the switched virtual circuit (SVC) between the customer center computer and the switch. The SVC is important to establish the CompuCALL link later in layer 7. Layer 3 establishes, maintains, and terminates connections. Layer 3 allows the system to encode and route transmission messages.
4	Transport	Layer 4 is not for CompuCALL and is not supported. Layer 4 provides procedures for data transfer between and in networks.
5	Session	Layer 5 is not for CompuCALL and is not supported. Layer 5 provides an interface to the network to establish and manage a data transfer session.
6	Presentation	Layer 6 uses a separate syntax to transfer data between systems with different data formats. Only a small part of Layer 6 is for CompuCALL.
7	Application	At layer 7, the customer computer sends the CompuCALL logon message (dv-Appl-Logon) to the switch to establish a CompuCALL link. After the system establishes the CompuCALL link, the CompuCALL application messages can switch back and forth. This action provides the customer center with CompuCALL service. The customer center computer and the switch must be be at layer 7 to communicate. The system can establish Layer 7 after the system completes the other six layers complete.

Switch-to-link configurations

Two methods are present to configure the connection between switch and customer center. These methods are point-to-point and public-switched

ACD CompuCALL (continued)

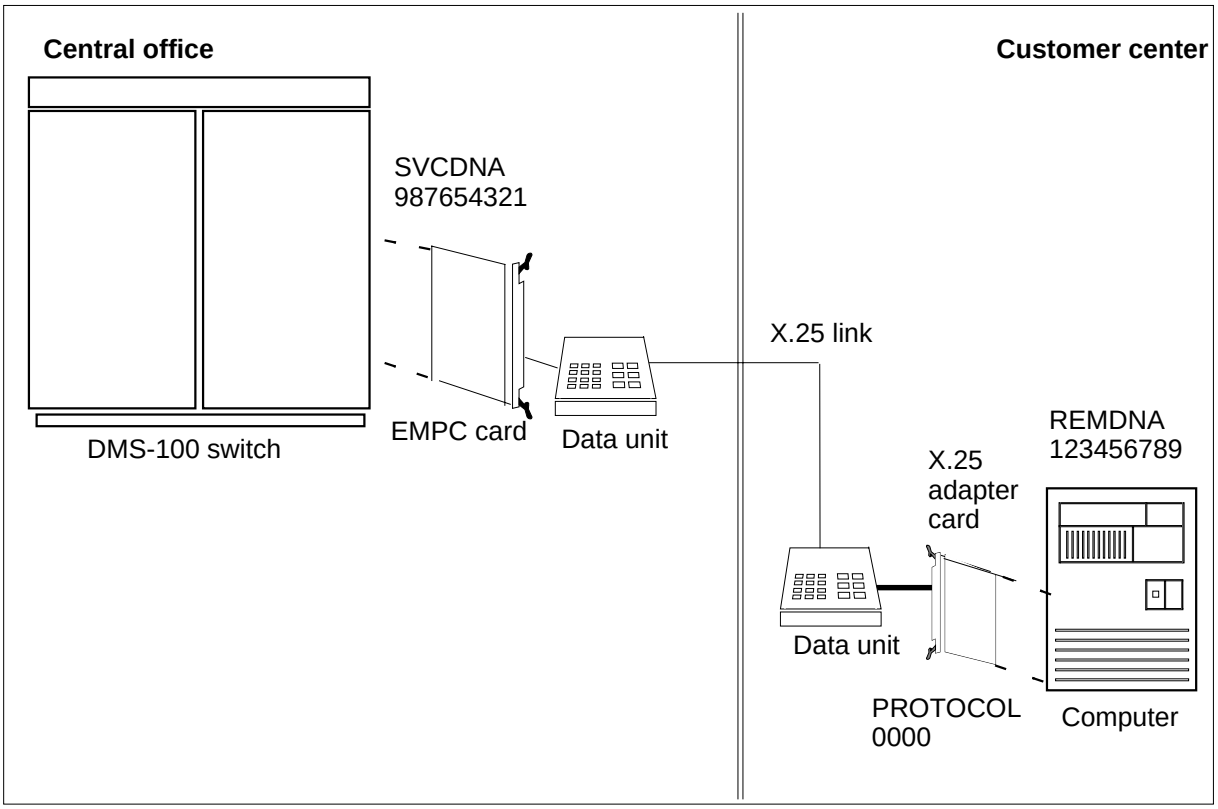
configuration. Nortel does not choose between point-to-point and public-switched configurations for CompuCALL. Both configurations are correct. The choice of configuration depends on the requirements of the operating company and the requirements of the public-switched network.

Point-to-point configuration

The operating company controls all switch-to-computer connections in a point-to-point configuration. The physical link often involves direct point-to-point wire connection over a dedicated private telephone line.

A point-to-point configuration appears in the following figure.

Point-to-point configuration



Public-switched configuration

Public-switched networks overcome the distance limits of point-to-point. Public-switched networks can provide cost and efficiency advantages under the right conditions. Contact your Nortel representative for details.

In a public-switched network, the network supplies address information of the network for the switch and computer. The switch address is the Switch Virtual

ACD CompuCALL (continued)

Circuit Data Network Address (SVCDNA). The computer address is the Remote Data Network Address (REMDNA). See the following figure Public-switched network configuration.

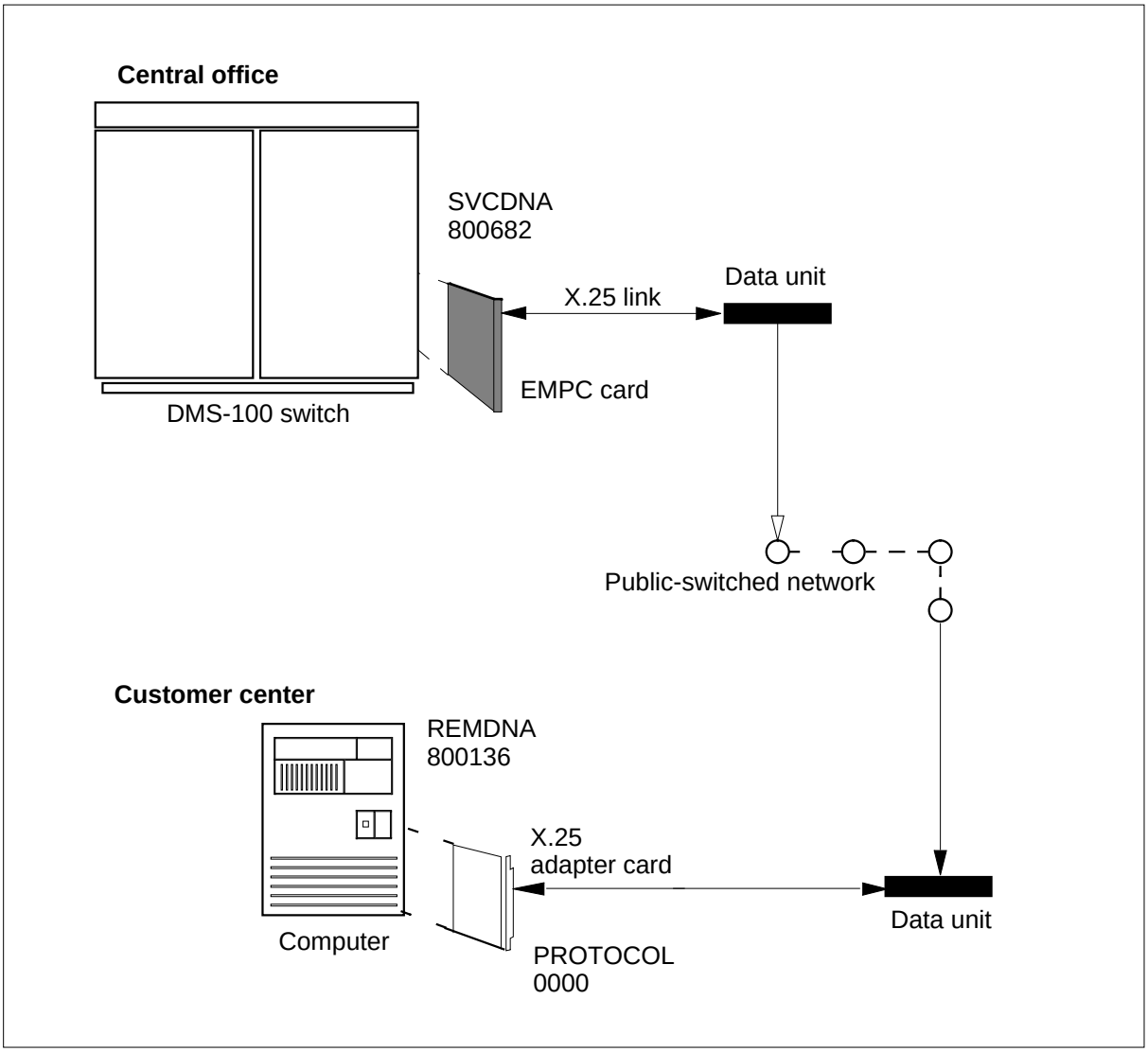
You must supply the address information of the network. Enter this information in the switch and computer. Before you enter the switch, allow time to obtain the addresses from the network.

If the CompuCALL link involves a public-switched network, the switch uses DATAPAC. The DATAPAC is a system to transmit data between switching points over a switched network dedicated to data. The DATAPAC transmits and checks packets of data for errors before DATAPAC sends additional packets.

A public-switched network configuration appears in the following figure.

ACD CompuCALL (continued)

Public-switched network configuration



The CompuCALL link and data signaling

The customer center computer starts two separate connections with the switch. The first connection establishes an X.25 link. The second connection establishes a CompuCALL link.

The CompuCALL link is a signaling interface between the switch and the computer. The information that routes across the signaling link allows applications that run in the switch to communicate. Applications that run in the switch can communicate with applications that run in the computer.

Multiple CompuCALL links

CompuCALL users can subscribe to multiple CompuCALL links. A link is a logical SVC that messages flow over. The messages flow between a computer and a switch. A linkset is a group of related links. Linksets relate to one application instance. An application instance occurs when a computer starts a CompuCALL service, like CVD, Call Redirection, or Make Call.

A maximum of eight links can be in use for each linkset. A maximum of eight linksets can be in use for each SCAI group.

The information that routes across the link includes CompuCALL messages. Some messages originate from the switch. Some messages originate some from the computer.

CompuCALL message terminology

The following terminology describes 3WC and CXR synchronization message plans for the Basic Agent Desktop function:

- controller—the party that presses the 3WC or CXR key or flashes to start a 3WC or CXR event.
- first leg party—the party that connects to the controller in the established call
- consult party—the third party the controller adds to the call
- first leg—the original two-party call
- consult leg—the call from the controller to the consult party. Another name for this term is the second leg

ACD CompuCALL messages

CompuCALL service options, with associated messages, for ACD call centers appear in the following list. Refer to MDC and RES CompuCALL messages in this feature description for MDC and RES messages:

- Coordinated Voice and Data (Category ACDEVENT in table SCAISSRV)
  - — dv-Call-Answered-U—The switch provides information about an ACD call to the host computer when the agent answers.
  - — dv-Call-Offered-U—The switch sends this message to the business computer when an agent is to handle the call. This selection allows the computer to provide coordinated voice and data delivery to the agent.
  - — dv-Call-Queued-U—The switch sends this message to the business computer when the the system places call in the incoming call queue.

ACD CompuCALL (continued)

This message allows the computer to have more time to generate a screen display.

— dv-Call-Released-U—The switch sends this message to the business computer when one of the following events occurs:

  – the agent disconnects from an inbound or outbound ACD call

  – the system redirects an ACD call

  – an ACD call overflows or the caller abandons the call

— dv-Agent-Logged-In-U—The switch sends this message to the computer when the following conditions occur:

  – an ACD agent position requests to log in

  – the login completes.

— dv-Agent-Logged-Out-U—The switch sends this message to the computer. The switch sends this message when an ACD agent position requests to log out and the log out completes.

— dv-Agent-Ready-U—The switch sends this message to the computer when an ACD agent requests availability and the request completes.

— dv-Agent-Not-Ready-U—The switch sends this message to the computer. This event occurs when an ACD agent makes a not available request and the request completes.

- ACD Third-Party Call Control (Category TPCC in table SCAISSRV)

  — dv-Answer-Call—The switch sends this message to the host computer to answer an incoming call. The incoming call is for an ACD agent, MDC line, or RES line.

  — dv-Hold-Call—The host computer sends this message to the switch to place a call on hold. The call to hold is for an ACD agent, MDC line, or RES line.

  — dv-Release-Call—The host computer sends this message to release a call for an ACD agent, MDC line, or RES line.

  — dv-Unhold-Call—The host computer sends this message to the switch to unhold a call that has been placed on hold manually or through ICM. Then, the switch reports the DV_CALL_UNHELD_U call event message to the host computer. This action also identifies the DN that initiates the original call control DV_UNHOLD_CALL message as the unholding party. This request is for an ACD agent, MDC line, or RES line.

  — dv-Call-Held -U— The switch reports this message to the host computer. The call must be placed on hold manually or through ICM.

A user places the call on hold manually using Call Hold (CHD), Permanent Hold (HLD), hold key, and auto hold in order for the host computer to receive the message. This message is supported for ACD, MDC, RES, and CTX agents.

— dv-Call-Unheld-U—The switch sends this message to the host computer when an ACD agent takes a call off hold using a DN key. The agent must place the call on hold with the ICM feature or place the call on hold manually. In order to report this call event, the agent associates the DN unholding the call to a Switch-Computer Applications Interface (SCAI) session.

— dv-Call-Consult-Originated-U—The switch sends this message to the host application. This event occurs when one party of a two-party call activates option 3WC or CXR. The party activates option 3WC or CXR to add a third-party to the call. A consult call indicates that a line is in an active call and requests to put the original call on hold. This action originates a consult call. This message provides part of the Basic Agent Desktop functionality.

The switch sends dv-Call-Consult-Originated-U message in intraswitch and interswitch consult leg call plans.

The 3WC or CXR controller must associate with a line to receive this incoming call event message. Send the DN-Associate message that contains the DN of the line to the switch. This action associates the controller to a line. Send the message from the host computer.

— dv-Call-Conferenced-U—The switch sends this message to the host application when one party activates option 3WC or CXR. The party activates option 3WC or CXR to start a telephone conference with other parties. This message provides part of the Basic Agent Desktop functionality.

The switch sends dv-Call-Conferenced-U message in intraswitch and interswitch consult leg call plans.

The 3WC or CXR controller must associate with a line to receive this incoming call event message. Send the DN-Associate message that contains the DN of the line to the switch. This action associates the controller to a line. Send the message from the host computer.

The switch sends the dv-Call-Conferenced-U message for the consulted DN when the following conditions occur. The consult leg call is intraswitched and the consult DN in the consult leg call is associated. In this event, the message does not contain the first-leg DN because of privacy considerations.

— dv-Call-Transferred-U—The switch sends this message to the host application when a called party activates option 3WC or CXR. The

ACD CompuCALL (continued)

called party activates option 3WC or CXR release and transfer the original calling party to a third-party. This message provides part of the Basic Agent Desktop functionality.

The controller and the original calling party must be on the same switch. When the switch sends event message, the system drops the controller transfers the call.

The 3WC or CXR controller must associate with a line to receive this incoming call event message. Send the DN-Associate message that contains the DN of the line to the switch. This action associates the controller to a line. Send the message from the host computer.

— dv-Add-Party—This message allows the host computer to start a consult call for a specified agent position. For MDC and RES customers, this message provides part of the SCAI Three-Way Calling service.

— dv-Conference-Party—This message allows the host computer to start a conference call for a specified agent. The conference call can have held and consult calls. For MDC and RES customers, this message provides part of the SCAI Three-Way Calling service.

— dv-Drop-Party—This message allows the host computer to request the release of a consult call. This message allows the host computer to request the connection to the second party again for a specified agent position. For MDC and RES customers, this message provides part of the SCAI Three-Way Calling service.

— dv-Transfer-Party—This message allows the host computer to transfer a call for a specified agent position. For MDC and RES customers, this message provides part of the SCAI Three-Way Calling service.

— dv-Make-Call—This message allows a business computer to start an outbound call for a specified ACD agent position ID. The switch alerts the agent with a distinctive ringing tone when the switch originates an outbound call for that agent. As an option, the switch sets up an outbound call for the agent. The computer first verifies the authorization code, account code, or both, the business computer sends. The DN does not have to associate with the session to attempt to start the call.

The Basic Agent Desktop function allows the dv-Make-Call message to originate without alerting. If the dv-Make-Call message originates without alerting, the system applies a buzz to the base of the telephone set. The call setup routes the call to the destination or the system applies a tone to the base of the telephone set. The call setup routes the call to the destination.

- Call Routing (Category ROUTING in table SCAISSRV)
  - — dv-Call-Received-C—The switch sends this message to the business computer when the switch receives an ACD call. The switch waits for the reply of the computer to determine if redirection is necessary.
  - — dv-Call-Redirect—The switch sends this message to the business computer to allow the computer to redirect an ACD call. The computer can redirect the call to another primary or auxiliary ACD, MDC, or RES DN.
- ACD Third-Party Agent Control (Category TPAC in table SCAISSRV)—The dv-Set-Feature message allows the host application to start one of the following agent-related functions for a specified agent position: Agent Login, Agent Logout, Agent Ready, and Agent Not Ready.
- Resource Query (Category RESOURCE)—The dv-Resource-Query message allows the host application to request resource status information. The host requests this status from the DMS-100 switch on a specified ACD group.

MDC and RES CompuCALL messages

The available CompuCALL service options with associated messages for MDC and RES lines appear in the following list:

- Coordinated Voice and Data (Categories CTXEVENT and RESEVENT in table SCAISSRV)
  - — dv-Call-Offered-U—The switch sends this message to a customer center computer. This event occurs when the switch selects a user to receive a call. The message provides the computer with call-related information. This information appears at the workstation of the user. The information appears at the same time the user receives the voice call at his or her set.
  - — dv-Call-Answered-U—The switch sends this message to the computer to indicate that the user answers the telephone.
  - — dv-Call-Released-U—The switch sends this message to the computer when a call releases. A call releases if the user disconnects a call, the call overflows, transfers, or redirects. The call releases if the caller abandons the call before the caller offers the call to an user.
  - — dv-Set-Off-Hook-U—This switch sends this message to the computer. This event occurs when an associated line is off-hook and the system

ACD CompuCALL (continued)

allocates the line for a call. The line can activate a feature or originate a call.

- MDC and RES Call Control (Category SCAICC)
  - — dv-Answer-Call—The host computer uses this message to answer an incoming call for an ACD agent, MDC line, or RES line.
  - — dv-Hold-Call—The host computer uses this message to place a call on hold. This call is for an ACD agent, MDC line, or RES line.
  - — dv-Release-Call—This host computer sends this message to release a call for an ACD agent, MDC line, or RES line.
  - — dv-Unhold-Call—The host computer sends this message to unhold a call for an ACD agent, MDC line, or RES line. This action occurs if the call is placed on hold using ICM or if the user places the call on hold manually.
  - — dv-Call-Held-U— The switch reports this message to the host computer. This action occurs when a call is placed on hold manually by Call Hold (CHD), Permanent Hold (HLD), hold key, auto hold, or through the ICM (dv_hold_call)message. This message is supported for ACD, MDC, RES, and CTX agents.
  - — dv-Call-Unheld-U—This call event message is sent to the switch to the host when a call has been unheld through ICM (CompuCALL) or unheld manually by the user. To unhold a call manually, the user presses the DN key on an MBS/MFT set or flashes a 500/2500 set with the CHD, or HLD feature to unhold the call.
- Call Initiation (Category CALLINIT in table SCAISSRV)—The dv-Make-Call message allows a computer to start an outbound call for a specified user position. The position is a specified DN. The switch alerts the user with a distinctive ringing tone when the switch originates an outbound call for that user. As an option, the switch arranges an outbound call for the user. The computer must verify the authorization code, account code, or both, that the computer sends.

  The Basic Agent Desktop function allows the dv-Make-Call message to start without alerting. If the dv-Make-Call message starts without alerting. The system applies a buzz to the base of the telephone set. The call setup routes the call to the destination or the system applies a tone to the base of the telephone set. The call setup routes the call to the destination.

- SCAI Three-Way Calling (Category SCAI3WC in table SCAISSRV)
  - — dv-Add-Party—This message allows the computer to start a consult call for a specified user position.
  - — dv-Transfer-Party—This message allows the computer to transfer a call for a specified user position.
  - — dv-Conference-Party—This message allows the computer to start a conference call (with held and consult calls) for a specified user.
  - — dv-Drop-Party—This message allows the computer to request the release of a consult call to the second party again. This action occurs for a specified user position. This message allows the computer to request the connection.
  - — dv-Call-Consult-Originated-U—The switch sends this message to the host application. This event occurs when one party of a two-party call activates option 3WC or CXR. This option adds a third-party to the call. A consult call indicates that a line is in an active call. A consult call means a line requests to put the original call on hold to originate a consult call. This message provides part of the Basic Agent Desktop functionality.

    The system sends the dv-Call-Consult-Originated-U message in intraswitch and interswitch consult leg call plans.

    The 3WC or CXR controller must associate with a line to receive this incoming call event message. Send the DN-Associate message that contains the DN of the line to the switch. This action associates the controller to a line. Send the message from the host computer.
  - — dv-Call-Conferenced-U—This switch sends this message to the host application when one party activates option 3WC or CXR. The party activates the option to start a telephone conference with other parties. This message provides part of the Basic Agent Desktop functionality.

    The switch sends dv-Call-Conferenced-U message in intraswitch and interswitch consult leg call plans.

    The 3WC or CXR controller must associate with a line to receive this incoming call event message. Send the DN-Associate message that contains the DN of the line to the switch. This action associates the controller to a line. Send the message from the host computer.

    The switch sends the dv-Call-Conferenced-U message for the consulted DN. The switch sends the message if the following events occur:

    – the consult leg call is intraswitched

    – an associated consult DN is in the consult leg call

ACD CompuCALL (continued)

If this event occurs, the message does not contain the first leg DN because of privacy considerations.

— dv-Call-Transferred-U—The switch sends this message to the host application when a called party activates option 3WC or CXR. The called party activates the option to release and transfer the original calling party to a third-party. This message provides part of the Basic Agent Desktop functionality.

The controller and the original calling party must be on the same switch. The switch sends this event message when the system drops the controller and transfers the call.

The terminator of the consult leg must associate with a line to receive this incoming call event message. Send the DN-Associate message that contains the DN of the line to the switch. This action associates the controller to a line. Send the message from the host computer.

- Message Waiting Indication (Category SCAIMWTI in SCAISSRV)—The Message-Waiting-U message allows the computer to indicate activation and deactiviation of:
  - — voice-mail message waiting
  - — executive voice-mail message waiting
- DN Query (Category DNQUERY in table SCAISSRV)—The dv-DN-Query message allows the computer to return information about a specified MDC or RES DN. Information can include if the line has associations, if a message waits, or if the line is idle, busy, or ringing.

Translations table flow

The following is a list of CompuCALL translations tables:

- Table Multi-Protocol Controller (MPC) tells the switch the EMPC or MPC card that is for the CompuCALL link.
- Table Multi-Protocol Controller Link (MPCLINK) specifies the X.25 protocol version that a specified MPC link uses.
- Table Switch/Computer Application Interface Communications (SCAICOMS) defines a linkset.
- Table Business Group Data (BGDATA) allows multiple switches to share MDC features.
- Table Switch /Computer Application Interface Group (SCAIGRP) lists CompuCALL links. Table SCAIGRP associates the links with business group identifier (BGID) customer groups.

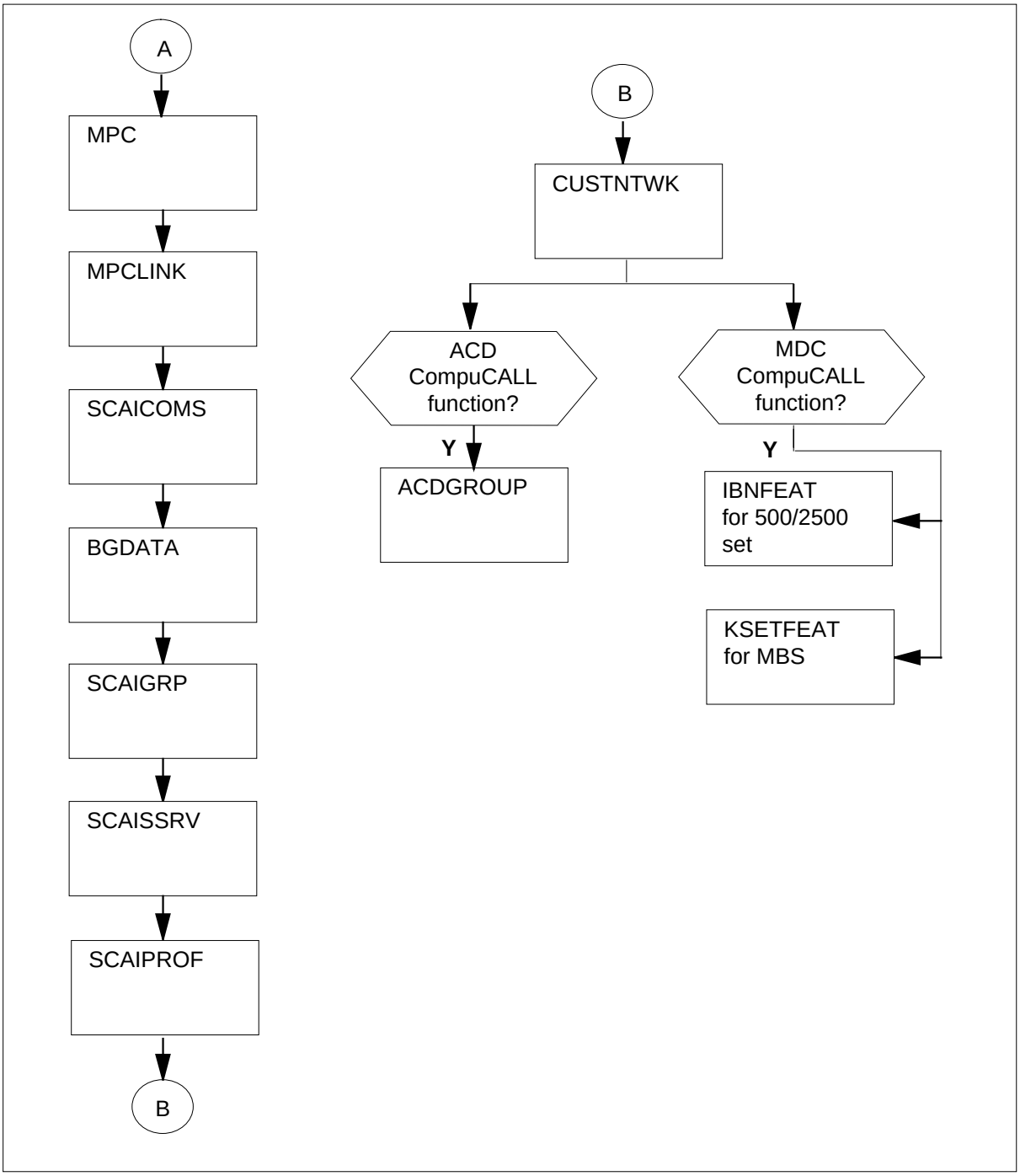
- Table Switch /Computer Application Interface Subservices (SCAISSRV) identifies CompuCALL service categories and messages.
- Table Switch/ Computer Application Interface Profile (SCAIPROF) defines the CompuCALL service profile.
- Table Customer Group Network (CUSTNTWK) specifies that a specified customer group can use CompuCALL. This action can occur after you enter the Enhanced Call Management (ECM) option.
- Table Automatic Call Distribution Group (ACDGRP) defines ACD groups. This table does not apply to MDC CompuCALL.
- Table IBN Line Feature (IBNFEAT) lists line features assigned to MDC lines in table IBNLINES.
- Table Business Set and Data Unit Feature (KSETFEAT) lists line features assigned to the business sets and data units in table KSETLINE.

Table data flow for CompuCALL

The CompuCALL translations process appears in the following flowchart.

ACD CompuCALL (continued)

Table flow for CompuCALL



Datafill content in the flowchart appears in the following table.

Datafill example for CompuCALL

Datafill table	Example data
MPC	3 12 1X89BA MPC036RI
MPCLINK	3 3 NX2580 0 0 (CLKSRCE EXTERNAL) (L2WINDOW 7) (L2MODULO) (MOD8) (L3WINDOW 7) (L3MODULO MOD8) (NODETYPE DCE) (L3DATA P128) (N2 20) (T1_S 5) (T2_S 3) (SVCS2WAY 2) $ (SVCDNA 987654321) $
SCAICOMS	LINKSET1 X25 (MPC 3 3 123456789 0 0 0 0 SVC $)
BGDATA	LOCAL 4118 $ (CUSTGRP WELL_RUN N 329 Y 0 0) $
SCAIGRP	SCAIGRP1 1234 1 LOCAL 4118 (LINKSET (LINKSET1) (SET2)) $
SCAISSRV	ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y) (CALLANSWR Y Y Y Y Y Y Y Y Y Y) (CALLREL Y Y Y Y Y) (AGTLGDIN Y Y Y) (AGTLGDOUT Y Y) (AGTREADY Y Y) (AGTNREADY Y Y N) $
SCAIPROF	LINKSET1 0 (TPCC09$) (SCAI3WC09$) (ACDEVENT36$) (ROUTING35$) (TPAC36$) (RESOURCE35$) $
CUSTNTWK	WELL_RUN PUBLIC 10 $ (ECM) $
ACDGRP	SCAIREDIR MSGTO NCOS BILLDN OPTION ACDGRP1 WELL_RUN 20 OFRT 10 + OFRT 11 30 N 3 25 N N OUTBOUND N N (SCAIREDIR 2 0 4817856) $
IBNFEAT	HOST 06 1 05 29 0 ECM ECM Y Y Y Y Y $
KSETFEAT	HOST 06 1 05 30 1 ECM ECM Y Y N Y Y $

Limits

The following limits apply to CompuCALL:

- Coordinate datafill at the switch with datafill in the host computer.
- Establish special limits on CompuCALL functionality through the office parameters tables. To increase service limits, contact Nortel to update office parameters.
- The DN association, SCAI call control, and event messages only apply to single DN appearance for each line. For example, features MADN and Huntgroup in which you assign one DN to multiple lines, do not have support.
- Multiple Appearance Directory Number (MADN), Huntgroup, and uniform call distribution (UCD) DNs cannot associate with a

ACD CompuCALL (continued)

CompuCALL session through the dv-DN-Associate message. The DNs cannot be the origination address parameter of the following call control messages:

— MakeCall

— Add Party

— Drop Party

— Conference Party

— Transfer Party

The primary DN of the feature Residential Teen Service feature can associate with a CompuCALL session through the dv-DN-Associate message. The primary DN can be the origination address parameter.

- An MDC line can associate with a session if you assign option ECM to a line. Options ECM and CHD (Call Hold) are not compatible in a service order (SERVORD). A host computer cannot associate huntgroup lines. You can assign option ECM to huntgroup lines. Send one dv-DN-Associate message for each DN to associate. Each DN can associate with one CompuCALL session at a time.
- A minimum of one correct event message must be subscribed to in table SCAISSRV. You must include the message in the SCAI profile in table SCAIPROF to associate a DN. The SCAI profile is the profile of the session of the SCAI group in table SCAIGRP. Event messages include Call Offered, Set Off Hook, Call Answered, Call Queued, Call Released, Call Unheld, and Message Waiting. The line to associate must subscribe to option ECM with the Call Events or Message Waiting suboptions. If the line does not subscribe to event messages, the system denies association of an MDC/RES DN to a session.
- The system only supports the dv-DN-Associate message with the DEFINE operation for ACD DNs.
- The dv-Release-Call message cannot release calls that involve a user and an attendant console. A return error of Call-Not-Releasable-By-User returns to the host. The call continues. The call is not affected.
- The user can be in a multiple-call event other than 3WC, like ACD Observe or 6-Way Conferencing. When this condition occurs the user cannot release calls. The system sends an error message to the host.
- The dv-Answer-Call message answers incoming calls and dv-Make-Call alerting. This message cannot answer the other party of outgoing calls.
- The user must be in an active call to use the dv-Hold-Call message.

- The dv-Hold-Call message is a CompuCALL-based hold. This message cannot interchange with MBS hold, Permanent Hold (HLD), Call Hold (CHD), Autohold, and Kset Music on Hold (KSMOH).
- The dv-Call-Held-U event message, dv-Call-Unheld-U event message, and the dv-Unhold-Call control message do not change the functionality of the Call Hold (CHD) feature , Permanent Hold (HLD) feature, or the Hold Key feature.
- The CompuCALL Basic Agent Desktop function supports the following business sets:
  - M5009 Meridian Business
  - M5112 Meridian Business
  - M5209 Meridian Business
  - M5312 Meridian Business
  - M5212 Meridian Business
  - EBS
  - PSET with Display
  - MBS II series
- The CompuCALL Basic Agent Desktop function does not support the following activities on 500/2500 sets:
  - 3WC or CXR lamp synchronization
  - Make Call without alerting

Interactions

The following paragraphs describe the interactions between CompuCALL and other functionalities.

CompuCALL 3WC/CXR and 3WC call events

The following interactions apply to CompuCALL 3WC/CXR and 3WC call events:

ACD CompuCALL (continued)

Consultation, Conference, and Transfer (Options 3WC and CXR)

The following interactions apply to options 3WC and CXR:

- Consultation, conference, and agent control functionality allow the call center to use the agent telephone or the workstation terminal. The agent performs the following actions to activate consultation:

  — use the telephone to put the calling party on hold

  — transfer the call (without the information screen)

  — end the transfer or get off the line

  The agent can use the workstation keyboard to perform these functions. Agents can use the telephone or a workstation terminal to perform consultation, conference, and agent control functions. Agents cannot use both the telephone and workstation during a single session.

- The switch can send the dv-Add-Party, dv-Conference-Party, or dv-Transfer-Party messages as a result of SCAI Three-Way Calling or Transfer operations. When this condition occurs the switch sends dv-Call-Consult-U, dv-Call-Conferenced-U, or dv-Call-Transfered-U. These actions occur for the Basic Agent Desktop function.

- When the switch sends the ACD 3WC event messages, the controller DN and consult DN parameters are in Position ID format. This action occurs for the Basic Agent Desktop function.

- The intraswitch consult leg call can be to an ACD group. When this condition occurs the switch sends the messages the dv-Call-Conferenced-U message for the consulted DN. The switch sends the message when the system offers the call to an agent. The switch does not send this message for the consulted DN of the ACD group when the call is queued. The switch sends the message for the controller DN. The system can queue the intraswitched conferenced call to an ACD group. When this condition occurs the dv-Call-Conferenced-U message of the controller DN contains the ConsultDN in the dialed digits format. The message does not contain the format in the station number format. These actions occur for the Basic Agent Desktop function.

Calling Number Delivery Blocking (CNDB) and Suppress with 3WC events

The controller can terminate the first leg call. If this event occurs the controller does not have the firstlegDN field of the dv-Call-Conferenced-U message. The controller can be the originator of the first leg call. If this event occurs the firstlegDN field is in the dv-CALL-Conferenced-U message. These actions occur for the Basic Agent Desktop Function.

For intraswitch second leg call, the consult party does not have the ControllerDN field of the dv-Call-Conferenced-U message. This condition occurs when you enter the CNDB and suppress features.

The otherPtyDN field of the dv-Call-Transferred-U message is not available if you enter the CNDB and suppress features.

Calling Name Delivery with 3WC events

The new 3WC call events do not provide the Calling Name. The Call Name Delivery or Calling Name Delivery Blocking features do not impact the Basic Agent Desktop function. This action occurs for the Basic Agent Desktop function.

Feature Access Code with 3WC and CXR events

The 3WC or CXR controller can press the 3WC or CXR key and dial a feature access code. When this condition occurs, the system does not send the dv-Call-Consult-Originated-U message to the switch. This action occurs for the Basic Agent Desktop function.

Call Forward Universal (CFU) and Call Forward Don't Answer with 3WC events

The controller activates the 3WC or CXR option to start a consult leg call with a third-party (Party C). Party C activates CFU or CFDA to a fourth party (Party D). Call Fwd appears on the display on Party D. The switch sends the dv-Call-Transferred-U message to Party D during call transfer. The switch sends this message even when Call Fwd and not Call Transfer appears on the display on Party D. These actions occur for the Basic Agent Desktop function.

Emergency Services

Emergency Services for essential service lines (ESL) and emergency service bureaus (ESB) retain call control. The party that makes the call cannot hold or release an ESL or ESB call. The system rejects a dv-Hold-all request with a Return Error of Call-Not-Holdable-By-User. The system rejects a dv-Release-Call request with a return error of Call-Not-Releasable-By-User. An ESL or ESB call ends when the ESL line releases the call.

Teen Service

The Teen Service feature allows members of the same home to have separate phone numbers. A single line can support one primary DN and a maximum of six secondary DNs (SDN). The DNs have different ringing patterns for each number. The following interactions apply to Teen Service:

- If calls terminate to an SDN of the Teen Service feature, the switch sends the associated call event messages. The switch sends the messages for the

ACD CompuCALL (continued)

call that specifies the SDN as the terminating device ID. The primary DN needs an association. The SDN cannot associate.

- The switch can send a dv-Answer-Call message to an SDN. This event occurs when the system identifies the SDN in the answering party of the message.
- A dv-Hold-Call message can place an SDN in an active call.
- A dv-Release-Call message can release an SDN.
- A Teen Service SDN can be the consult DN of a 3WC or CXR activity. When this condition occurs the consult DN in the dv-Call-Conferenced-U message is the primary DN. The consult DN in the message is not the SDN. This action occurs for the Basic Agent Desktop function.

  The switch can send the consult DN in the dv-Call-Consult-Originated-U message in the dialed digits format. The dialed digits contain the Teen Service SDN.

Make Call

The following interactions apply to Make Call:

- The switch can send a dv-Answer-Call message in response to the alerting stage of a dv-Make-Call request. This message arranges processing of the outbound call.
- A dv-Release-Call message can terminate an outgoing call that receives information like switch announcements. This action can occur if the call starts with a dv-Make-Call request. A dv-Release-Call message can terminate an dv-Make-Call not confirmed request.
- The XPM software load of the peripheral, that the originating lines belong to must be release XPM05 or a later version. This condition must occur to allow option HSET to function. This action is for the Basic Agent Desktop function.

Call Pickup

The following interactions apply to Call Pickup:

- A dv-Answer-Call message can answer a call on another DN if the DN is in the call pickup group.
- A dv-Hold-Call message can place an active Call Pickup call on hold.
- A dv-Release-Call message can release a Call Pickup party.

Call Waiting

The switch can send a dv-Answer-Call message to answer a call that Call Waiting offers. The system connects the user to the waiting call and the system

places first call on hold. This procedure is like the user flashes to accept a Call Waiting call.

If call waiting is active on the DN of the user, a dv-Release-Call message releases the call. The system connects the user again to the call that waits.

ACD Call Forcing

Call Forcing provides a correct method for an ACD agent that uses an ACD set with a headset to answer incoming calls. Call Forcing can be active and the agent can receive an ACD call. When this condition occurs the agent hears a 500 ms tone in the headset or handset. The system connects the agent with the caller. The agent does not have to press the INCALLS key to answer the call.

The following interactions apply to ACD Call Forcing:

- The system does not allow a dv-Answer-Call message if ACD Call Forcing is active on the call.
- You can enter ACD Call Forcing for the ACD group or the agent position for the Basic Agent Desktop functions. When this condition occurs, the dv-Make-Call message activates with a valid MakeCallType parameter. The agent position that uses the INCALLS Key automatically answers the call alert. The tone or buzz depends on the ACD Call Forcing datafill. The ACD Call Forcing is more important than the MakeCallType choice.

Call Hold interactions

You can use the hold key to hold a call on a Meridian Business Set (MBS Hold). If this event occurs the party on hold can manually release from the call. The MBS user cannot release manually. A dv-Release-Call message allows both partys to release from the call.

A party can use the Permanent Hold (HLD) feature to hold a call. If this event occurs the party on hold can manually release from the call. The holding party cannot release manually before the holding party flashes to reconnect the call. A dv-Release-Call message allows a user to release from a call the HLD feature holds.

An agent on an INCALLS key call can press another DN key (Autohold) or press the MBS hold key (Local Hold). These actions place an active call on hold. These actions make the second DN the active call. The agent cannot release the first call until the agent presses the Incalls Key. This action reactivates the key of the first call. If Autohold or Local Hold is active, the agent cannot use dv-Release-Call to terminate the call.

ACD CompuCALL (continued)

If Autohold or Local Hold can hold a call that receives Kset Music on Hold (KSMOH) treatment. When this condition occurs, a dv-Release-Call message allows both parties to terminate the call.

ACD feature interactions

The following interactions only apply to ACD calls:

- The 500/2500 business sets have only one line for ACD and non-ACD (MDC and RES) calls. Checking is in effect. Checking makes sure that dv-Release-Call is available only to the following calls:
  - — ACD calls with an ACD agent position ID
  - — MDC or RES calls
- An ACD supervisor can be on an active ACD or dv-Make-Call initiated call and press the ACD Observe Agent (OBS) key. When this event occurs the system places the active Incalls key on autohold. If the supervisor manually releases, the system releases the OBS call. The supervisor can retrieve the original call with the Incalls Key. The supervisor can use a dv-Release-Call to release the Incalls Key call. This action not affect the OBS call.
- An ACD supervisor can have a call on autohold and be active on an ACD Call Agent (CAG) call. When this condition occurs a manual release terminates the CAG call. A dv-Release-Call message releases the original call on the Incalls Key.
- The ACD agent Call Supervisor (CLSUP) key and the ACD supervisor Answer Agent key (AAK) can place an incoming ACD or dv-Make-Call on autohold. Use the dv-Release-Call message to terminate incalls keys on autohold as a result of the SLSUP or AAK keys.
- An ACD supervisor can be on an ACD call or dv-Make-Call and presses the ACD Forced Agent Availabiltiy (FAA) key. This action forces an agent to the ready state. The supervisor places the Incalls Key call on autohold. A dv-Release-Call message releases the held Incalls Key call. This release does not affect the FAA process. A manual release aborts digit collection and releases the FAA key.
- If an ACD agent logs in on an MBS or 2500 set, a manual release aborts the login attempt. A dv-Release-Call message does not abort the process. The agent can continue the login attempt.
- An ACD supervisor can be on an ACD call when an agent presses the emergency key (EMK), and the supervisor presses the answer emergency key (AEMK). When this condition occurs the original call enters autohold. If the supervisor sends a dv-Release-Call message, the supervisor releases the original call. This action does not affect the AEMK call.

- An agent can be on an ACD call and can press the EMK key. When this condition occurs the supervisor can press the AEMK key to form an immediate conference call. A dv-Release-Call message does not affect the call. The system returns a Return Error message of InvalidCallState to the host computer.
- For the Basic Agent Desktop function, the 3WC event messages go to the ACD agent. The system sends these messages if the call transfers to the INCALLS DN with ACDXFER. The transfer occurs if a CompuCALL environment contains an associated DN of the ACD group of the ACD agent.

Multiple-party calls and dv-Answer-Call and dv-Release-Call messages

The dv-Answer-Call and dv-Release-Call messages are available on a limited basis to multiple-party calls. These calls include 3WC, call transfer, quick conference key, and ACD transfer.

The controller in a multi-party call cannot answer with the dv-Answer-Call message during consult or conference conditions. The first party called and the consult (second party) can answer with the dv-Answer-Call message.

The controller in multi-party calls in consult mode can use dv-Release-Call messages to release the consult leg of the call. The type of release determines the impact of a dv-Release-Call message from the controller during a conference call. Two types of release are available. ReleaseThisParty can transfer the call. ReleaseAllParties releases all parties from the conference call. The first party called and the consult (second) party can release with dv-Release-Call.

Display set messages for Basic Agent Desktop

If option Make Call starts a call, the following appears on the originating and destination telephone sets:

- The display on the originating set indicates the call is an outgoing call that goes to the destination DN.
- The lamp and display on the destination set indicates an updated lamp, like the originating caller called the destination directly.

An update of the destination display of a consult call with option CXR can occur. If this event occurs the host receives the dv-Call-Transferred-U message.

Key Set Music On Hold (KSMOH)

The dv-Hold-Call and dv-Add-Party messages on sets with the KSMOH option provide music to the caller.

ACD CompuCALL (continued)

Activation/deactivation by the end user

CompuCALL requires activation by the end user. The end user is the customer center. The customer center must include advanced preparation of computer software and network to channel CompuCALL computer signals. The customer center channels these signals to and from customer center users.

Activation/deactivation of ACD CompuCALL by the customer center

At the customer center computer

1 Send a message to the DMS-100 Family switch to request establishment of an X.25 link. The message transfers over a dedicated line or a public-switched network. This event occurs after the switch makes sure a complete physical link connection is present. This connection involves data units or synchronous modems at each end.

Response:

The switch automatically responds. If the configuration is correct, the switch establishes an X.25 link to reply to the message. The letter L appears on the MAP position on line 9 or 10 of the SCAIX25 submenu. The letter L indicates to the operating company that the switch established the link. See “Datafilling table SCAICOMS" in this feature description.

2 The computer sends a message to the switch to request establishment of a CompuCALL link. The message is dv-Appl-Logon.

Response:

This logon request causes the switch to query the customer center for the password. The request causes the switch to check on types of services available. The switch checks the number of links and linksets for each customer center computer. When the switch establishes the CompuCALL link the switch responds. Service can begin.

3 Make sure that LANs between your computer and the computer of the users operate correctly. The messages link to records in your computer.

Response:

A computer-to-workstation connection makes sure that an incoming telephone call and caller-related records arrive together at the users. A CompuCALL message generates the caller-related messages.

Billing

CompuCALL does not affect billing directly. Automatic message accounting (AMA) records related to ACD, MDC, or RES calls pick up voice calls to customer centers or call centers. Office parameter tables that reflect end user use and tables that are for billing purposes measure CompuCALL functionality. See “Datafilling office parameters" in this feature description.

Station Message Detail Recording

The Station Message Detail Recording (SMDR) system provides recording facilities for the details of billable and nonbillable calls for each MDC customer group. Each ACD group uses MDC software.

If the CompuCALL redirection feature is active for an ACD group, SMDR can be affected. The SMDR is an originating feature. The SMDR must be active in each switch for each leg of a redirected call.

During the CompuCALL Make Call procedure, the user or computer can specify account code digits to track cost accounting. Enter the information in the SMDR stream. The operating company can use the information for charge back account purposes.

Datafilling office parameters

The office parameters that CompuCALL uses appear in the following table. Refer to *Office Parameters Reference Manual* for additional information on office parameters.

Office parameters by CompuCALL (Sheet 1 of 3)

Table name	Parameter name	Explanation and action
OFCENG	AUXCP_CPU_ SHARE	This parameter provides CompuCALL service performance protection when the switch is in heavy use. The operating company uses this parameter to manipulate computing module (CM) real time (RT) for CompuCALL messages. This parameter adjusts maximum RT auxiliary call processing (AUXCP) use during call processing overload. The range is 1 to 25 (%). The default value is: 6 with high speed Simplified Message Desk Interface [SMDI] software. Simplified option is set the parameter to 25.
OFCOPT	MAX_NUM_ECM_ ACDEVENT	This ACD line call event includes features that provide coordinated voice and data and a part of agent control ability. Messages contain CALLQUED, CALLREL, CALLANSWR, CALLOFFR, AGTLGDIN, AGTLGDOUT, AGTREADY, and AGTNREADY.
	MAX_NUM_ECM_ ROUTING	Custom call routing allows call redirection. Custom call routing includes messages CALLRECC and CALLREDIR.
	MAX_NUM_ECM_ TPCC	Third-party call control includes the messages ADDPTY, MAKECALL, TRANPTY, DROPPTY, and CONFPTY.
	MAX_NUM_ECM_ RESOURCE	This resource category contains the ACDQUERY message to help the business computer track of CompuCALL traffic.
	MAX_NUM_ECM_ SVC	This parameter allows establishment of an SVC. This parameter set limits for CompuCALL link use. An SVC is like an X.25 link. A call center uses a maximum of eight SVCs for each linkset between switch and computer.

ACD CompuCALL (continued)

Office parameters by CompuCALL (Sheet 2 of 3)

Table name	Parameter name	Explanation and action
	MAX_NUM_ECM_ TPAC	Third-party agent control allows the call center computer to log agents in and out and make agents ready or not ready. The messages contain LOGINAGT, LOGOUTAGT, READYAGT, and NREADYAGT.
	MAX_NUM_ECM_ CTXEVENT	This parameter establishes the CTXEVENT category with the three MDC CompuCALL messages of the category. The messages are available for entry in tables SCAISSRV and SCAIPROF. The CTXEVENT category provides CVD to MDC customer centers that use messages CALLANSWR, CALLOFFR, and CALLREL.
	MAX_NUM_ECM_ RESEVENT	A CompuCALL application can request to associate a RES line to a session to receive call events for that line. This action requires this parameter.
	MAX_NUM_ECM_ CALLINIT	A CompuCALL application can request a MakeCall on an MDC or RES line. This request occurs from a session to originate a call from that line. This condition requires this parameter.
	MAX_NUM_ECM_ SCAI3WC	A CompuCALL application can request an Add Party, Conference Party, Drop Party, or Transfer Party on an MDC or RES line. This application requires this parameter. This request occurs from a session to perform functions like Three-Way Calling (3WC) from that line.
	MAX_NUM_ECM_ SCAIMWTI	A CompuCALL application that requests the SCAI Message Waiting notification message requires this parameter. The message is for an MDC or RES line from a session for that line.
	MAX_NUM_ECM_ DNQUERY	A CompuCALL application that queries an MDC or RES line from a session requires this parameter. This query wants to receive information about that line with the dv-DN-Query message.
	MAX_NUM_RES_ ASSOC	A CompuCALL application can associate a RES line to a session. This action requires this parameter This association occurs to receive call events or message waiting notifications for that line.
	MAX_NUM_CTX_ ASSOC	A CompuCALL application can associate an MDC line to a session to receive call events or message waiting notifications for that line. This action requires this parameter.

Office parameters by CompuCALL (Sheet 3 of 3)

Table name	Parameter name	Explanation and action
	MAX_NUM_ECM_ SCAICC	A CompuCALL application can associate a RES or MDC line to a session. This action requires this parameter. This association occurs to start answer, release, hold and unhold messages. This association occurs to receive call unheld messages.
	MAX_NUM_ECM_ LINE_MAKECALL	A CompuCALL application can perform a MakeCall on an MDC or RES line from a session. This action requires this parameter. This action occurs to originate a call from that line.
	MAX_NUM_ECM_ LINE_SCAI3WC	A CompuCALL application can perform the following actions on MDC or RES lines from a session. • Add Party • Conference Party • Drop Party • Transfer Party These actions requires this parameter. This action occurs to set up SCAI three-way calling functionality on that line.
	MAX_NUM_ECM_ LINE_SCAIMWT	A CompuCALL application can receive the SCAI message waiting notification. The notification is for an MDC or RES line for a session on that line. This notification requires this parameter.
	MAX_NUM_ECM_ LINE_SCAICC	A CompuCALL application requires this parameter to answer, release, hold, or unhold calls on RES or MDC lines
OFCVAR	SCAI_CONTINUITY_ AUDIT_INTERVAL	This parameter allows the operating company to schedule a CompuCALL continuity test. The range is 0 to 720 min. This range indicates the test runs each 1 to 720 min. 0 means a test does not occur test. The default value is 30 min. Activation is immediate.

Overview of office parameter tables and CompuCALL

Office parameter tables are important for CompuCALL. For example, the AUXCP_CPU_SHARE parameter can be not set or not set correctly in table Office Engineering (OFCENG). When this condition occurs CompuCALL performance can have problems during periods when the switch is in heavy use. If the correct parameter settings are not in table Office Option (OFCOPT), CompuCALL service can be not available.

ACD CompuCALL (continued)

Table OFCENG

The following performance issues affect the state of the AUXCP_CPU_SHARE parameter in table OFCENG:

- the computing module (CM) real time (RT) for the switch that processing CompuCALL messages requires
- the amount of auxiliary call processing (AUXCP) RT the switch uses to reserve CM RT for CompuCALL messages. This action occurs during periods of high call processing. Grade-of-service (GOS) for switch performance determines this amount

Non-switch based performance, like queueing and processing delays at the call center, can affect the whole performance of CompuCALL service.

The operating company uses this parameter to manipulate CM RT for CompuCALL messages. The operating company uses this parameter to adjust the maximum acceptable RT of the AUXCP in overload. All CompuCALL links of the switch share the RT assigned.

Specified CompuCALL messaging processes are scheduled under AUXCP. Adjustments to these schedules can be between 1 to 25%. Other services or products can use this scheduling class. The maximum processes available to CompuCALL can be less than 25%. Switch product mix and service use determine this condition. The CompuCALL processes SCAITRAN and SCAIBASE are scheduled in the AUXCP class. This class makes sure the CM time is available when overall CM call processing occupancy is very high.

To determine an AUXCP_CPU_SHARE setting, Nortel recommends that you set this parameter at 25%. This value allows the maximum percentage of CM occupancy reserved for all AUXCP processes. This value removes the need to calculate AUXCP CM RT for any service. This calculation provides the intended services with maximum available percent RT in busy periods. Busy periods occur when the CM approaches the call-processing load maximum of the CM.

Table OFCOPT

After Nortel confers with the operating companies, Nortel establishes the parameters in table OFCOPT and determines the values.

The parameters related to CompCALL in table OFCOPT are part of a software feature called CompuCALL Pricing Controls. Nortel uses this feature to categorize CompuCALL messages in groups.

To provide CompuCALL service to a call center, the operating company performs the following actions:

- subscribes to parameter MAX_NUM_ECM_SVC in table OFCOPT. This parameter allows establishment of a two-way X.25 link. A call center can subscribe to a linkset that connects the switch to the computer. Each linkset can contain a maximum of eight links for reliability and to share workload. Each link in each linkset counts as one instance in MAX_NUM_ECM_SVC. Enter data for each link in table SCAICOMS.
- subscribes to a CompuCALL category that parameters in table OFCOPT control. For example, parameter MAX_NUM_ECM_ACDEVENT contains the ACDEVENT category defined in table SCAISSRV.
- defines a CompuCALL message in a category at table SCAISSRV.
- determines optional parameters in a message at table SCAISSRV.

The pricing control parameters control maximum limits for in-use levels for CompuCALL message categories. These parameters control maximum limits for the link-use level for CompuCALL.

Table OFCVAR

Table Variable Office Parameter (OFCVAR) contains the office parameters that the operating company can define and change with the table editor.

The SCAI_CONTINUITY_AUDIT_INTERNAL parameter allows the operating company to schedule the CompuCALL continuity test on the X.25 link. The operating company can set variables from 0 to 720 min. These values indicate that the tests run one time every 1 to 720 min. A value of 0 indicates a test does not occur.

The test contains a dv-Appl-Continuity-Test message the business computer or the switch sends. This message tests the logical connection between applications. The parameter arranges for the switch to automatically send the test message.

ACD CompuCALL (continued)

Datafill sequence

The tables that require datafill to start ACD CompuCALL appear in the following table The tables appear in the correct entry order.

Datafill requirements for CompuCALL (Sheet 1 of 2)

Table	Purpose of table
OFCENG	Table Office Engineering contains data on engineering parameters for the office. Refer to How to enter data into office parameters for information on how ACD CompuCALL affects office parameters.
OFCOPT	Table Office Option contains data on engineering options for the office. Refer to *Office Parameters Reference Manual* for information on how ACD CompuCALL affects office parameters.
OFCVAR	Table Variable Office Parameter contains data on different office parameters for the office. Refer to *Office Parameters Reference Manual* for information on how ACD CompuCALL affects office parameters.
MPC	Table Multi-Protocol Controller (MPC) indicates the switch which EMPC or MPC card is in use for the CompuCALL link. The customer center can decide to use multiple links. If this event occurs a maximum of eight can be present for each connection between switch and computer. The Nortel recommendation is to use more than one MPC/EMPC card. The names and locations of the card or cards are determined at this table.
MPCLINK	Table Multi-Protocol Controller Link (MPCLINK) specifies which of two X.25 protocol versions a specified MPC link uses. The versions are X2580 (1980 CCITT) and X2584 (1984 CCITT). Both protocols can work with CompuCALL.
SCAICOMS	Table Switch /Computer Application Interface Communications (SCAICOMS) defines a linkset. A linkset transfers from one or more of the switch MPC/EMPC cards to the customer center computer. This linkset can include a maximum of eight links. A linkset uses a maximum of eight X.25 links as the transportation medium of the linkset.
BGDATA	Table Business Group Data (BGDATA) allows multiple switches to share MDC features. This table associates a business group ID with a customer group for CompCALL
SCAIGRP	Table Switch /Computer Application Interface Group (SCAIGRP) lists customer centers with CompuCALL links. Table SCAIGRP associates the BGID customer groups with the links. This table stores all CompuCALL groups, SCAI groups, in a switch. Each group receives a password, network node ID, the linkset from table SCAICOMS, and the BGID the group uses.

ACD CompuCALL (continued)

Datafill requirements for CompuCALL (Sheet 2 of 2)

Table	Purpose of table
SCAISSRV	Table Switch/ Computer Application Interface Subservices (SCAISSRV) operates as a look-up table for CompuCALL service categories and the messages that go in the categories.
SCAIPROF	Table switch/computer application interface Profile (SCAIPROF) defines the service profile a service ID can use. A service profile contains a set of subservices a customer center computer can use.
CUSTNTWK	Table Customer Group Network (CUSTNTWK) specifies that a specified customer group can use CompuCALL services after you enter the ECM option. Addition of the ECM option to table CUSTNTWK can occur at any time. This addition does not depend on entry order.
ACDGRP	Table Automatic Call Distribution Group (ACDGRP) defines ACD groups. Change if the call center requires the following CompuCALL functionality: • Redirection. A call center can program the computer of the call center to redirect the selected incoming calls to another number automatically. • Distinctive ringing for outgoing ACD calls. Distinctive ringing informs the agent that the call ringing is an outgoing call, not a standard incoming call. The agent must answer to signal the computer to dial the outgoing call.
IBNFEAT	Table IBN Line Feature (IBNFEAT) specifies that a specified customer group can use CompuCALL after the group enters the ECM option.
KSETFEAT	Table Business Set and Data Unit Feature (KSETFEAT) lists line features assigned to the business sets and data units in table Business Set and Data Unit Line Assignment (KSETLINE).

Upgrading software and maintaining table integrity

During software upgrades, table control changes that result from the new software can impact on the switch. The One Night Process (ONP) manages the table control changes during an upgrade.

In table SCAISSRV, the CALLOFFR and CALLANSWR fields update in the current default tuples with the CALLNGNAME and CALLNGDIAL subfields. The default for these subfields is N in the CTXEVENT34$ and CTXEVENT35$ default tuples.

In tables with the ECM option, lines with the ECM option continue to have the ECM option after a software upgrade. Lines with the ECM option have additional suboptions available. Call event messages are selected Y and all

ACD CompuCALL (continued)

other messages are set to N. To subscribe to any additional suboptions, the operating company must set the suboption to Y.

Datafilling table MPC

Table MPC identifies the MPC and EMPC card to the central control (CC) of the switch. The CC contains data processing functions associated with data store and program store. In the DMS SuperNode, the CC functions of the switch occur in the central control complex.

The operating company or the customers of the operating company must decide to provision CompuCALL with MPC or EMPC cards. During BCS34, MPC cards were manufacture discontinued. If operating companies with CompuCALL have the MPC card, that card still functions.

The MPC and EMPC have two programmable data communication links. To accomplish real time savings in the switch CM, the MPC and EMPC perform low level data communications. The MPC and EMPC support simultaneous operation of two programmable RS-232 port connections. The maximum baud rate for MPC is 4.8 kbps. The maximum baud rate for the NTIX89BB EMPC card is 19.2 kbps. The EMPC has another capacity to handle baud rates a maximum of 64 kbps. This baud rate applies only to the V.35 port.

Ports 2 and 3 of the EMPC card NTIX89BA have a maximum asynchronous configuration rate of 2400 baud. Ports 2 and 3 of the EMPC card NT1X89BB have a maximum asynchronous configuration rate of 9600 baud.

You can fill a maximum of 256 tuples for table MPC. You can delete tuples when the following events occur:

- the associated MPC and EMPCs are offline
- you delete all associated tuples in table MPCLINK

Download file (DLDFILE) is the only field that can change in a table MPC tuple. Delete and enter the tuple again to change other fields.

Before you enter a tuple, list the directory of the storage device that stores the download file. This action places the file in the user directory where the CC can recognize the time of entry. For example, you can use the List volume (LISTVOL) command on a disk volume, like D000XPM, to list the download file. If a download file is not present, datafill continues with a warning that download can fail.

Enter data in table MPC before table MPCLINK. Table MPCLINK provides protocol support and link information for cards configured in table MPC.

ACD CompuCALL (continued)

You must list the device directories of the download files. This action places the files in the user directory where the CC can recognize the files. Device directories for the download files are not always listed. A warning message appears when you write the tuple to table MPC.

You can identify two MPC/EMPC cards to the CC a NT1X89AA MPC card and a NT1X89BA/BB EMPC card. To perform this action complete the following table MPC steps:

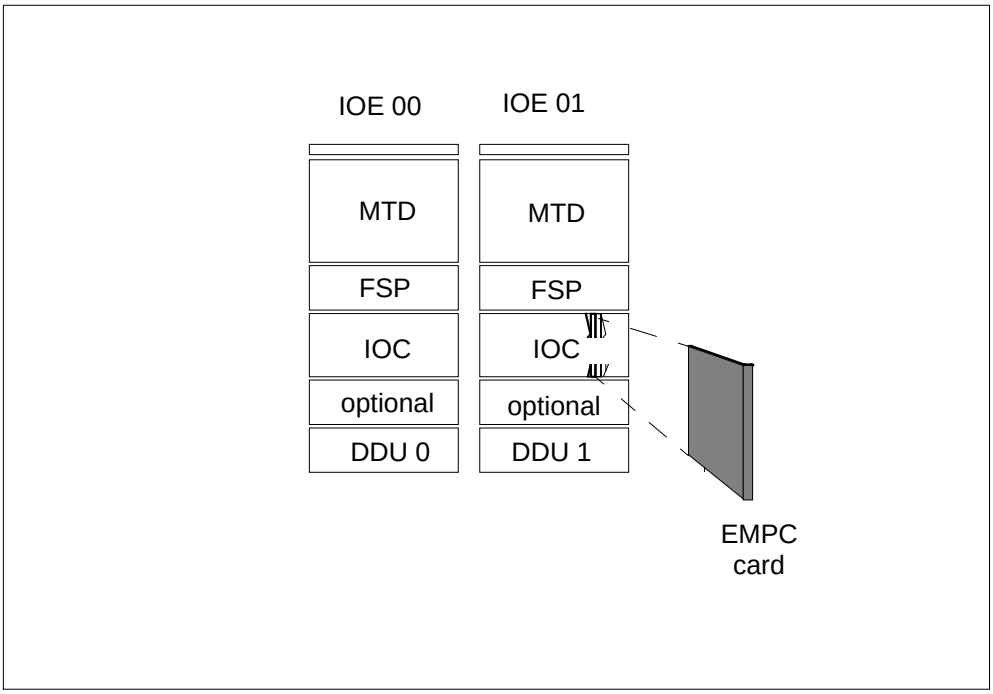
- Add MPC/EMPC number, IOC shelves and circuit positions where MPC/EMPC cards are configured. Add product engineering code (PEC) numbers for the cards, and download file names.
- The device that contains the download file can appear before tuple entry occurs in table MPC or performs the first manual download. If this condition occurs manually download or return to service (RTS) and do not list the download file.

The MPC/EMPC card converts outgoing messages from the central control of the switch to public-switched form. The MPC/EMPC card converts ingoing messages to digital non-public-switched form.

The computers connect to the MPC/EMPC card through data units or telephone links that connect with modems. The MPC card is a dual-channel, microprocessor-based device controller on the IOC shelf. The following figure MPC location in the DMS-100 Family switch indicates the MPC/EMPC card in relation to the IOC system.

ACD CompuCALL (continued)

MPC location in the DMS-100 switch



Using multiple links

Feature SCAI Link Reliability allows a customer center computer and a switch to communicate over multiple CompuCALL links. A maximum of eight links can be present for each linkset that serves a customer center computer.

This feature defines link reliability in terms of the OSI model for layers 1 through 3. Table MPC helps start layer 1, the physical layer. At table MPC, provision multiple links in the same linkset. This action does not allow all links to transfer to MPC/EMPC cards that the same IOC circuit and shelf serves. This action increases the reliability of CompuCALL service.

Nortel system engineering recommends that you provision a single MPC/EMPC card for each link. Nortel recommends that you start one application for each card. For example, one card dedicated to an application like CompuCALL.

Implementation of multiple links occurs in tables SCAICOMS and SCAIGRP.

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

Datafilling table MPC

Field	Subfield or refinement	Entry	Explanation and action
MPCNO		0-255	MPC number. Enter a number for the MPC/EMPC. You can number the cards in any method. You can install a maximum of 256 cards.
MPCIOC		0-12	MPC Input/Output Controller. Enter the number of the IOC on which the MPC/EMPC card sits. Each shelf can have a maximum of nine cards.
IOCCCT		0, 4, 8, 12, 16, 20, 24, 28, 32	IOC circuit number. Enter the circuit number of the card. Entries outside the listed range are invalid.
EQ		1X89AA, 1X89BA, 1X89BB	Equipment. Enter the Nortel PEC. The MPC card PEC is 1X89AA. The EMPC card PEC is 1X89BA/BB.
DLDFILE		alphanumeric	Download file. Enter the 8-character file name. Begin with MPC. Enter 0 for the 1980 version of X.25, 4 for the 1984 version of X.25. Enter alphanumeric characters that designate the BCS cycle number and the BCS cycle load designation. CompuCALL service allows the use of the 1980 or the 1984 version of X.25 protocol. Software download files are interchangeable between MPC and EMPC.

Datafill example for table MPC

Sample datafill for table MPC appears in the following example. For the first entry, translations personnel assigned the customer center MPC card number 3. The MPC card number 3 resides in IOC shelf number 3, and uses IOC circuit number 12. The equipment number of the card is 1X89BA. This card is an EMPC card. The download file is MPC036RI. Datafill for more than one card appears in the example. A CompuCALL connection to a customer center computer can use a maximum of eight links.

ACD CompuCALL (continued)

MAP example for table MPC

```
MPCNO   MPCIOC  IOCCCT          EQ  DLDFILE

   3         3      12  1X89BA  MPC036RI
1    2       8  1X89BA  MPC036RI
```

Datafilling table MPCLINK

Table MPCLINK provides, the CC with specified link and protocol information of the MPC/EMPC cards in table MPC. When this action occurs, table MPCLINK establishes data communications parameters for MPC/EMPC links to customer center computers.

The MPCLINK example illustrates a standard point-to-point configuration between switch and customer center. In this configuration, a private line makes the connection. Customer centers can subscribe to a public-switched network. This subscription takes advantage of the services of that configuration. Advantages include how to overcome distance limits of point-to-point configurations.

The fields in table MPCLINK identify the MPC data links to the CC. This condition is like the way table MPC identifies the real MPC hardware to the CC.

X.25 protocol concerns

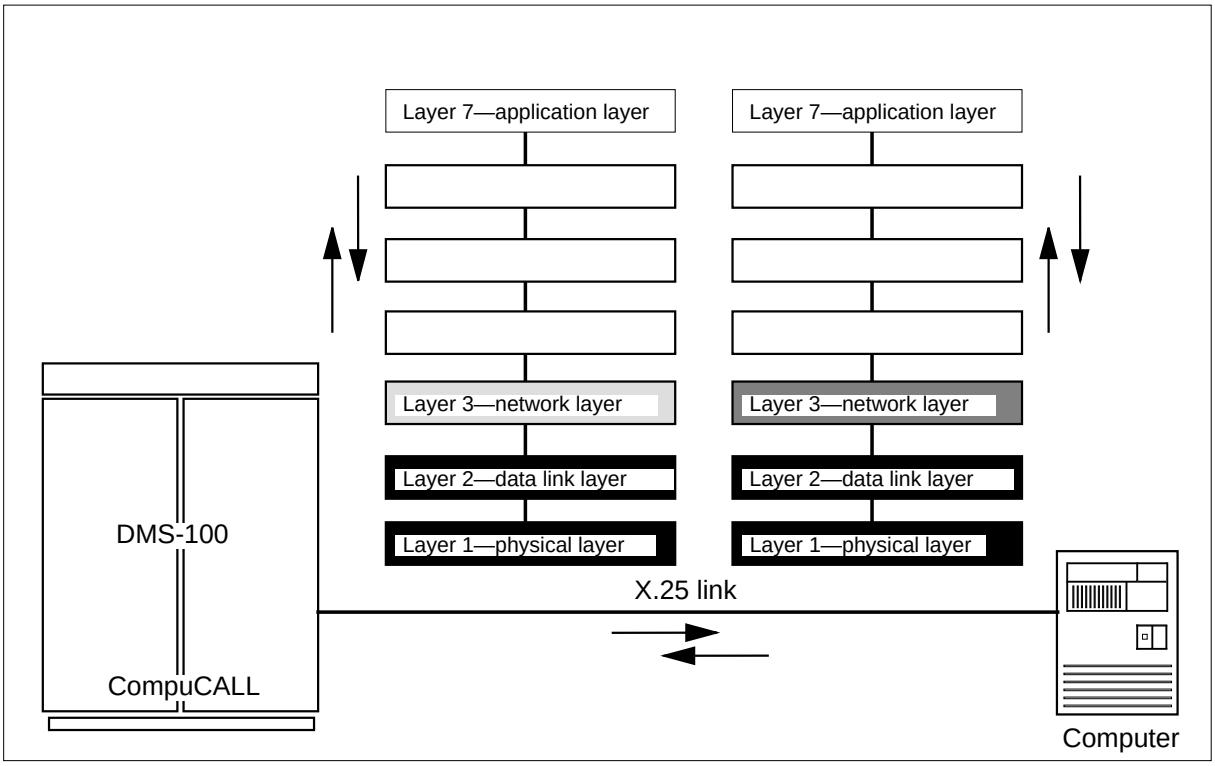
Table MPCLINK supports the application of X.25 protocol. Nortel does not choose between the 1980 and 1984 versions of X.25 protocol. CompuCALL accepts both versions.

Datafill does not apply to vendor interface features that do not directly relate to X.25 protocol. Customer centers must check with vendors to make sure the computer X.25 software supports the balanced link access procedure (LAPB) subset of the high level data link control (HDLC) standard.

The OSI model and table MPCLINK

The link, protocol, and parameter information of table MPCLINK establishes layers 2 and part of layer 3 in the 7-layer OSI model. This action occurs for data communications. This information appears in the following figure. The empty layers represent the parts of the model that CompuCALL does not support.

CompuCALL and the OSI model as it relates to MPCLINK



Another name for the data link layer is the frame layer. This layer transfers information across the link. The data link layer sends data frames with the necessary synchronization, error control, and flow control.

At layer 2, the switch establishes the following frames:

- information frames (I-frames)
- supervisory control sequences (S-frames)
- unnumbered command/response frames (U-frames)

Use of these frames occurs when the switch establishes X.25 signaling at layer 3.

After you enter tables MPC and MPCLINK, determine if the connection is possible between the switch and the customer center computer. Perform this action before you continue to enter data in the tables that remain. See Tools for verifying translations in this feature description for more information.

ACD CompuCALL (continued)

Datafill for ACD CompuCALL for table MPCLINK appear in the following table. The fields that apply to ACD CompuCALL appear in this table. See the data schema section of this document for a description of other fields.

Datafilling table MPCLINK (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LINKKEY		refer to explanation	Link key. The LINKKEY is a key that contains the MPC and MPC link number.
PRTCLDAT		refer to subfields	Protocol data area. The PRTCLDAT contains selector subfield PROTOCOL to identify an applicable version of X.25 for CompuCALL customers.
	PROTOCOL	X2580 or X2584	Link protocol data. Set to X2580 or X2584. The version of X.25 in the switch and messaging requirements determine the value.
	LINKNABL	0-32767	Link enable. Value must be a multiple of 5.
	CONVANBL	0-32767	Conversion enable. Value must be a multiple of 5.
	CLKSRCE	EXTERNAL	Clock source. Use the default.
	L2WINDOW	1-127	Level 2 frame-window size. Default is 2.
	L2MODULO	MOD8 or MOD128	Level 2 frame-level modulo counter. Default is MOD8.
	L3WINDOW	1-127	Level 3 frame-window size. Default is 7 for X.25 protocol for 1980.
	L3MODULO	MOD8 or MOD128	Level 3 frame-level modulo counter. Default is MOD8.
	NODETYPE	DCE	Node type or address. The DTE (data terminal equipment) entry is correct if the computer of the customer computer is DCE (data communications equipment). The switch and the computer must have different addresses. If the switch and computer do not have different addresses, the system cannot deliver messages. Nortel recommends that the switch be DCE and the computer DTE.

Datafilling table MPCLINK (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	L3DATA	P16, P32, P64, P128, P256, P512, P1024, P2048, P4096	Level 3 data-packet size. Default is P128.
	N2	1-255	Retransmission counter. Default is 10.
	T1_S	1-255	Timer 1 in 1 s steps. Match the computer timer with this setting.
	T2_S	0-255	Timer 2 in 1 s steps. Keep this value lower than the value entered in T1_S.
	SVCS2WAY	0-255	Number of two-way SVC. The PVCs and SVCs together cannot exceed 255.
	SVCDNA	SVCDNA or $	SVC data network address. Enter SVCDNA if SVCs are in use on the link. Enter refinement DIGITS. If SVCs are not in use, enter $ (dollar sign). SVCDNA and $ are the only correct entries.
	DIGITS	0-9 (vector a maximum of 15 entries)	Digits. Assign an address for the switch. You can assign a random address, like 987654321$. You can perform this action if the customer center: • knows the address • uses the address in the datafill of the computer.

Datafill example for table MPCLINK

Sample datafill for table MPCLINK appears in the following example.

ACD CompuCALL (continued)

MAP example for table MPCLINK

```
LINKKEY                          PRTCLDAT
  3   3 N
X2580 0 0 (CLKSRCE EXTERNAL) (L2WINDOW 7) (L2MODULO
MOD8) (L3WINDOW 7) (L3MODULO MOD8) (NODETYPE DCE)
(L3DATA P128) (N2 20) (T1_S 5) (T2_S 3) SVCS2WAY 2) $
(SVCDNA 987654321) $

  1   2 N
X2580 0 0 (CLKSRCE EXTERNAL) (L2WINDOW 7) (L2MODULO
MOD8) (L3WINDOW 7) (L3MODULO MOD8) (NODETYPE DCE)
(L3DATA P128) (N2 20) (T1_S 5) (T2_S 3) SVCS2WAY 2) $
(SVCDNA 987654321) $
```

Datafilling table SCAICOMS

The operating company uses table SCAICOMS to define links in a linkset. A linkset is between a customer center computer and the MPC/EMPC card of the switch.

Table SCAICOMS provides the following information:

- the number of links each customer center has for each linkset
- switch location of these links, MPC/EMPC card, and link number
- remote destination network address (REMDNA) of the customer center computer
- protocol (X.25 user user data) the computer uses to receive and send information to and from the switch

When you enter multiple links in the same linkset, include MPC/EMPC card and link numbers that differ. Perform this action for reliability.

When you enter data in table SCAICOMS, an X.25 link establishes between the switch and customer center. To establish an X.25 link means layer 3 (the network layer) of the 7-layer process was reached.

Multiple links

CompuCALL software can use multiple links for one CompuCALL session. Multiple links are called a linkset. In each linkset tuple of table SCAICOMS, linkset can have a maximum of eight link definitions. Each linkset can provide a customer center with a maximum of eight active links, synonymous with SVCs and X.25 links. The eight links can share call load and provide redundancy from link to link automatically. CompuCALL messages travel on

multiple links. Establishment of the order of the links occurs early. Hard coding makes sure that each call begins and ends on the same link.

A maximum of eight multiple linksets can be present. Each linket serves the same customer center computer and each linkset can hold a maximum of eight links. This condition appears in table SCAIGRP.

Each session, for each linkset, can use a different CompuCALL profile. All links in a specified linkset have the same CompuCALL profile.

The OSI model and table SCAICOMS

Table SCAICOMS establishes layer 3, the network layer, in the 7-layer OSI model for data communications. Layer 7 is the applications layer.

Setup for the X.25 link, occurs in layer 3. This setup results in the establishment of the SVC.

The setup of the SVC occurs when the computer starts an X.25 call request. The switch accepts the call request with an X.25 call acceptance message. The process begins with a request at layer 7. The establishment of an SVC occurs at layer 3. The system reports any connection, successful or not successful.

The network layer determines the method of data transfer. As a result, the upper layers separate from data transmission and switching technologies that connect systems. Layer 3 (the packet layer) establishes, maintains, and terminates connections. Layer 3 allows transmission messages to be encoded and routed. To see the successful X.25 link that appears from the MAP position, see Tools for verifying translations in this feature description.

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

Datafilling table SCAICOMS (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
LINKSET		alphanumeric a maximum of 16 characters	Linkset name. Enter linkset name. Reliability is greater if each link in a linkset does not share the MPC card or the same IOC.
SCAILINKS		refer to subfields	SCAI links. This field contains subfields LNKSEL, DEVICE, MCNO, LINK, REMDNA, PROTOCOL, and LINKTYPE.

ACD CompuCALL (continued)

Datafilling table SCAICOMS (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	LINKSEL	X.25	Link selector. Enter X.25, the only transport protocol used. Do not type a period when you enter X25.
	DEVICE	MPC	Device. Enter the device that supports the controller. The device only supports the MPC (or EMPC). Even if you use an EMPC, enter MPC.
	MPCNO	0-255	MPC number. Enter the MPC number in use. Table MPC defines the number.
	LINK	2-3	Link number. Enter the MPC link entered in table MPCLINK for each link in each linkset.
	REMDNA	up to 15 digits from 0 to 9	Remote data network address. Enter the REMDNA with digits from 0 to 9. This datafill provides the switch the electronic (logical) address of the computer of the customer. If the CompuCALL link is a direct, dedicated line between the switch and computer, a formal address is not necessary. An arbitrary number, like 123456789, is correct. The REMDNA entered at the switch must match the REMDNA the customer selects for the computer. This condition applies when you enter the REMDNA at the customer center. Each customer center computer must use a different REMDNA. If the customer center uses a public-switched network, the network supplies the REMDNA that the switch and computer must use. Remind the customer to allow time to apply for the service and obtain REMDNA. If the customer does not allow enough time, delays can occur.

Datafilling table SCAICOMS (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	PROTOCOL	0-255	Protocol. Enter protocol data. The MPC/EMPC reads the first 4 digits of this information. This information can contain a maximum of 16 digits. In X.25 terminology, this information is user data. Identify the user data you enter in the customer center computer so that you can enter the data in table SCAICOMS. Nortel suggests a plan for this datafill with advanced coordination between customer center and operating company.
	LINKTYPE	SVC	Virtual circuit type. Enter the SVC. Engineer one SVC for each link.

Datafill example for table SCAICOMS

Sample datafill for table SCAICOMS appear in the following example.

MAP example for table SCAICOMS

```
LINKSET                          SCAILINKS
_____________________________________________________________
LINKSET1 X25 (MPC 3 3 123456789 0 0 0 0 SVC)
           (MPC 1 3 123456789 0 0 0 0 SVC)$

LINKSET2 X25 (MPC 2 2 929394959 1 1 1 1 SVC)
(MPC 0 3 929394959 1 1 1 1 SVC)$
```

ACD CompuCALL (continued)

Error messages for table SCAICOMS

The following error messages apply to table SCAICOMS.

Error messages for table SCAICOMS

Error message	Explanation and action
`In use levels in tables SCAICOMS/SCAIPROF exceed office limits.`	The appropriate parameter in table OFCOPT is not always set at a high enough value to meet datafill requirements. If this condition occurs an error message appears. Refer to the office parameter table section in this document for additional information.
`Office limit for SVCs exceeded.`	When appropriate parameter in table OFCOPT is not set at a high enough value to meet datafill requirements, an error message appears. Refer to the office parameter table section in this document for additional information.

Datafilling table BGDATA

Table BGDATA stores information on multiswitch business groups (MBGs). For CompuCALL, this table is important because the table allows a customer center to obtain a BGID. Without a BGID, a customer center computer cannot log on a CompuCALL session.

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

Datafilling table BGDATA (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
BGID		refer to subfields	*Business group identifier* This field contains subfields LOCATION and GRPNUM.
	LOCATION	LOCAL	*Location* This subfield specifies the location of the business group that has MBG assigned. Enter LOCAL.

Datafilling table BGDATA (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	GRPNUM	0 to 4 194 303	*Group number* This subfield specifies the business group that has MBG assigned. Enter a value from 0 to 4 194 303.
OPTIONS		refer to subfield	*Options* This field contains subfield OPTION.
	OPTION	CUSTGRP	*Option* This subfield specifies the option assigned to a business group. Enter CUSTGRP and any other option. Enter CUSTGRP to specify that a current IBN customer group associate with the business group. Enter data in refinements CUSTGRP, MBG, NUMLINES, INTRAGRP, LSCFN, and LSCINCPT. ***Note:*** If the BGID is LOCAL 1 and you enter option CUSTGRP, the following message appears: `WARNING: LOCAL 1 IS RESERVED FOR PUBLIC NETWORK IDENTIFIER. THE CUSTGRP OPTION SHOULD NOT BE ASSIGNED TO LOCAL 1.` The assignment is not prohibited.
If OPTION is set to CUSTGRP, enter refinements CUSTGRP, MBG, NUMLINES, INTRAGRP, LSCFN, and LSCINCPT.			
	CUSTGRP	alphanumeric (1 to 16 characters)	*Customer group* This refinement specifies the name of the IBN customer group associated with the business group. Define the customer group in table CUSTENG first.
	MBG	Y or N	*Multilocation business group services* This refinement specifies if all the customer group lines have access to the MBG services. Enter Y or N.

ACD CompuCALL (continued)

Datafilling table BGDATA (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	NUMLINES	0 to 65 535	*Number of lines* This read-only refinement displays the number of primary DNs in the customer group. The number of primary DNs is the number of lines. SDNs do not count as MBG lines.
	INTRAGRP	Y or N	*Intragroup* This refinement specifies the interaction of the feature with the MBG trunk. Enter Y if the call is intragroup. For any other condition enter N.
	LSCFN	0 to 255	*Line screening code flag number* This refinement specifies the line screening code associated with the MBG trunk. The line screening code of a caller is not always in the group of codes associated with the MBG trunk. If this event occurs the caller cannot make an MBG call. Enter a value from 0 to 255.
	LSCINCPT	0 to 63	*Line screening code flexible intercept* This refinement specifies the treatment number in table IBNTREAT. The refinement specifes this number when a line screening code blocks access to an MBG trunk. Enter a value from 0 to 63.

Datafill example for table BGDATA

Sample datafill for table BGDATA appear in the following example.

MAP example for table BGDATA

```
BGID
                                BGXLA
                              OPTIONS
LOCAL      4118
                                                $
            (CUSTGRP    WELL_RUN N 329 Y 0 0)$
LOCAL      9901
                                                        $
            (CUSTGRP    HAPPY_CORP N 22 Y 0 0)$
```

Datafilling table SCAIGRP

When table SCAIGRP has datafill, a customer center computer can log onto a CompuCALL session. Logon begins when the computer sends a CompuCALL message to the switch to request the establishment of a CompuCALL session.

The switch requires, after the computer sends the dv-Appl-Logon message, the computer to provide the following information:

- password
- network node ID
- business group ID
- service profile ID

All this information must be the same as the datafill in table SCAIGRP and the service profile ID entered in table SCAIPROF. When conditions meets these requirements, the switch sends a RETURN_RESULT response. This response confirms the acceptance of the switch of a CompuCALL session.

Table SCAIGRP stores all SCAI groups in a switch. The SCAI groups associate with a set of CompuCALL links and services. Each SCAI group corresponds to a MDC customer group. The operating company defines the SCAI groups.

The operating company enters data in table SCAIGRP to define each SCAI group and assign it the following information:

- password—a different character string with a maximum of eight characters. The customer center must use this password to establish or associate a session.
- network node ID—identifies the network node that the operating company assigns to a SCAI group. The customer center must specify this parameter

ACD CompuCALL (continued)

to establish or associate a session. This field is a means of identification for CompuCALL groups, and does not have other functions. The field is reserved for possible future use.

- business group ID—maps each business group defined in table BGID to a SCAI group. When the customer center associates a session, the customer center arranges the context. The customer center verifies the association is correct. Logon specifies BGID. Mapping between BGIDs and SCAI groups is necessary.
- linkset—the SCAI group that uses the linkets. Defined in table SCAICOMS.

Note: You cannot assign one SCAI group password to another group.

Using multiple links

In table SCAIGRP, the operating company can associate each SCAI group entry with a maximum of eight links in a linkset. This association allows a maximum of eight different CompuCALL sessions for a SCAI group. One session is for each link.

When a minimum of one linkset serves a customer center, each session can use a different CompuCALL profile. A maximum of eight linksets for a customer center can be present. All links in a specified linkset have the same CompuCALL profile.

When you enter data for multiple linksets in table SCAIGRP, enter the link set name in table SCAICOMS. You can enter a minimum of eight linksets. Enter each linkset in table SCAICOMS before you enter the linkset in table SCAIGRP. When you enter more than one linkset for each CompuCALL group, give each linkset a name. Datafill for the linksets that serve the same customer group appear in the MAP example on table SCAIGRP. This MAP example is at the end of this section.

ACD CompuCALL (continued)

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

Datafilling table SCAIGRP

Field	Subfield or refinement	Entry	Explanation and action
SCAIGNAM		1-16 character SCAI group name	SCAI group name
PASSWORD		A maximum of eight characters	Password. A SCAI group uses a password to associate a CompuCALL session.
NETNODID		0-32 767 for each SCAI group	Network node ID. Specifies the CompuCALL session association for customer center computer login.
BGID		0 to 4 194 303	Business group identification. Enter the location of the business group GRPNUM as identified in table BGDATA. ***Note:*** Only local GRPNUMs in table BGDATA can be used here.
OPTIONS		LINKSET	Options. The options list for this table is a vector of one multiple—LINKSET.
	LINKSET	Link set name from table SCAICOMS	Link set name. Enter a maximum of eight linksets in table SCAICOMS first.

Datafill example for table SCAIGRP

Sample datafill for table SCAIGRP appear in the following example.

MAP example for table SCAIGRP

```
SCAIGNAM PASSWORD   NETNODID BGID   OPTIONS

SCAIGRP1 1234     1   LOCAL  4118 (LINKSET (SET1)
(SET2)) $
```

ACD CompuCALL (continued)

Datafilling table SCAISSRV

Table SCAISSRV lists:

- CompuCALL message categories
- messages in each category
- parameter settings for each message

In CompuCALL messages the following characters have specified meanings:

- *dv* (data and voice) indicates data and voice abilities; for example, dv-Call-Answered-U.
- *C* (confirmation) indicates a message from a switch to a computer that requires a RETURN_RESULT confirmation; for example, dv-Call-Received-C.
- *U* (unconfirm) indicates a message from a switch to a computer that does not require confirmation; for example, dv-SetOffHook-U.

Note: Messages from computer to switch do not have a trailing letter *C* or *U*. Messages can require confirmation from the switch; for example, dv-Appl-Logon.

When a switch or computer receives a message, the switch or computer can generate the following return messages:

- RETURN_RESULT indicates that the switch accepts the message received.
- RETURN_ERROR indicates that the switch does not accept the message.
- REJECT indicates that the switch does not understand the message. A reply with an explanation appears.

Fixed subservices in the following table are for reference in table SCAIPROF in establishing a service profile. A fixed subservice is a default and cannot change. If a customer wants a customized subservice, use the ADD command. Customized subservice can appear in table SCAIPROF.

You can customize this table in order to send only some messages or enter some parameters. To customize datafill, use the ADD command to create new customized subservices. Use these subservices in the profile that goes to the computer.

ACD CompuCALL (continued)

To enter CompuCALL groups that exist, perform the following actions:

1. List each CompuCALL group linkset and the messages in each linkset.
2. Find SCAISSRV subservice names with messages to which the customer center subscribes. If you cannot find the mix of messages you want, enter subservices to include desired messages and parameters.
3. List table SCAISSRV subservice names that reflect your revisions.
4. In SCAIPROF, enter linkset and all subservice names for each linkset.

Note: During BCS35, tables SCAISSRV and SCAIPROF replaced tables SCAISRVC and SCAISVID and their functions. The BCS35 requires manual entry of tables SCAISSRV and SCAIPROF. CompuCALL messages from BCS34 are in categories that the 34$ designation recognizes.

SCAIPROF uses subservice names defined in SCAISSRV to build a profile of messages available to subscriber linksets during a CompuCALL session.

Datafilling table SCAISSRV for ACD CompuCALL

The datafill for ACD CompuCALL for table SCAISSRV appears in the following table. Fixed subservice profiles in the table are in the software load of the operating company. Enter messages in each profile before the next profile. Do not use the dollar sign ($) in subservice names. Reserve the $ for fixed subservice names.

The fields that apply to ACD CompuCALL appear in this table. See the data schema section of this document for a description of the other fields.

ACD CompuCALL (continued)

Table SCAISSRV contains separate datafill for MDC and RES functionality. See the section “Datafilling table SCAISSRV for MDC and RES CompuCALL" in this feature. This section describes MDC and RES datafill.

Datafilling table SCAISSRV for ACD CompuCALL

Field	Subfield or refinement	Entry	Explanation and action
SUBSERV		alphanumeric (1-16 characters)	Subservice Profile Name. Enter the service profile name. This field is the key to table SCAISSRV. The fixed subservice names are: • ACDEVENT34$, ACDEVENT35$, and ACDEVENT36$ • ROUTING34$ and ROUTING35$ • TPCC34$, TPCC35$, TPCC08$, and TPCC09$ • RESOURCE35$ • TPAC36$ ***Note:*** Do not use the ($) character in subservice names. The $ is for use in current and future fixed subservice names. Enter these subservice names in table SCAIPROF. Preform this action if a SCAI group requires all possible messages and refinements in a given CompuCALL service category.
SPROFILE		refer to subfields	Subservice Profile Contents. This field contains subfield CATEGORY.
	CATEGORY	ACDEVENT, ROUTING, TPCC, RESOURCE, TPAC	CompuCALL service categories are: • ACDEVENT—entry for ACD line call event • ROUTING—entry for custom call routing • TPCC—entry for third-party call control • RESOURCE—entry for resource category • TPAC—entry for third-party agent control

Datafilling the ACDEVENT category

The datafill for ACD CompuCALL for the category ACDEVENT appears in table SCAISSRV.

Datafilling the ACDEVENT category (Sheet 1 of 6)

Message	Parameter	Entry	Explanation and action
CALLQUED		CALLQUED	Call queued. Enter CALLQUED to select the call queued, dv-Call-Queued-U, message. The switch uses the message. The message tells the business computer that the switch places a call in the call group of the ACD group. The call gives the computer information about the call. This action gives the computer time to generate a screen display. The computer generates this display before the computer selects an agent.
	NCALLID	Y or N	Network call identification. This parameter identifies calls in the customer network. Enter Y to include the parameter. If you select N, the switch cannot track CompuCALL messages.
	ACDDN	Y or N	ACD DN. This parameter identifies the primary or supplementary ACD DN associated with a call. Enter Y to include the parameter.
	CALLNGNO	Y or N	Calling number. This parameter identifies the directory number (DN) for the calling line. Enter Y to include the parameter.
	CHARGENO	Y or N	Charge number. This parameter is the call Automatic Number Identification (ANI), which is the ten-digit operating company charge number. Enter Y to include the parameter.
	CALLTYPE	Y or N	Call type. Enter Y to include the parameter.
	ORIGDN	Y or N	Original DN. This parameter gives the DN of the ACD group, MDC or RES telephone that received a transferred, overflowed, or redirected call. Enter Y to include the parameter.
	PREVAPPL	Y or N	Previous application identification. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling the ACDEVENT category (Sheet 2 of 6)

Message	Parameter	Entry	Explanation and action
	HOSTCALD	Y or N	Host call data. The computer application provides this parameter and gives the reason for a redirected call. Enter Y to include the parameter.
	ACDGROUP	Y or N	ACD group. This parameter identifies the primary ACD DN of the ACD group. Enter Y to include the parameter.
	FWDPARTY	Y or N	Forwarding party. This parameter contains information on first and last forwarding party. Enter Y to include the parameter.
CALLREL		CALLREL	Call release. Enter CALLREL to select the call release (dv-Call-Released-U) message. The message from the switch tells the business computer when the agent disconnects from an inbound or outbound ACD call. The message tells the business computer when one of the following events occurs: • redirection of an ACD call • an ACD call overflows • the caller abandons an ACD call
	NCALLID	Y or N	Network call identification. This parameter identifies the call in a customer network. Enter Y to include the parameter. If you select N, the switch cannot track CompuCALL messages.
	ACDDN	Y or N	ACD directory number. This parameter shows the primary or supplementary ACD DN associated with a call. Enter Y to include the parameter.
	RELTYPE	Y or N	Release type. This parameter tells why the system released the call. Enter Y to include the parameter.
	ACDGROUP	Y or N	ACD group. This parameter identifies the primary ACD DN of the ACD group. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling the ACDEVENT category (Sheet 3 of 6)

Message	Parameter	Entry	Explanation and action
	DEVICEID	Y or N	Device identification. This parameter gives the agent position or ID for the MDC or RES station that releases the call. Enter Y to include the parameter.
CALLANSWR		CALLANSWR	Call answer. Enter CALLANSWR to select the call answer (dv-Call-Answered-U) message. The switch uses a message to inform the business computer an ACD agent answered a CompuCALL call. The message provides call-related information, such as the calling number.
	NCALLID	Y or N	Network call identification. This parameter identifies the call in the customer network. Enter Y to include the parameter. If you select N, the switch cannot track CompuCALL messages.
	DEVICEID	Y or N	Device identification. This parameter gives the agent position or ID for the MDC or RES station that releases the call. Enter Y to include the parameter.
	ACDDN	Y or N	ACD directory number. This parameter identifies the primary or supplementary ACD DN associated with call. Enter Y to include the parameter.
	CALLNGNO	Y or N	Calling number. This parameter shows the DN for the calling line. Enter Y to include the parameter.
	CHARGENO	Y or N	Charge number. This parameter is the ANI, which is a ten-digit operating company charge number associated with an incoming call. Enter Y to include the parameter.
	CALLTYPE	Y or N	Call type. Enter Y to include the parameter.
	ORIGDN	Y or N	Original DN. This parameter gives the DN of the ACD group, MDC or RES telephone that received a transferred, overflowed, or redirected call. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling the ACDEVENT category (Sheet 4 of 6)

Message	Parameter	Entry	Explanation and action
	PREVAPPL	Y or N	Previous application identification. Enter Y to include the parameter.
	HOSTCALD	Y or N	Host call data. The computer application provides this parameter and gives the reason for a redirected call. Enter Y to include the parameter.
	ACDGROUP	Y or N	ACD group. This parameter identifies the primary ACD DN of the ACD group. Enter Y to include the parameter.
	FWDPARTY	Y or N	Forwarding party. This parameter contains information on first and last forwarding party. Enter Y to include the parameter.
CALLOFFR		CALLOFFR	Call offer. Enter CALLOFFR to select the call offer (dv-Call-Offered-U) message. The switch uses the message to tell the business computer that the system selected an agent for a call. The message gives call-related information, like the calling number. This information allows the computer to locate and send the agent a data screen.
	NCALLID	Y or N	Network call identification. This parameter identifies calls in the network of the customer. Enter Y to include the parameter. If you select N, the switch cannot track CompuCALL messages.
	ACDDN	Y or N	ACD directory number. This parameter identifies the primary or supplementary ACD DN associated with a call. Enter Y to include the parameter.
	CALLNGNO	Y or N	Calling number. This parameter identifies the DN for the calling line. Enter Y to include the parameter.
	CHARGENO	Y or N	Charge number. This parameter is the ANI. The ANI is a ten-digit operating company charge number associated with an incoming call. Enter Y to include the parameter.
	CALLTYPE	Y or N	Call type. Enter Y to include the parameter.

Datafilling the ACDEVENT category (Sheet 5 of 6)

Message	Parameter	Entry	Explanation and action
	ORIGDN	Y or N	Original ACD DN, MDC DN, or RES DN. This parameter gives the DN of an ACD group or MDC or RES telephone that received: • a transferred call • a overflowed call • a redirected call Enter Y to include the parameter.
	PREVAPPL	Y or N	Previous application identification. Enter Y to include the parameter.
	HOSTCALD	Y or N	Host call data. The computer application provides this parameter and gives the reason for a redirected call. Enter Y to include the parameter.
	ACDGROUP	Y or N	ACD group. This parameter identifies the primary ACD DN of the ACD group. Enter Y to include the parameter.
	DEVICEID	Y or N	Device identification. This parameter identifies the agent position or the MDC or RES station that releases the call. Enter Y to include the parameter.
	FWDPARTY	Y or N	Forwarding party. This parameter contains information on the first and last forwarding party. Enter Y to include the parameter.
AGTLGDIN		AGTLGDIN	Agent logged in. Enter AGTLGDIN to select the agent logged in (dv-Agent-Logged-In-U) message. The message goes to the computer when an ACD agent position requests a login and the login is complete.
	ACDGROUP	Y or N	ACD group. This parameter identifies the primary ACD DN of the ACD group. Enter Y to include the parameter.
	POSID	Y or N	Position identification. Enter Y to include the parameter.
	LOGINID	Y or N	Log in identification. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling the ACDEVENT category (Sheet 6 of 6)

Message	Parameter	Entry	Explanation and action
AGTLGDOUT		AGTLGDOUT	Agent logged out. Enter AGTLGDOUT to select the agent logged out (dv-Agent-Logged-Out-U) message. The switch sends the computer a message when an agent position requests logout and logout is completed.
	ACDGROUP	Y or N	ACD group. Enter Y to include the parameter.
	POSID	Y or N	Position identification. Enter Y to include the parameter.
AGTREADY			Agent ready. Enter AGTREADY to select the agent ready (dv-Agent-Ready-U) message. The switch sends this message when an agent requests to be available to receive ACD calls and the request is complete.
	ACDGROUP	Y or N	ACD group. This parameter identifies the primary ACD DN of the ACD group. Enter Y to include the parameter.
	POSID	Y or N	Position identification. This parameter indicates if the a selected position identification is present. Enter Y to include the parameter.
AGTNREADY		AGTNREADY	Agent not ready. Enter AGTNREADY to select the agent not ready (dv-Agent-Not-Ready-U) message. The switch sends this message when an agent request to not be available to receive ACD calls is complete.
	ACDGROUP	Y or N	ACD group. This parameter identifies the primary ACD DN of the ACD group. Enter Y to include the parameter.
	POSID	Y or N	Position identification. This parameter indicates if a selected position identification is present. Enter Y to include the parameter.
	WALKAWAY	N	Walkaway. This parameter is not subscribed to in this table and is not entered by default. This parameter identifies an ACD option. This ACD option is not entered by default.

Datafilling the ROUTING category

Datafill for ACD CompuCALL for the category ROUTING in table SCAISSRV appears in the following table.

Datafilling the ROUTING category (Sheet 1 of 2)

Message	Parameter	Entry	Explanation and action
CALLRECC		CALLRECC	Call received. Enter CALLRECC to select the call received (dv-Call-Received-C) message. The switch sends this message to the business computer when the switch receives an ACD call. This message provides call-related information like calling number. This message allows the computer to reply on a call redirect option.
	NCALLID	Y or N	Network call identification. This parameter identifies calls in a customer network. Enter Y to include the parameter. If you select N, the switch cannot track CompuCALL messages.
	ACDDN	Y or N	ACD directory number. This parameter identifies the primary or supplementary ACD DN of a call. Enter Y to include the parameter.
	CALLNGNO	Y or N	Calling number. This parameter identifies the DN of the calling line. Enter Y to include the parameter.
	CHARGENO	Y or N	Charge number. This parameter is the ANI. The ANI is a ten-digit charge number associated with an incoming call. Enter Y to include the parameter.
	CALLTYPE	Y or N	Call type. Enter Y to include the parameter.
	ORIGDN	Y or N	Original DN. This parameter gives the DN of the ACD group, MDC or RES telephone that receives a transferred, overflowed, or redirected call. Enter Y to include the parameter.
	PREVAPPL	Y or N	Previous application identification. Enter Y to include the parameter.
	HOSTCALD	Y or N	Host call data. Enter Y to include the parameter.
	ACDGROUP	Y or N	ACD group. This parameter identifies the primary ACD DN of the ACD group. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling the ROUTING category (Sheet 2 of 2)

Message	Parameter	Entry	Explanation and action
	FWDPARTY	Y or N	Forwarding party This parameter contains information on the first and last forwarding party. Enter Y to include the parameter.
CALLREDIR		CALLREDIR	Call redirect. Enter CALLREDIR to select the call redirect (dv-Call-Redirect message) message. The business computer sends this message to the switch. The message requests redirection of an ACD call to a primary or supplementary ACD DN, MDC DN, or RES DN. This condition applies to DNs that are on the same or a different switch. The message requests redirection to an ACD line in the same customer group.
	NCALLID	Y or N	Network call identification. This parameter identifies a call in the network of the customer. Enter Y to include the parameter. If you select N, the switch cannot track CompuCALL messages.
	REDIRN	Y or N	Redirect destination. Enter Y to include the parameter.
	HOSTCALD	Y or N	Host call data. The computer application provides this parameter and gives the reason for a redirected call. Enter Y to include the parameter.

Datafilling the TPCC category

Datafill for ACD CompuCALL for the category TPCC in table SCAISSRV appears in the following table.

Datafilling the TPCC category (Sheet 1 of 5)

Message	Parameter	Entry	Explanation and action
ADDPTY		ADDPTY	Add party. Enter ADDPTY to select the (dv-Add-Party) ACD add party message. The computer sends this message to the switch. This message requests that the switch add another ACD agent to a current two-way conversation.
	OPTYPE	Y or N	Enter Y to include the operation type parameter.

ACD CompuCALL (continued)

Datafilling the TPCC category (Sheet 2 of 5)

Message	Parameter	Entry	Explanation and action
	ORIGADDR	Y or N	Originating address. Enter Y to include the operation type parameter.
	DESTDN	Y or N	Destination directory number. Enter Y to include the parameter.
MAKECALL		MAKECALL	Make call. Enter MAKECALL to select the ACD (dv-Make-Call) make call message. This message gives a business computer the ability to initiate an outbound ACD call for a specified agent position. The switch alerts the agent of call placement with a distinctive ringing tone. This option allows the switch to set up an outbound call after verification of an authorization or account code the computer sends.
	AUTHCODE	Y or N	Authorization code. Enter Y to include the parameter.
	ACCTCODE	Y or N	Account code. Enter Y to include the parameter.
TRANPTY		TRANPTY	Transfer party. Enter TRANPTY to select the ACD transfer party (dv-Transfer-Party) message. The message allows the business computer to transfer a call to a specified agent.
	ORIGADDR	Y or N	Originating address. Enter Y to include the parameter.
DROPPTY		DROPPTY	Drop party. Enter DROPPTY to select the ACD drop party (dv-Drop-Party) message. The message allows the business computer to request release of a consult call.
	OPTYPE	Y or N	Operation type. Enter Y to include the parameter.
	ORIGADDR	Y or N	Originating address. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling the TPCC category (Sheet 3 of 5)

Message	Parameter	Entry	Explanation and action
CONFPTY		CONFPTY	Conference party. Enter CONFPTY to select the ACD (dv-Conference-Party) conference party message. The message allows the business computer to initiate a conference call, with held and consult calls, for a specified agent.
	ORIGADDR	Y or N	Originating address. Enter Y to include the parameter.
ANSWCALL	None	ANSWCALL	Answer call. Enter ANSWCALL to select the ACD answer call (dv-Answer-Call) message. The message allows a business computer to answer an incoming call for the specified agent.
HOLDCALL	None	HOLDCALL	Hold call. Enter HOLDCALL to select the ACD hold call (dv-Hold-Call message). The message allows a business computer to place an active, connected ACD call on hold for a specified agent.
UNHOLDCALL	None	UNHOLDCALL	Unhold call. Enter UNHOLDCALL to select the ACD unhold call (dv-Unhold-Call) message. The message allows a business computer to unhold an agent call that has been placed on hold using ICM (CompuCALL), or placed on hold manually.
CALLHELD		CALLHELD	Held call. Enter CALLHELD to select the ACD call held (dv-Call-Held-U) event message. The message informs the business computer that an agent call has been put on hold. The agent must use Call Hold (CHD), Permanent Hold (HLD), hold key, auto hold, or a call held (dv_call_hold) message to place the call on hold.
	NCALLID	Y or N	Network call identification. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling the TPCC category (Sheet 4 of 5)

Message	Parameter	Entry	Explanation and action
CALLUNHELD		CALLUNHELD	Call unheld. Enter CALLUNHELD to select the ACD call unheld (dv-Call-Unheld-U) message. The message informs the business computer that an ACD agent uses the agent DN key or an ICM message (dv_unhold_call) to take a call off hold.
	NCALLID	Y or N	Network call identification. Enter Y to include the parameter.
RELSCALL		RELSCALL	Release call. Enter RELSCALL to select the ACD release call (dv-Release-Call) message. The message allows a business computer to release an active ACD call for an agent. During a dv-Make-Call, this message can release the agent before the call is completes.
	RELTYPE	Y or N	Release type. Enter Y to include the parameter.
CONSULTEV		CONSULTEV	Call consult originated. Enter CONSULTEV to select the ACD call consult originated (dv-Consult-Originated-U) message. The switch sends the message to the host. This event occurs when a party in a two-party call activates the 3WC or CXR message. The message creates a conference with a third-party.
	NCALLID	Y or N	Network call identification. Enter Y to include the parameter.
CONFEVNT		CONFEVNT	Call conferenced. Enter CONFEVNT to select the ACD call conferenced (dv-Call-Conferenced-U) message. The switch sends the host the message. This event occurs when one party initiates the 3WC or CXR message. This action creates a conference with the other parties.
	NCALLID	Y or N	Network call identification. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling the TPCC category (Sheet 5 of 5)

Message	Parameter	Entry	Explanation and action
TRANSFEREV		TRANSFEREV	Call transfer. Enter TRANSFEREV to select the ACD release call (dv-Call-Transferred-U) message. The switch sends the message to the host. The switch sends the message when one party initiates the 3WC or CXR message. This action sends the originator of a call to another party.
	NCALLID	Y or N	Network call identification. Enter Y to include the parameter.

Datafilling the RESOURCE category

Datafill for ACD CompuCALL for the category RESOURCE in table SCAISSRV appears in the following table.

Datafilling the RESOURCE category

Message	Parameter	Entry	Explanation and action
ACDQUERY	None	ACDQUERY	ACD line query. Enter ACDQUERY to select the ACD line query (dv-Resource-Query) message. The computer uses the message to request the switch for current ACD group traffic load statistics.

Datafilling the TPAC category

Datafill for MDC and RES CompuCALL for the category TPAC in table SCAISSRV appears in the following table.

Datafilling category TPAC (Sheet 1 of 2)

Message	Parameter	Entry	Explanation and action
LOGINAGT		LOGINAGT	Login agent. Enter LOGINAGT to select the login agent message. The computer sends the switch a dv-Set-Feature message. This message contains a parameter that requests the switch login a given agent.
	ORIGADDR	Y or N	Originating address. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling category TPAC (Sheet 2 of 2)

Message	Parameter	Entry	Explanation and action
	LOGINID	Y or N	Login identification. This parameter allows you to select the login ID that the LOGINAGT message requires. Enter Y to include the parameter.
	PASSWORD	Y or N	Password. This table does not subscribe to this parameter. The table identifies an ACD option that is not entered by default. Enter Y to include the parameter.
LOGOUTAGT		LOGOUTAGT	Logout agent. Enter LOGOUTAGT to select the logout agent message. The computer sends the switch a dv-Set-Feature message. This message contains a parameter that requests the switch to log out a given agent.
	ORIGADDR	Y	Originating address. This parameter is a required parameter. Enter Y to include the parameter.
READYAGT		READYAGT	Ready agent. Enter READYAGT to select the ready agent message. The computer sends the switch a dv-Set-Feature message. This message contains a parameter that requests the switch make an agent ready to receive ACD calls.
	ORIGADDR	Y	Originating address. This parameter is a required parameter. Enter Y to include the parameter.
NREADYAGT		NREADYAGT	Not ready agent. Enter NREADYAGT to select the not ready agent message. The computer sends the switch a dv-Set-Feature message. This message contains a parameter that requests the switch to make a given agent not ready to receive ACD calls.
	ORIGADDR	Y	Originating address. This parameter is a required parameter. Enter Y to include the parameter.
	WALKAWAY	N	Walkaway. This parameter does not occur in this table. The system does not enter this table by default. This table identifies an ACD option that the system does not enter by default.

ACD CompuCALL (continued)

Datafill example for table SCAISSRV

Sample ACD CompuCALL datafill for table SCAISSRV appears in the following example.

MAP example for table SCAISSRV

```
    SUBSERV
SPROFILE
_____________________________________________________________
    ACDEVENT34$
ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y N) (CALLOFFR Y Y Y Y Y Y Y Y
Y Y N)(CALLANSWR Y Y Y Y Y Y Y Y Y Y N)(CALLREL Y Y Y Y Y) $
    ROUTING34$
ROUTING (CALLRECDC Y Y Y Y Y Y Y Y Y N) (CALLREDIR Y Y Y)$
    TPCC34$
TPCC (ADDPTY Y Y Y) (CONFPTY Y) (DROPPTY Y Y) (TRANPTY Y)
(MAKECALL Y Y) $
    ACDEVENT35$
ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y Y)(CALLOFFR Y Y Y Y Y Y Y Y
Y Y Y) (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y)(CALLREL Y Y Y Y Y) $
    ROUTING35$
ROUTING (CALLRECDC Y Y Y Y Y Y Y Y Y Y) (CALLREDIR Y Y Y)$
    TPCC35$
TPCC (ADDPTY Y Y Y) (CONFPTY Y) (DROPPTY Y Y) (TRANPTY Y)
(MAKECALL Y Y) $
    RESOURCE35$
RESOURCE (ACDQUERY) $
    ACDEVENT36$
ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y Y)(CALLOFFR Y Y Y Y Y Y Y Y
Y Y Y)(CALLANSWR Y Y Y Y Y Y Y Y Y Y Y)(CALLREL Y Y Y Y Y)
(AGTLGDIN Y Y Y)(AGTLGDOUT Y Y)(AGTREADY Y Y)(AGTNREADY Y Y N)$
    TPAC36$
TPAC (LOGINAGT Y Y N)(LOGOUTAGT Y)(READYAGT Y)(NREADYAGT Y N)
    TPCC08$
TPCC (ADDPTY Y Y Y) (CONFPTY Y) (DROPPTY Y Y) (TRANPTY Y)
(MAKECALL Y Y) (ANSWCALL) (HOLDCALL) (UNHOLDCALL) (CALLUNHELD Y)
(RELSCALL Y)
    TPCC15$
TPCC (CONSULTEV Y) (CONFEVNT Y) (TRANSFEREV Y) (CNTRLREL Y)
(NCTRLREL Y) (HOLDCALL) (UNHOLDCALL) (CALLUNHELD Y)(ANSWCALL)
(RELSCALL) (ADDPTY Y Y Y Y) (CONFPTY Y) (DROPPTY YY) (TRANPTY Y)
(MAKECALL Y Y) (CALLHELD Y)$
```

Error messages for table SCAISSRV

There are no error messages for table SCAISSRV. Error messages concerned with the absence of enough datafill in office parameter table OFCOPT appear in table SCAIPROF.

The version of CompuCALL datafill the customer-center computer uses can produce an error message or other problems. These problems affect the computer of the end user. The customer-center computer can have a BCS34 version of the API. The customer-center computer can have a switch that operates at a higher load with more CompuCALL messages. If these events occur the computer does not always accept the CompuCALL messages of the switch. Modifications or updates to the computer API can prevent this problem.

Datafilling table SCAISSRV for MDC and RES CompuCALL

Datafill for the MDC and RES CompuCALL for table SCAISSRV appears in the following table. The fields that apply to MDC and RES CompuCALL appear in this table. See the data schema section of this document for a description of the other fields.

You must enter tuples in table SCAISSRV in table SCAIPROF before a session can send or receive messages.

The following sections describe the types of service categories for MDC and RES CompuCALL in table SCAISSRV:

- CTXEVENT
- RESEVENT
- CALLINIT
- SCAI3WC
- SCAIMWTI
- DNQUERY
- SCAICC

Message sets for CTXEVENT tuples support MDC lines. Message sets for RESEVENT tuples support RES lines.

Message sets for the following tuples support MDC and RES lines:

- CALLINIT
- SCAI3WC
- SCAIMWTI

ACD CompuCALL (continued)

- DNQUERY
- SCAICC
- TPCC

Datafilling table SCAISSRV for MDC CompuCALL (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SUBSERV		alphanumeric (1-16 characters)	Subservice profile name. This field is the key to table SCAISSRV. Enter the service profile name. The fixed subservice names are: • CTXEVENT07$ • RESEVENT07$ • CALLINIT07$ • SCAI3WC07$ and SCAI3WC09$ • SCAIMWTI07$ • DNQUERY07$ • SCAICC08$ • SCAICC09$ ***Note:*** Do not use the $ character in subservice names. Reserve $ for use in current and future fixed subservice names. Enter subservice names in table SCAIPROF if SCAI group requires all possible messages and refinements in a specified CompuCALL service category.

Datafilling table SCAISSRV for MDC CompuCALL (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SPROFILE		refer to subfield	Subservice profile contents. This field contains subfield CATEGORY.
	CATEGORY	CTXEVENT, RESEVENT, CALLINIT, SCAI3WC, SCAIMWTI, DNQUERY, or SCAICC	CompuCALL service categories are: • CTXEVENT—entry for MDC line call events • RESEVENT—entry for RES line call events. • CALLINIT—entry for call initiation • SCAI3WC—entry for consult, conference, and transfer call control • SCAIMWTI—entry for message waiting notification • DNQUERY—entry for line information query • SCAICC—entry for SCAI call control

Datafilling the CTXEVENT category

Datafill for the MDC CompuCALL for the CTXEVENT category in table SCAISSRV appears in the following table.

Datafilling category CTXEVENT (Sheet 1 of 7)

Field	Parameter	Entry	Explanation and action
SETOFFHK		SETOFFHK	Set off hook. Enter SETOFFHK to select the set off hook message.
	NCALLID	Y or N	Network call identification. This parameter identifies calls in the network of the customer. Enter Y to include the parameter. If you select N, the switch cannot track CompuCALL messages.
	DEVICEID	Y or N	Device identification. Enter Y to include the parameter.
CALLOFFR		CALLOFFR	Call offer. Enter CALLOFFR to select the call offer message.

ACD CompuCALL (continued)

Datafilling category CTXEVENT (Sheet 2 of 7)

Field	Parameter	Entry	Explanation and action
	NCALLID	Y or N	Network call identification. This subfield identifies the call in the context of the network of the customer. Enter Y to include the parameter. If you select N, the switch cannot track CompuCALL messages.
	CALLNGNO	Y or N	Calling number. The calling line DN appears in this parameter. Enter Y to include the parameter.
	CALLNGDIAL	Y or N	Calling disagreeable number. Enter Y to include the parameter.
	CALLNGNAME	Y or N	Calling name. Enter Y to include the parameter.
	CHARGENO	Y or N	Charge number. This parameter is the ANI. The ANI is a ten-digit operating company charge number associated with an incoming call. Enter Y to include the parameter.
	CALLTYPE	Y or N	Call type. This parameter indicates if the call to the current CompuCALL party: • transfers • overflows • redirects • forwards Enter Y to include the parameter.
	ORIGDN	Y or N	Originating DN. This parameter identifies the first DN of an MDC call when the call enters the CompuCALL environment. This number stays the same as long as the call stays in the CompuCALL environment. The number stays the same if the call transfers, overflows, redirects, or forwards. Enter Y to include the parameter.
	ORIGDIAL	Y or N	Originating dialable DN. Enter Y to include the parameter.
	ORIGNAME	Y or N	Originating name. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling category CTXEVENT (Sheet 3 of 7)

Field	Parameter	Entry	Explanation and action
	PREVAPPL	Y or N	Previous application ID. This parameter identifies the application ID for the session of the associated environment. The party that extends the call belongs to this session. Call extension includes call transfer, overflow, redirect, and forward. Enter Y to include the parameter.
	HOSTCALD	Y or N	Host call data. The computer application provides this parameter and gives the reason for a redirected call. Enter Y to include the parameter.
	CALLMODE	Y or N	Call mode. This parameter identifies call modality when offered to the CompuCALL party. At present only call waiting is the only available feature. If a call is on call waiting while the MDC station is busy on a call, the following occurs. The dv-Call-Offered-U message includes the CALLMODE parameter to indicate the call waited. This parameter applies to MDC calls only. Enter Y to include the parameter.
	DEVICEID	Y or N	Device identification This parameter identifies the specified customer workstation the system offers the call to. The parameter is unique in the switch. The parameter is a choice parameter. The only available choice is the station number, a subparameter that includes the specified MDC line to which the system offers the call. Enter Y to include the parameter.
CALLANSWR		CALLANSWR	Call answer. Enter CALLANSWR to select the call answer message.
	NCALLID	Y or N	Network call identification. This parameter identifies calls in the customer network. Enter Y to include the parameter. If you select N, the switch cannot track CompuCALL messages.

ACD CompuCALL (continued)

Datafilling category CTXEVENT (Sheet 4 of 7)

Field	Parameter	Entry	Explanation and action
	DEVICEID	Y or N	Device identification. This parameter identifies the specified customer workstation the system offers the call to. The only available subparameter is the station number. The station number includes the specified MDC line the system offers the call to. Enter Y to include the parameter.
	CALLNGNO	Y or N	Calling number. This parameter provides the DN of the calling line. Enter Y to include the parameter.
	CALLNGDIAL	Y or N	Dialable calling number. Enter Y to include the parameter.
	CALLNGNAME	Y or N	Calling name. Enter Y to include the parameter.
	CHARGENO	Y or N	Charge number. This parameter is the ANI. The ANI is a ten-digit operating company charge number associated with an incoming call. Enter Y to include the parameter.
	CALLTYPE	Y or N	Call type. This parameter indicates if a call to the current CompuCALL party transfers, overflows, redirects, or forwards. Enter Y to include the parameter.
	ORIGDN	Y or N	Originating DN. This parameter identifies the first DN of an MDC or RES telephone when the call enters the CompuCALL environment. This number stays the same as long as the call is in the CompuCALL environment. The call stays the same if the call transfers, overflows, redirects, or forwards. Enter Y to include the parameter.
	ORIGDIAL	Y or N	Originating dialable DN. Enter Y to include the parameter.
	ORIGNAME	Y or N	Originating name. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling category CTXEVENT (Sheet 5 of 7)

Field	Parameter	Entry	Explanation and action
	PREVAPPL	Y or N	Previous application identification. This parameter identifies the application ID for the session of the associated environment where the party that extends the call belongs. Call extension includes call transfer, overflow, redirect, and forward. Enter Y to include the parameter.
	HOSTCALD	Y or N	Host call data. The computer application provides this parameter and gives the reason for a redirected call. Enter Y to include the parameter.
	CALLMODE	Y or N	Call mode. This parameter identifies modality of the call when the system offers the call to the CompuCALL party. At present, the system only supports call waiting. A call can be on call waiting for the MDC station when the station is busy on a call. If this event occurs the message includes the CALLMODE parameter. The CALLMODE parameter indicates the call waited. The parameter applies to MDC calls only. Enter Y to include the parameter.
CALLREL		CALLREL	Call release. Enter CALLREL to select the call release message.
	NCALLID	Y or N	Network call identification. This parameter identifies the call in the context of the customer network. Enter Y to include the parameter. If you select N, the switch cannot track messages.

ACD CompuCALL (continued)

Datafilling category CTXEVENT (Sheet 6 of 7)

Field	Parameter	Entry	Explanation and action
	RELTYPE	Y or N	Release type. This parameter explains the cause of a released call. Enter Y to include the parameter. The release types are as follows: Call cleared. One party in a two-party CompuCALL call disconnected after the called party answers the call. Caller transferred. The CompuCALL party transferred the call and disconnected. Consult call. The incoming call is a 3WC/CT consult call. Conference call. The incoming call is a conferenced 3WC. Call overflowed. Call overflowed away from CompuCALL party by ACD overflow feature. Call abandoned. Caller in a two-party call disconnected before the the CompuCALL party answers the call.

Datafilling category CTXEVENT (Sheet 7 of 7)

Field	Parameter	Entry	Explanation and action
			Call redirected. The business computer uses call redirection to redirect calls away from the CompuCALL party. Call forwarded. Call forwarded to another station by the MDC call forward don't answer feature. Call picked-up. Call picked up by another station after the system offers the call to the MDC CompuCALL party. Party dropped. The system drops or releases CompuCALL party in an established three-way call. Party dropped no answer. CompuCALL party is consult party in 3-way call, dropped or released before answering.
	DEVICEID	Y or N	Device identification. This parameter identifies the specified customer workstation that the system offers the call to. The only available subparameter is a station number. The station number includes a specified MDC line where the system offers the call. Enter Y to include the parameter.

Datafilling the RESEVENT category

Datafill for RES CompuCALL for the RESEVENT category in table SCAISSRV appears in the following table.

Datafilling category RESEVENT (Sheet 1 of 7)

Field	Parameter	Entry	Explanation and action
SETOFFHK		SETOFFHK	Set off hook. Enter SETOFFHK to select the set off hook message.
	NCALLID	Y or N	Network call identification. This parameter identifies calls in the network of the customer. Enter Y to include the parameter. If you select N, the switch cannot track messages.
	DEVICEID	Y or N	Device identification. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling category RESEVENT (Sheet 2 of 7)

Field	Parameter	Entry	Explanation and action
CALLOFFR		CALLOFFR	Call offer. Enter CALLOFFR to select the call offer message.
	NCALLID	Y or N	Network call identification. This parameter identifies calls in the network of the customer. Enter Y to include the parameter. If you select N, the switch cannot track messages.
	CALLNGNO	Y or N	Calling number. This parameter displays calling line DN. Enter Y to include the parameter.
	CALLNGDIAL	Y or N	Dialable calling number. Enter Y to include the parameter.
	CALLNGNAME	Y or N	Calling name. Enter Y to include the parameter.
	CHARGENO	Y or N	Charge number. This parameter is the ANI. The ANI is a ten-digit operating company charge number associated with an incoming call. Enter Y to include the parameter.
	CALLTYPE	Y or N	Call type. This parameter indicates if the call to the current CompuCALL party transfers, overflows, redirects, or forwards. Enter Y to include the parameter.
	ORIGDN	Y or N	Originating DN. This parameter identifies the first DN of an MDC call when the call enters the CompuCALL environment. This number stays the same as long as the call stays in the CompuCALL environment. This number stays the same if the call transfers, overflows, redirects, or forwards. Enter Y to include the parameter.
	ORIGDIAL	Y or N	Originating dialable DN. Enter Y to include the parameter.
	ORIGNAME	Y or N	Originating name. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling category RESEVENT (Sheet 3 of 7)

Field	Parameter	Entry	Explanation and action
	PREVAPPL	Y or N	Previous application identification. This parameter identifies the application ID for the session of the associated environment the party that extends the call belongs to. Call extension includes call transfer, overflow, redirect, and forward. Enter Y to include the parameter.
	HOSTCALD	Y or N	Host call data. The computer application provides this parameter and gives the reason for a redirected call. Enter Y to include the parameter.
	CALLMODE	Y or N	Call mode. This parameter identifies call modality when offered to the CompuCALL party. The system only supports call waiting. If a call is on call waiting when the MDC station is busy on a call, the dv-Call-Offered-U message includes the CALLMODE parameter. The CALLMODE parameter indicates the call waited. This parameter applies to MDC calls only. Enter Y to include the parameter.
	DEVICEID	Y or N	Device identification This parameter identifies the specified customer workstation the system offers the call to. The only available choice is the station number. This number is a subparameter that includes the specified MDC line the system offers the call to. Enter Y to include the parameter.
CALLANSWR		CALLANSWR	Call answer. Enter CALLANSWR to select the call answer message.
	NCALLID	Y or N	Network call identification. This parameter identifies calls in the customer network. Enter Y to include the parameter. If you enter N, the switch cannot track messages.

ACD CompuCALL (continued)

Datafilling category RESEVENT (Sheet 4 of 7)

Field	Parameter	Entry	Explanation and action
	DEVICEID	Y or N	Device identification. This parameter identifies the specified customer workstation to which the system offers the call. The only available subparameter is the station number. This number includes the specified MDC line to which the system offers the call. Enter Y to include the parameter.
	CALLNGNO	Y or N	Calling number. Parameter displays the DN of the calling line. Enter Y to include the parameter.
	CALLNGDIAL	Y or N	Calling dialable number. Enter Y to include the parameter.
	CALLNGNAME	Y or N	Calling name. Enter Y to include the parameter.
	CHARGENO	Y or N	Charge number. This parameter is the ANI. The ANI is a ten-digit operating company charge number associated with an incoming call. Enter Y to include the parameter.
	CALLTYPE	Y or N	Call type. This parameter indicates if the call to the current CompuCALL party transfers, overflows, redirects, or forwards. Enter Y to include the parameter.
	ORIGDN	Y or N	Originating DN. This parameter identifies the first DN of an MDC or RES call when the call enters the CompuCALL environment. This number stays the same as long as the call is in the CompuCALL environment. This number stays the same if the call transfers, overflows, redirects, or forwards. Enter Y to include the parameter.
	ORIGDIAL	Y or N	Originating dialable DN. Enter Y to include the parameter.
	ORIGNAME	Y or N	Originating name. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling category RESEVENT (Sheet 5 of 7)

Field	Parameter	Entry	Explanation and action
	PREVAPPL	Y or N	Previous application identification. This parameter identifies the application ID for the session of the associated environment where the party that extends the call belongs. Call extension includes call transfer, overflow, redirect, and forward. Enter Y to include the parameter.
	HOSTCALD	Y or N	Host call data. The computer application provides this parameter and gives the reason for a redirected call. Enter Y to include the parameter.
	CALLMODE	Y or N	Call mode. This parameter identifies modality of the call offered to the CompuCALL party. At present, the system only supports call waiting. A call can be on call waiting for the MDC station when the station is busy on a call. If this event occurs the message includes the CALLMODE parameter. This parameter indicates the call waited. The parameter applies to MDC calls only. Enter Y to include the parameter.
CALLREL		CALLREL	Call release. Enter CALLREL to select the call release message.
	NCALLID	Y or N	Network call identification. This parameter identifies calls in the network of the customer. Enter Y to include the parameter. If you enter N, the switch cannot track messages.

ACD CompuCALL (continued)

Datafilling category RESEVENT (Sheet 6 of 7)

Field	Parameter	Entry	Explanation and action
	RELTYPE	Y or N	Release type. This parameter indicates why the system released the call. Enter Y to select the parameter. The release types are as follows: Call cleared. One party in a two-party CompuCALL call disconnected after the the receiving party answers the call. Caller transferred. The CompuCALL party transferred the call and disconnected. Consult call. The incoming call is a 3WC/CT consult call. Conference call. The incoming call is a conferenced 3WC. Call overflowed. Call overflowed away from the CompuCALL party by the ACD overflow feature. Call abandoned. Caller in a two-party call disconnected before the CompuCALL party answers the call. Call redirected. The computer uses call reduction to redirect the call away from the CompuCALL party.

Datafilling category RESEVENT (Sheet 7 of 7)

Field	Parameter	Entry	Explanation and action
			Call forwarded. Call forwarded to another station by the MDC call forward don't answer feature. Call picked-up. Call picked up by another station after the system offered the call to the MDC CompuCALL party. Party dropped. The system releases or drops a CompuCALL party in an established three-way call. Party dropped no answer. CompuCALL party is consult party in three-way call, dropped or released before answering. Enter Y to include the parameter.
	DEVICEID	Y or N	Device identification. This parameter identifies a specified customer workstation where the system offers the call. The only available subparameter is the station number, including the specified MDC line where the system offers the call. Enter Y to include the parameter.

Datafilling the CALLINIT category

Datafill for MDC and RES CompuCALL for the CALLINIT category in table SCAISSRV appears in the following table.

Datafilling category CALLINIT

Field	Parameter	Entry	Explanation and action
MAKECALL		MAKECALL	Make call. Enter MAKECALL to select the make call message.
	AUTHCODE	Y or N	Authorization code. Enter Y to include the parameter.
	ACCTCODE	Y or N	Account code. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling category SCAI3WC

Datafill for MDC and RES CompuCALL for the CALLINIT category in table SCAISSRV appears in the following table.

Datafilling category SCAI3WC (Sheet 1 of 2)

Field	Parameter	Entry	Explanation and action
ADDPTY		ADDPTY	Add party. Enter ADDPTY to select the add party message.
	OPTYPE	Y or N	Operation type. Enter Y to include the parameter.
	ORIGADDR	Y or N	Originating address. Enter Y to include the parameter.
	DESTDN	Y or N	Destination ID. Enter Y to include the parameter.
CONFPTY		CONFPTY	Conference party. Enter CONFPTY to select the conference party message.
	ORIGADDR	Y or N	Originating address. Enter Y to include the parameter.
DROPPTY		DROPPTY	Drop party. Enter DROPPTY to select the drop party message.
	OPTYPE	Y or N	Operation type. Enter Y to include the parameter.
	ORIGADDR	Y or N	Originating address. Enter Y to include the parameter.
TRANPTY		TRANPTY	Transfer party. Enter TRANPTY to select the transfer party message.
	ORIGADDR	Y or N	Originating address. Enter Y to include the parameter.
CONSULTEV		CONSULTEV	Call consult originated. Enter CONSULTEV to select the call consult originated (dv-Consult-Originated-U) message. The switch sends the message to the host. This event occurs when one party of a two-party call activates the 3WC or CXR message. The switch uses this message to create a conference with a third-party.

Datafilling category SCAI3WC (Sheet 2 of 2)

Field	Parameter	Entry	Explanation and action
	NCALLID	Y or N	Network call ID. Enter Y to include the parameter.
CONFEVNT		CONFEVNT	Call Conference. Enter CONFEVNT to select the call conferenced (dv-Call-Conferenced-U) message. The switch sends the host the message when one party initiates the 3WC or CXR message. The switch uses this message to creates a conference with all other parties.
	NCALLID	Y or N	Network call ID. Enter Y to include the parameter.
TRANSFEREV		TRANSFEREV	TRANSFEREV. Enter TRANSFEREV to select the call transferred (dv-Call-Transferred-U) message. The switch sends the message to the host when one party initiates the 3WC or CXR message. The switch uses the message to send the originator of a call to another party.
	NCALLID	Y or N	Network call ID. Enter Y to include the parameter.

Datafilling the SCAIMWTI category

Datafill for MDC and RES CompuCALL for the category SCAIMWTI in table SCAISSRV appears in the following table.

Datafilling category SCAIMWTI

Field	Parameter	Entry	Explanation and action
MSGWAIT		MSGWAIT	Message waiting. Enter MSGWAIT to select the message waiting message.
	DEVICEID	Y or N	Device identification. Enter Y to include the parameter.
	MWTYPE	Y or N	Message waiting type. Enter Y to include the parameter.
	INDICATION	Y or N	Message waiting indication. Enter Y to include the parameter.

ACD CompuCALL (continued)

Datafilling the DNQUERY category

Datafill for MDC and RES CompuCALL for the category DNQUERY in table SCAISSRV appears in the following table.

Datafilling category DNQUERY

Field	Parameter	Entry	Explanation and action
DNQUERY		DNQUERY	DN query. Enter DNQUERY to select the DN query filter.
	FILTER	Y or N	Filter. Enter Y to include the parameter.

Datafilling the SCAICC category

Datafill for MDC and RES CompuCALL for the category SCAICC in table SCAISSRV appears in the following table.

Datafilling category SCAICC

Message	Parameter	Entry	Explanation and action
ANSWCALL	None	ANSWCALL	Answer call. Enter ANSWCALL to select the ACD answer call message.
HOLDCALL	None	HOLDCALL	Hold call. Enter HOLDCALL to select the ACD hold call message.
UNHOLDCALL	None	UNHOLDCALL	Unhold call. Enter UNHOLDCALL to select the ACD unhold call message.
CALLHELD	None	CALLHELD	Call Held. Enter CALLHELD to select the ACD call held message.
	NCALLID	Y or N	Network call identification. Enter Y to include the parameter.
CALLUNHELD		CALLUNHELD	Call unheld. Enter CALLUNHELD to select the ACD call unheld message.
	NCALLID	Y or N	Network call identification. Enter Y to include the parameter.
RELSCALL		RELSCALL	Release call. Enter RELSCALL to select the ACD release call message.
	RELTYPE	Y or N	Release type. Enter Y to include the parameter.

Datafill example for table SCAISSRV

Sample MDC and RES datafill for table SCAISSRV appears in the following example

MAP example for table SCAISSRV

```
    SUBSERV
SPROFILE
-----------------------------------------------------------------
    CTXEVENT35$
CTXEVENT (CALLOFFR Y Y N N Y Y Y N N Y Y Y Y)
(CALLANSWR Y Y Y N N Y Y Y N N Y Y Y) (CALLREL Y Y Y) $

    MYEVENT
RESEVENT (SETOFFHK Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y Y Y)
(CALLANSWR Y Y Y Y Y Y Y Y Y Y Y Y Y) (CALLREL Y Y Y) $

    RESMCALL
CALLINIT (MAKECALL Y Y) $

    RESMCALL
CALLINIT (MAKECALL Y Y) $

    CTX3WC
SCAI#WC (ADDPTY Y Y Y) (CONFPTY Y) (DROPPTY Y Y) (TRANPTY Y) $

    CTXMWT
SCAIMWTI (MSGWAIT Y Y Y) $

    CTXDNQURY
DNQUERY (DNQUERY) $

    SCAICC08$
SCAICC (ANSWCALL) (HOLDCALL) (UNHOLDCALL) (CALLUNHELD Y)
(RELSCALL Y) $

     SCAICC09$
 SCAICC (HOLDCALL) (UNHOLDCALL) (CALLUNHELD Y) ( ANSWCALL)
 (RELSCALL Y) (CALLHELD Y) $
```

Datafilling table SCAIPROF

Table SCAIPROF is a reference table for CompuCALL service profiles. A service profile is a set of CompuCALL messages and associated options available to a customer-center during a CompuCALL session.

ACD CompuCALL (continued)

The size of table SCAIPROF ranges from 0 to 2048 tuples. The maximum eight service identities for each linkset multiplied by the total linksets (256) in table SCAICOMS determines the maximum size.

Follow these steps to enter current CompuCALL groups:

1. Make a list of each linkset a CompuCALL group owns and the required CompuCALL messages assigned to the linkset.
2. Find the subservice names in table SCAISSRV that display all the CompuCALL messages the customer center subscribes to.
3. If you cannot find messages, enter new subservice names or edit current subservice names to include necessary messages in table SCAISSRV.
4. List subservice names entered in table SCAISSRV to reflect revisions.
5. Enter linksets and subservice names for each linkset in table SCAIPROF.

Relationship with previous tables

Each table contains interrelated information. Before you enter table SCAIPROF make sure that tables OFCOPT, SCAIGRP, SCAICOMS, and SCAISSRV have the correct information.

Table OFCOPT

Table OFCOPT is a parameter table that allows the operating company to allocate CompuCALL links and services. If the necessary parameters do not have the correct values, service is not available.

Table SCAICOMS

Table SCAICOMS establishes communication with the customer center. This action makes sure that the linkset, or linksets, know the location of the computer of the customer-center. The linkset or linksets know the location of the X.25 protocol the computer uses. Use the linkset name in table SCAICOMS in datafill for table SCAIPROF.

Table SCAIGRP

Table SCAIGRP allows the business computer to establish a CompuCALL logon after the computer supplies:

- the network node ID
- business group ID
- password
- service profile ID

The service profile ID is from the datafill in table SCAIPROF.

Table SCAISSRV

Table SCAISSRV provides the subscribed functions. The subscribed functions include categories and message parameters. Table SCAIPROF changes these functions into a service profile.

A service profile cannot include two subservice names from the same CompuCALL service category. A linkset can associate with more than one service profile through the use of different service IDs.

Table SCAIPROF uses the linksets in table SCAICOMS and the subservice names in table SCAISSRV. Table SCAIPROF uses the linksets and subservice names to create a CompuCALL service profile that the business computer uses at login. The key field is PROFKEY.

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

Datafilling table SCAIPROF

Field	Subfield or refinement	Entry	Explanation and action
PROFKEY			Profile key. This field contains subfields LINKSET and SRVCID. This field is the first of a two-part key that, combined with PROFILE, identifies linkset and service profile groups.
	LINKSET	alphanumeric (1-16 characters)	Linkset name. This parameter contains one linkset name in table SCAICOMS.
	SRVCID	numeric (0-255)	Service identity. This parameter contains the service ID number. Enter a maximum of eight service IDs for each linkset. Use one service profile at a time. You require a different service ID for each linkset and profile group.
PROFILE		One or more subservice names from table SCAISSRV	Profile. This field establishes a CompuCALL service profile. You can configure eight service profiles, one for each of a maximum of eight links, for each linkset.

Datafill example for table SCAIPROF

Sample datafill for table SCAIPROF appears in the following example.

ACD CompuCALL (continued)

MAP example for table SCAIPROF

```
    PROFKEY
PROFILE
-------------------------------------------------------------
    LINKSET1 0
(TPCC35$) (ACDEVENT36$) (ROUTING35$) (TPAC36$)
(RESOURCE35$)$
```

Error messages for table SCAIPROF

The following error messages apply to table SCAIPROF.

Error messages for table SCAIPROF

Error message	Explanation and action
`In use levels in tables SCAICOMS/SCAIPROF exceed office limits.`	A parameter in table OFCOPT is not set at high enough value to meet the datafill requirements.
`Office limit for SVCs with TPCC category exceeded.`	A parameter in table OFCOPT is not set at high enough value to meet the datafill requirements.

MDC CompuCALL and table SCAIPROF

Datafill for MDC CompuCALL and for ACD CompuCALL is like the datafill for table SCAIPROF. The difference is in the profile field. The only subservice name permitted for MDC users is CTXEVENT. See the sample datafill that appears in the following example.

Datafill example for table SCAIPROF

A MAP display of table SCAIPROF for a customer that selected the CTXEVENT35$ fixed category, appears in the following example.

MAP example for table SCAIPROF

```
    PROFKEY
PROFILE
-------------------------------------------------------------
    LINKSET1 0
(CTXEVENT35$)
```

Datafilling table CUSTNTWK

Table CUSTNTWK associates a network name with a customer group. The table assigns a global network customer group identifier (NETCGID) to the group.

For CompuCALL, the primary purpose of this table is to assign the ECM option to the customer group. ECM is an earlier name for CompuCALL. A group cannot have CompuCALL service without an assigned ECM option in table CUSTNTWK. The MDC CompuCALL requires the ECM option.

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

Datafilling table CUSTNTWK

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		Alphanumeric (1-16 characters)	Customer Group Name. The name assigned to the customer group in table CUSTENG.
NETNAME		Alphanumeric (1-31 characters)	Network Name. Network name assigned to the customer group in table NETNAMES.
NETCGID		numeric (1-4096)	Network Customer Group Identifier (NCGI). Unique number for the customer group.
DNREVXLA		$	Directory Number Reverse Translators. This field contains subfields NETNAME, RXLANAME, and NUMDIGS.
OPTIONS		ECM	Options. ECM is necessary to assign CompuCALL service.
Note: If an entry is already present in CUSTNTWK, add the ECM option to the tuple.			

Datafill example for table CUSTNTWK

Sample datafill for table CUSTNTWK appears in the following example.

ACD CompuCALL (continued)

MAP example for table CUSTNTWK

```
CUSTNAME    NETNAME NETCGID
                            DNREVXLA
                            OPTIONS
_____________________________________________________
WELL_RUN    PUBLIC  10      $
                            (ECM)$
```

Datafilling table ACDGRP

Table ACDGRP associates ACD features with specified customer groups. With CompuCALL, definition of ACD groups occurs before the CompuCALL translations process begins.

Table ACDGRP has the following optional CompuCALL functions:

- call redirection, called SCAIREDIR, is present
- distinctive ringing for ACD calls, for use with the dv-Make-Call message to place outgoing calls, is present

The Make Call Option

The computer can place outgoing calls for a CompuCALL user through the Make Call Option.

The dv-Make-Call message allows the computer to initiate an outbound call for a specified agent position or line. The switch uses the distinctive ringing option to use a specified ringing tone. The specified tone informs the user that the telephone ringing is an outgoing call that the user requested. The ringing sound is different from the incoming call. When the telephone rings and the user answers, the following occurs. The system dials the called party and the user must wait for the called party to answer.

The Distinctive Ringing Option

To apply distinctive ringing to telephone sets in an ACD customer group that originate calls with the Make Call Option:

1. Do one of the following:
   - For all telephone sets in an ACD customer group, enter table CUSTSTN and select the DRING option for the correct customer group.
   - For individual sets in an ACD customer group, enter table CUSTSTN and select the DRING option for the individual lines only.
2. Set MAKECALL to Y.
3. Select a distinctive ringing type ranging from one to eight.
4. Enter table ACDGRP selecting the field DISTING for OUTBOUND or BOTH.

To apply distinctive ringing to telephone sets for MDC or RES customers that originate calls with the Make Call Option:

1. Do one of the following for all MDC or RES sets in a customer group:
   - Enter table CUSTSTN and select the DRING option for the correct customer group.
   - When you set only individual sets with distinctive ringing, enter table CUSTSTN and select the DRING option for the individual lines only.
2. Set MAKECALL to Y.
3. Select a distinctive ringing type ranging from one to eight.

Call Redirection

The call-center computer can redirect a call automatically. For example, the call-center computer can reroute a gold card customer call to a trained customer group for special treatment.

Call redirection requires the following messages:

- dv-Call-Received-C
- dv-Call-Redirect

The dv-Call-Received-C message

If an ACD group subscribes to redirection, the switch sends the computer a dv-Call-Received-C message. This procedure occurs when the switch receives a call to an ACD DN associated with a CompuCALL session.

ACD CompuCALL (continued)

When the switch sends a dv-Call-Received-C message, the following occurs. The computer must respond to the switch in a predetermined time of 0 to 30 s. The recommended value is 2 s.

If the switch does not receive a response in time, the switch routes the call to a default destination. This destination is the ACD group the caller first called. The switch sends the message before the switch determines the following options for the call:

- routed to night service
- overflowed
- queued
- offered to an agent

The dv-Call-Redirect message

The computer can respond to a dv-Call-Received-C message. The computer sends a dv-Call-Redirect message to the switch. The switch sends the call to an MDC or ACD line on a switch in the public switch network. For a change in direction to occur, specify the line in translations.

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

Datafilling table ACDGRP (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
ACDNAME		Alphanumeric (1-16 characters)	Automatic call distribution name. This field contains the ACD group name.
CUSTGRP		ASRDFLT, PFDEFAULT, POTSDATA, PRADEFAULT, BNR, NTI, RES1, RES2, E911	Customer group name. This field contains the name of the customer group to which the ACD group belongs.
ACDRNGTH		numeric (0 through 60) (0 through 60)	ACD ringing threshold. Maximum time, in seconds, that elapses before an unanswered call at an agent telephone is queued again. The agent telephone is queued at the head of the incoming call queue.

ACD CompuCALL (continued)

Datafilling table ACDGRP (Sheet 2 of 5)

Field	Subfield or refinement	Entry	Explanation and action
THROUTE		refer to subfields	Threshold route. This field contains subfields TABNAME and INDEX. This field specifies the route in tables IBNRTE and OFRT where the system routes overflow ACD calls.
	TABNAME	OFRT, TOPS, IBNRT4, IBNRT3, IBNRT2, IBNRTE, RRTE, IRTE, OFR4, OF43, OFR2	Table name. Enter the table name to which the system routes translations.
	INDEX	numeric (1-1023)	Index. Enter number assigned to the route list in the table to which translation routes. Zero is not a correct entry for this field.
NSROUTE		refer to subfields	Night service route. This field contains subfields TABNAME and INDEX. The field specifies where the system routes incoming calls if there are no active agents in the ACD group.
	TABNAME	OFRT, TOPS, IBNRT4, IBNRT3, IBNRT2, IBNRTE, RRTE, IRTE, OFR4, OF43, OFR2 TOPS, IBNRT4, IBNRT3, IBNRT2, IBNRTE, RRTE, IRTE, OFR4, OF43, OFR2	Table name. Enter the table name to which the system routes translations.

ACD CompuCALL (continued)

Datafilling table ACDGRP (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	INDEX	numeric (1-1023)	Index. Enter number assigned to the route list in the table to which translation routes. Zero is not a correct entry for this field.
PRIOPRO		numeric (0-255)	Priority promotion time out. Enter the maximum time, in seconds, a call waits in the queue. When the time expires, the system places the call in a higher priority queue. Enter 0 if no time-out applies.
DBG		Y or N	Delayed billing. Delayed billing in table ACDGRP applies for intraoffice calls. Enter Y for billing to start when the ACD agent answers the call. Enter N for billing to start when the caller receives recorded announcement. Field DBG and office parameter ACD_TOLL_DELAYED_BILLING in table OFCENG control answer propagation. Field DBG is not correct for Japanese operating companies. For these companies, the NOANSWER option in field OPTIONS replaces this field.
MAXCQSIZ		numeric (0-511)	Maximum call queue size. Enter the maximum number of calls enqueued in the incoming call queue at one time. After this threshold occurs, all following calls are deflected to the route specified in field THROUTE. Enter 0 if the ACD group does not have call queuing capacity.
MAXWAIT		numeric (0-1800)	Maximum waiting time. Enter maximum time, in seconds, a call must wait in the incoming call queue. After this number occurs, the system sends all following calls to the route specified in field THROUTE. Enter 0 if the ACD group does not have call queuing capacity.
ACDMIS		Y or N	ACD management information system. Enter Y to assign ACDMIS to this ACD group.

ACD CompuCALL (continued)

Datafilling table ACDGRP (Sheet 4 of 5)

Field	Subfield or refinement	Entry	Explanation and action
DISTRING		NONE, INBOUND, OUTBOUND, or BOTH	Distinctive ringing. This field specifies distinctive ringing for the ACD group for inbound and outbound ACD calls. Enter NONE for no distinctive ringing, INBOUND for distinctive ringing on inbound calls. Enter OUTBOUND for distinctive ringing on outbound calls, and BOTH for distinctive ringing on both call types.
OBSWTONE		Y or N	Observation warning tone. Enter Y for an ACD agent to receive a warning tone when a supervisor activates observation.
FRCNGTSV		Y or N	Forced night service. Forced night service prevents calls from remaining in a queue when night service activates. When selected, the system checks incoming call queues and routes calls to the customer-defined night service or clearing route. Enter Y to select the FRCNGTSV option.
OPTIONS		refer to subfields	Options. Field contains subfield OPTION.
	OPTION	From a list of options which include SCAIREDIR	switch/computer application interface redirection. SCAIREDIR is a CompuCALL option for redirection of ACD group calls. This option does not have any effect unless the agent group is logged on a CompuCALL session. The session must have subscribed dv-Call-Received and dv-Call-Redirect messages in SCAISSRV and SCAIPROF.
	SCAIREDIR	refer to subfields	SCAI redirect. When you enter option SCAIREDIR, you must enter subfields MSGTO, NCOS, and BILLDN.
	MSGTO	numeric (1-30)	Receive message time-out value. Enter a time-out value from 1 to 30 s for a business computer response to a message that requires confirmation. A hard-coded limit of two redirections for a specified call is present. After that limit is present, the call remains in the last redirected location.

ACD CompuCALL (continued)

Datafilling table ACDGRP (Sheet 5 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	NCOS	numeric (0-511)	Network class-of-service. Enter 0 to 511 for a customer group to translate and route redirected calls.
	BILLDN	7 or 10 digits, or N, or $ for default billing DN	Billing directory number. Enter the billing DN for AMA and SMDR records for call redirection. The subfield accepts 0 to 11 digits, but only a number with 7 or 10 digits is correct. Enter $ for the default billing DN, which is the ACD DN that the caller reaches before a change in direction. Enter N for no billing directory number.

Datafill example for table ACDGRP

Sample datafill for table ACDGRP appears in the following example The example describes a call center entered for two CompuCALL-related options in table ACDGRP. Enter the distinctive ringing option as OUTBOUND. The parameters of call redirection appear in the last line.

MAP example for table ACDGRP

```
ACDNAME   CUSTGRP   ACDRNGTH  THROUTE
NSROUTE PRIOPRO DBG MAXCQSIZ MAXWAIT
   ACDMIS MSQS DISTRING OBSWTONE FRCNGTSV
                                OPTIONS
OPTION  SCAIREDIR MSGTO NCOS BILLDN OPTION
-------------------------------------------------------
ACDGRP1    WELL_RUN    20    OFRT 10   +
OFRT 11     30        N         3      25
N N OUTBOUND N   N
(SCAIREDIR  2  0  4817856) $
```

Datafilling the IBNFEAT category

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

Datafilling table IBNFEAT (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
DF		ECM	Data feature. Enter ECM for the Extended Call Management feature.
FEATURE		ECM	Feature. Enter ECM.
DATA		refer to subfield	Data. This field contains subfield ECM.
	ECM	refer to refinements	Extended Call Management. This subfield contains refinements CALL_EVENTS, MAKECALL, CONF_XFER, MSG_WAIT and SCAICC.
	CALL_EVENTS	Y or N	Call events. This option allows a CompuCALL host computer to receive call events that events that occurs on the line report. Enter Y to select the call events option. Otherwise, enter N.
	MAKECALL	Y or N	Make call. This option allows a line to originate calls from this line through a CompuCALL host session. The host session must be subscribe to the CALLINIT service through table SCAIPROF. Enter Y to select the call events option. Otherwise, enter N.
	CONF_XFER	Y or N	Conferencing. This option allows a line to request three-way calling services through a CompuCALL host session. The three-way calling services are add party, conference party, transfer party, drop party. The host session must subscribe to the SCAI3WC service through table SCAIPROF. Enter Y to select the call events option. Otherwise, enter N.

ACD CompuCALL (continued)

Datafilling table IBNFEAT (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	MSG_WAIT	Y or N	Message waiting. This option allows a line to receive message waiting notification, activation and deactivation. This condition occurs for the executive message waiting and message waiting features through a CompuCALL host session. The host session must subscribe to the SCAIMWT service through table SCAIPROF. Enter Y to select the call events option. For other conditions enter N.
	SCAICC	Y or N	SCAI call control. This option allows the host computer to request one of the following actions. The host can request the following conditions for an incoming call to a MDC or RES line through SCAI signaling: • answer • hold • unhold • release The host must subscribe to the SCAI service through table SCAISSRV. Enter Y to select the SCAI call control option. Otherwise, enter N.

Datafill example for table IBNFEAT

Sample datafill for table IBNFEAT appears in the following example.

MAP example for table IBNFEAT

```
                LEN
                  DNNO        DF    FEATURE
                                                        DATA
-------------------------------------------------------------
HOST    06 1 05 29
                     0        ECM   ECM    Y Y Y Y Y      $
```

Datafilling the KSETFEAT category

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

Datafilling table KSETFEAT (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
FEATURE		ECM	Key_Set_Feature set. Enter ECM.
KVAR		refer to subfield	Key variable refinements. This field contains subfield ECM.
	ECM	refer to refinements	Extended Call Management. This subfield contains refinements CALL_EVENTS, MAKECALL, CONF_XFER, MSG_WAIT and SCAICC.
	CALL_EVENTS	Y or N	Call events. This option allows a CompuCALL host computer to receive call events that events that occur on the line report. Enter Y to select the call events option. Enter N to not select the call events option.
	MAKECALL	Y or N	Make call. This option allows a line to originate calls from this line through a CompuCALL host session. The host session must subscribe to the CALLINIT service through table SCAIPROF. Enter Y to select the MakeCall option. Enter N to not select the MakeCall option.
	CONF_XFER	Y or N	Conferencing. This option allows a line to request three-way calling services through a CompuCALL host session. The three-way calling services are add party, conference party, transfer party, and drop party. The host session must subscribe to the SCAI3WC service through table SCAIPROF. Enter Y to select the conference option. Enter N to not select the conference option.

ACD CompuCALL (continued)

Datafilling table KSETFEAT (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	MSG_WAIT	Y or N	Message waiting. This option allows a line to receive message waiting notification, activation and deactivation. This option applies to the executive message waiting and message waiting features. The message waiting features are through a CompuCALL host session. The host session must subscribe to the SCAIMWT service through table SCAIPROF. Enter Y to select the message waiting option. Enter N to not select the message waiting option.
	SCAICC	Y or N	SCAI call control. This option allows the host computer to request the following conditions for an incoming call to a MDC or RES line. • answer • hold • unhold • release This action occurs through SCAI signaling. The host must subscribe to the SCAI service through table SCAISSRV. Enter Y to select the SCAI call control option. Enter N to not select the SCAI call control option.

Datafill example for table KSETFEAT

Sample datafill for table KSETFEAT appears in the following example.

MAP example for table KSETFEAT

```
                    FEATKEY       FEATURE
                                                          KVAR
 ---------------------------------------------------------
 HOST  06 1 05 30 1   ECM          ECM  Y Y N Y Y

                                                            $
```

Tools for verifying translations

The output from the MAP display when the output determines the ACD CompuCALL appears in the following table. The output determines an established X.25 link at the end of table MPCLINK that connects the switch and the customer-center computer.

The MAP display for a link connected to a customer-center computer appears in the following example, as appears in line 13, under link 3.

MAP example for ACD CompuCALL—successful connection to customer-center computer

```
      CM     MS      IOD   Net      PM      CCS   Lns     Trks   Ext
  .     .      .      .     .       .        .     .        .     .
                     IOD
     Quit            IOC     0  1  2  3
     _Link_          STAT   .   .  .  .
     _All
     Listdev_  DIRP:  .   XFER:    .     DPPP: .     DPPU:  .  NOP: .
               SLM:   .   SCAI:   .
     Tst
     Bsy_      IOC   CARD   0    1    2    3    4    5    6    7    8
     Rts_       3    PORT 0123 0123 0123 0123 0123 0123 0123 0123 0123
     Offl_           STAT .--- .--- .... .--- .--- .--- .--- .---
     Qnode           TYPE DDU  MTD  CONS MPC  CONS MPC  MPC  MPC  MPC
               Card 3 Unit   3
                      User   SYSTEM  BOARD  LINK0  LINK1 LINK2  LINK3
     Qmpc_            Status Ready  COMPACT UNEQ   N/A   UNEQ   ENABLD
     Qlink_
     Qconv_
     Revive_   CARD:
     Downld_

    A120
  Time  09:57  >
```

Use the following procedure for the MAP terminal:

1 Enter MAPCI; MTC; IOD; IOC number. For this example the IOC number is 3.

2 Post the card with the MPC.

3 ManBusy the MPC link.

4 Test the link.

5 If connections are correct and tables MPC and MPCLINK contain the correct datafill, the link status identifier displays *Enabled*. The system establishes Layers 1 and 2.

ACD CompuCALL (continued)

Establishing and verifying an X.25 link

To establish a data session with the switch, the computer sets up a switched virtual circuit with the switch. An application session set up through layer 7 starts the process. The system sets up SVCs with a level 3 Call_Request packet and acceptance. This condition appears when the L (for link) appears in line 10 of the following figure.

MAP example that shows a successful X.25 link

```
        CM     MS      IOD   Net      PM      CCS   Lns     Trks   Ext
   .     .      .       .     .       .        .     .       .      .
SCAIX25              IOD
 0   Quit            IOC     0  1  2  3
 2   Post_           STAT   .   .  .  .
 3   Query_
 4   Clear_   DIRP:   ·   XFER:    .     DPPP: .     DPPU:  .  NOP: .
 5            SLM:    ·   SCAI:  .
 6   Scaitest
 7            MPC:     3      LINK:      3
 8
 9             SE:  01
 10            ST:  .L
 11                 __
 12
 13            Post  3  3
 14
 15
 16
 17  _SESSION
 18  _ALARM
   A120
  Time  09:57  >
```

Using a protocol analyzer to observe CompuCALL messages

A protocol analyzer provides the ability to monitor messages across the CompuCALL link for troubleshooting purposes. Use of these machines can occur at the switch or the computer.

Protocol analyzers include analysis and simulation software based on the Nortel update for each release. The analyzer screen displays easy-to-read versions of CompuCALL messages converted from hexadecimal format.

When you enter SCAIGRP, the customer-center computer can log on. The part of an analyzer screen that displays the logon procedure appears in the following figure. The analyzer provides an interpreted and an un-interpreted version of each procedure monitored.

ACD CompuCALL (continued)

The sixth line from the top displays the computer that requests dv-Appl-Logon and provides information the switch requires. The last piece of information, password, is three lines from the bottom. The screen does not display the RETURN_RESULT message and the switch that agrees to establishment of layer 7. This feature is also establishment of a CompuCALL session. Problems with CompuCALL messages can occur in the translations process or with establishment of base layers earlier in the process. The protocol analyzer can diagnose these problems.

Computer that sends a logon message to a switch

Layer 7 | Computer | Switch

```
id: roiv–apdu   (ROIVapdu)  (SEQUENCE)  len:    32
02 id:(InvokedType)(INTEGER
len:    1
    val:    0
02 id:  operation-value (OPERATION) (INTEGER)       l
en:1
01
   val:1    (DV-APPL-LOGON)
30 id:  (LogonArgument) (SEQUENCE)  len:    22
   80id:    NetworkNodeID       (INTEGER)   len:    1
   01
    val:    1
   81id:    ServiceID (INTEGER) len:1
   01
    val:    1
   82id:    ServiceVersion  (INTEGER)       len:    1
   21
    val:    33
83id:   BusinessGroupID (INTEGER)   len:    1
07
    val:    7
84id:   ApplicationID   (INTEGER)   len:    1
01
    val:    1
85id:   password    (IA5String)             len:    5
49424d4543
12345
```

ACD CompuCALL (continued)

SERVORD

The Service Order System (SERVORD) contains commands that allow the user to change current lines in a DMS switch. The SERVORD is part of the database software of the switch. The SERVORD provides the operating company with a fast and transparent way to perform operations. Some examples of operations are:

- addition and deletion of options from a line
- addition or removal of lines
- changes in line properties, like DN or line equipment number (LEN)

There are two sets of telephones available to MDC users (agents). Use the SERVORD to enter the telephones to accommodate the CompuCALL feature. The first telephones type is Meridian Business Sets (MBS) and other business sets that ACD agents can use. The second set includes most other telephone sets.

For agents that use business sets, translations information appears in table KSETLINE. For the other telephones, refer to table IBNLINES. For both sets of telephones, enter through SERVORD and not the table editor.

SERVORD limits

The ACD CompuCALL does not have SERVORD limits.

SERVORD prompts

The SERVORD prompts that assign ACD CompuCALL to a line appear in the following table.

SERVORD prompts for ACD CompuCALL (Sheet 1 of 2)

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to change
OPTION	ECM	Indicates the name of the option
OPTKEY	1-69	Appears if a KSET line has the ECM option assigned. Assignment of this feature is to the selected DN key. Assignment of the ECM line can occur to lines only.

ACD CompuCALL (continued)

SERVORD prompts for ACD CompuCALL (Sheet 2 of 2)

Prompt	Valid input	Explanation
CALL_EVENTS	Y or N	Allows a CompuCALL host computer to receive call events that events that occur on the line report. The events on the line can report the following call events to the host computer: • dv-Set-OffHook-U • dv-Call-Offered • dv-Call-Answered • dv-Call-Released
MAKECALL	Y or N	Allows a CompuCALL host computer to originate calls from the line through the dv-Make-Call message
CONF_XFER	Y or N	Allows a CompuCALL host computer to set up a three-way calling conference call, consult call, or call transfer. This action occurs from the line through the: • dv-Conference-Party • dv-Add-Party • dv-Drop-Party • dv-Transfer-Party messages
MSG_WAIT	Y or N	Allows a CompuCALL host computer to receive message waiting activation and deactivation event messages (dv-Message-Waiting-U). Messages relate to Message Waiting (MWT) or Executive Message Waiting (EMW) options. You can select Y in this field event if the line has not subscribed to the MWT or EMW options. A warning message appears that indicates the CompuCALL host rejects message waiting events until the line subscribes to either MWT or EMW.
SCAICC	Y or N	Enter Y to allow a compuCALL host computer to request the following actions for incoming calls to MDC or RES lines. • answer • hold • unhold • release This action occurs through SCAI signalling.

ACD CompuCALL (end)

SERVORD example for adding ACD CompuCALL

The addition of ACD CompuCALL to a line with the ADO command appears in the following SERVORD example.

SERVORD example for adding ACD CompuCALL in prompt mode

```
SO:
> ADO
SONUMBER:              NOW   95   8   7   PM
>
DN_OR_LEN:
> 6212300
OPTION:
> EPM
CALL_EVENTS:
> Y
MAKECALL:
> Y
CONF_XFER:
> Y
MSG_WAIT:
> Y
SCAICC:
> Y
OPTKEY:
> 1
OPTION:
> $
```

SERVORD example for adding ACD CompuCALL in no-prompt mode

```
> ADO $ 6212300 ECM Y Y Y Y Y 1 $
```

CompuCALL Enhancements-Screen-Assisted Telephony

Order codes

Functional group order code: ACD00002

Functionality order code: ACD00014

Release applicability

NA008 and later versions

CompuCALL Enhancements-Screen-Assisted Telephony was introduced in NA008.

Requirements

This document contains the datafill information for this specified functionality. The user can require software or hardware to implement this functionality.

Description

This feature improves current CompuCALL services for CompuCall telephony application. This application provides call management functions to Meridian Digital Centrex (MDC) and Residential Enhanced Services (RES) subscribers.

This feature delivers the following:

- caller name and number in CompuCALL messages in all party-call modes
- caller name and number when the line subscribes to option extended call management (ECM) or, when required, options calling number delivery (CND) and CNAMD
- calling name for interswitch calls when name delivery is in QUERY mode. The QUERY mode occurs when Calling Name is not in the Call Setup message.

Caller name and number delivery in party-call scenarios

This function uses the call event messages dv-Call-Offered-U and dv-Call-Answered-U. This function uses these messages to deliver the calling name and number for the following:

- two-party
- three-party
- call events for MDC and RES subscribers

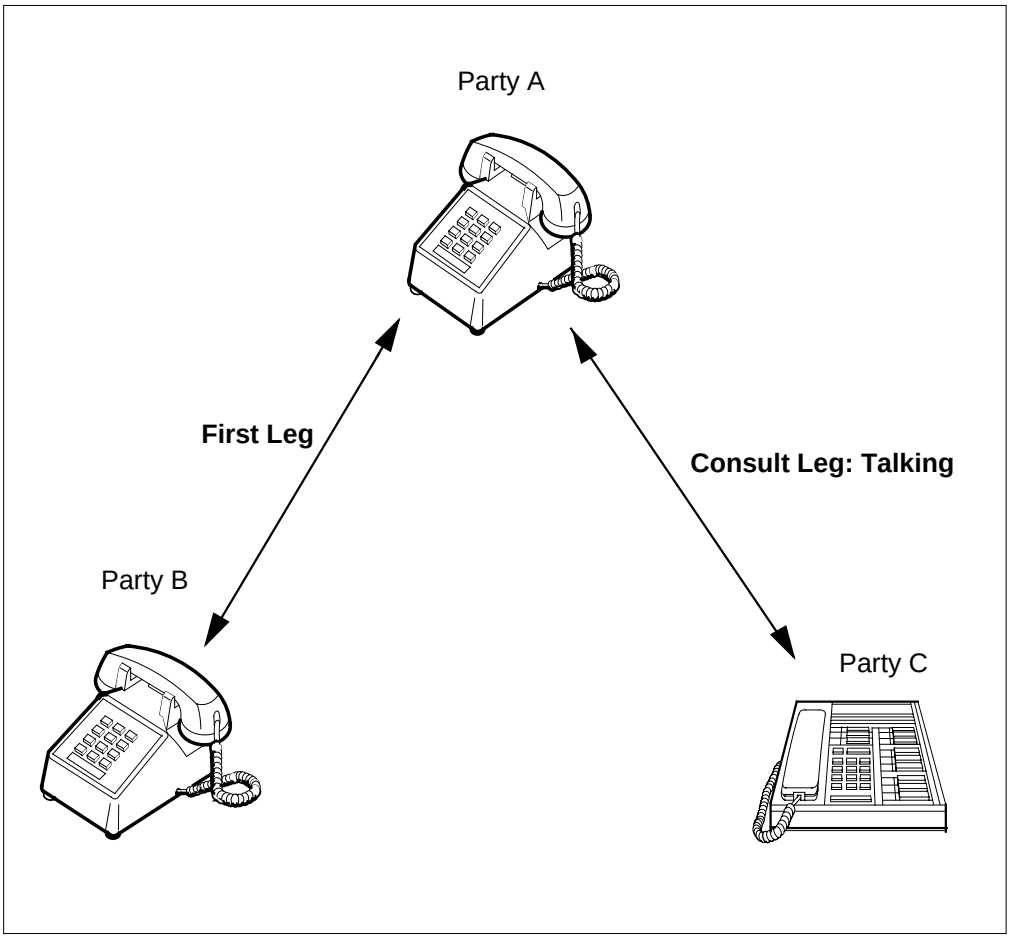
Note: The CompuCALL Call Offered service represents the dv-Call-Offered-U call event message. The CompuCALL Call Offered

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

service is the function CALLOFFR under category RESEVENT or CTXEVENT in table SCAISSRV. The CompuCALL Call Answered service represents the dv-Call-Answered-U call event message. The CompuCALL Call Answered service is the function CALLANSWR under category RESEVENT or CTXEVENT in table SCAISSRV.

The following diagram illustrates a Three-Way Call (3WC) for RES and MDC subscribers.

Three-Way Call scenario



Calling name and number delivery for lines that subscribe to option ECM and, if necessary, options CNAMD and CND

This function delivers the calling name and number for MDC and RES lines when the line subscribes to the following:

1. option ECM
2. the delivery option or the feature group option for the office

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

Calling name delivery for interswitch calls using QUERY mode

This function uses the call event message dv-Call-Callingname-U message to deliver the name of the caller. This event occurs when a TCAP QUERY is required or the name display is in QUERY mode.

Note: The CompuCALL Calling Name service represents the dv-Call-Callingname-U call event message. The CompuCALL Calling name function is CALLNAME in under category RESEVENT or CTXEVENT in table SCAISSRV.

Operation

This section describes how the CompuCALL Enhancements for Web-based Call Manager feature works.

Calling name and number delivery operation summary

To deliver the calling name and number for MDC and RES subscribers for call events, this feature uses the call event messages. These messages are dv-Call-Offered-U and dv-Call-Answered-U messages. These messages contain the appropriate calling ID for all call events.

When a call terminates on a line, a parameter in the call event messages provides the name of the calling party. The line must associate with a SCAI session with service version SCAI10. The parameter does not provide the originating party of the call.

This parameter provides one or more of the following types of information:

- dialed numbers in the Out Dialable Number Delivery format
- ten-digit number of the subscriber station
- name of the caller

Note: The dv-Application-Logon message contains a parameter for the service version. This parameter identifies the protocol version stream of messages that are sent during the session.

This function delivers the calling name and number when option ECM is active. This function delivers the calling name and number when the line subscribes to the delivery option or when option FTRGRP is active. This

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

feature requires that specified conditions must be present. These conditions follow:

1. For IBN type MDC and RES lines (POTS), one of the following conditions must be present:
   - Option ECM does not require validation of option CNAMD or option CND for the line or feature group (option FTRGRP).
   - Option ECM requires validation of option CNAMD or option CND for the line or feature group. The validation must pass.
2. For MDC and RES lines with DISPLAY sets that do not have limits, one of the following conditions must be present:
   - Option ECM does not require validation of option NAMEDISP for the customer group (option CXGRP).
   - Option ECM requires validation of option NAMEDISP for the customer group in table CUSTSTN.

This feature delivers information that relates to the group of options that must be present for interswitch calls. The interswitch calls occur to 500/2500 type MDC and RES lines.

A description of how different options determine the information that this feature delivers appears in the following tables.

Interswitch calls to 500/2500 type MDC and RES lines (Sheet 1 of 2)

Option CUSTNTWK	Option RESOFC	Line option	Option FTRGRP	Suboption CHKLOPT of option ECM	Information delivered
Option CLID is present	Option CNAMD enabled	Option CNAMD is present	*	Y	Name delivered
Option CLID is present	if option CND enabled	if option CND is present	*	Y	Number delivered
Option CLID is present	Option CNAMD enabled	Option CNAMD is not present	Option CNAMD is present	Y	Name delivered
Option CLID is present	if option CND enabled	if option CND is not present	if option CND is present	Y	Number delivered

Note: The asterisk (*) denotes that the option is not a determining factor.

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

Interswitch calls to 500/2500 type MDC and RES lines (Sheet 2 of 2)

Option CUSTNTWK	Option RESOFC	Line option	Option FTRGRP	Suboption CHKLOPT of option ECM	Information delivered
Option CLID is present	Option CNAMD enabled	Option CNAMD is not present	Option CNAMD is not present	Y	Name not delivered
Option CLID is present	if option CND enabled	if option CND is not present	if option CND is not present	Y	Number delivered
Option CLID is present	Option CNAMD not enabled	*	*	Y	Name not delivered
Option CLID is present	if option CND not enabled	*	*	Y	Number not delivered
Option CLID is present	*	*	*	N	Name and number delivered
Option CLID is not present	*	*	*	*	Name and number not delivered
Note: The asterisk (*) denotes that the option is not a determining factor.					

Information that this feature delivers that relates to the group of options that must be available appear in the following table. These options must be present for interswitch calls to MDC and RES lines with DISPLAY sets.

Interswitch calls to MDC or RES lines with DISPLAY sets (Sheet 1 of 2)

Option CUSTNTWK	Table CUSTSTN option	Suboption CHKLOPT of option ECM	Calling name delivery
Option CLID is present	Option NAMEDISP is present	Y	Delivered
Option CLID is present	Option NAMEDISP is not present	Y	Not delivered
Note 1: The asterisk (*) denotes that the option is not a factor that determines information.			
Note 2: A line or customer group option is not present to prevent number display. This event occurs when the line that terminates line is a DISPLAY set. For the DISPLAY sets, calling number is provided when the calling number is provided without limits.			

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

Interswitch calls to MDC or RES lines with DISPLAY sets (Sheet 2 of 2)

Option CUSTNTWK	Table CUSTSTN option	Suboption CHKLOPT of option ECM	Calling name delivery
Option CLID is present	*	N	Delivered
Option CLID is not present	*	*	Not delivered

Note 1: The asterisk (*) denotes that the option is not a factor that determines information.

Note 2: A line or customer group option is not present to prevent number display. This event occurs when the line that terminates line is a DISPLAY set. For the DISPLAY sets, calling number is provided when the calling number is provided without limits.

Information that this feature delivers that relates to the group of options that must be available appears in the following table. The options must be present for intraswitch calls to 500/2500 type MDC and RES lines.

Intraswitch calls to 500/2500 type MDC and RES lines (Sheet 1 of 2)

Option CUSTNTWK	Option RESOFC	Line option	Option FTRGRP	Suboption CHKLOPT of option ECM	Information deliverd
*	Option CNAMD enabled	Option CNAMD is present	*	Y	Name delivered
*	if option CND enabled	if option CND is present	*	Y	Number delivered
*	Option CNAMD enabled	Option CNAMD is not present	Option CNAMD is present	Y	Name delivered
*	if option CND enabled	if option CND is not present	if option CND is present	Y	Number delivered
*	Option CNAMD enabled	Option CNAMD is not present	Option CNAMD is not present	Y	Name not delivered
*	if option CND enabled	if option CND is not present	if option CND is not present	Y	Number delivered

Note: The asterisk (*) denotes that the option is not a factor that determines information.

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

Intraswitch calls to 500/2500 type MDC and RES lines (Sheet 2 of 2)

Option CUSTNTWK	Option RESOFC	Line option	Option FTRGRP	Suboption CHKLOPT of option ECM	Information deliverd
*	Option CNAMD not enabled	*	*	Y	Name not delivered
*	if option CND not enabled	*	*	Y	Number not delivered
*	*	*	*	N	Name and number delivered

Note: The asterisk (*) denotes that the option is not a factor that determines information.

Information that this feature delivers that relates on the group of options that must be available appears in the following table. These options must be present for intraswitch calls to MDC and RES lines with DISPLAY sets.

Interswitch calls to MDC or RES lines with DISPLAY sets

Option CUSTNTWK	Table CUSTSTN option	Suboption CHKLOPT of option ECM	Calling name delivery
*	Option NAMEDISP is present	Y	Delivered
*	Option NAMEDISP is not present	Y	Not delivered
*	*	N	Not delivered

Note 1: The asterisk (*) denotes that the option is not a factor that determines information.

Note 2: A line or customer group option is not present to prevent number display when the terminating line is a DISPLAY set. For the DISPLAY sets, calling number is provided when the calling number is provided without limits.

This feature can deliver the calling name for interswitch calls that use the QUERY mode for Name Display. This feature uses the call event messages dv-Call-Callingname-U and dv-Call-Offered-U to perform this action.

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

The dv-Call-Callingname-U message delivers the name of the caller. This action occurs when a TCAP QUERY is required to deliver the calling name for MDC or RES lines. The message delivers the name of the caller or when the Name Display uses QUERY. A procedure verifies that the line that terminates has option ECM. The procedure verifies that the line associates to a CompuCALL session to which the line belongs. The procedure verifies that the line subscribes to the dv-Call-Callingname-U message. When the procedure validates the conditions or the terminating set is a DISPLAY set, the system launches the TCAP QUERY. The previous conditions can perform a calling name request.

The dv-Call-Callingname-U message is sent with the dv-Call-Offered-U message when the name Display/Delivery mode uses the QUERY mechanism. The dv-Call-Offered-U message contains the name, when available, for intraswitch and intraswitch calls with the Name Display/Delivery mode that uses SETUP.

Subscription to CompuCALL call event messages in table SCAISSRV

This feature uses table SCAISSRV to provide subscribed CompuCALL functions. These functions include categories and CompuCALL message parameters. This table allows users and operating companies to subscribe to CompuCALL messages. Activate this feature through table SCAISSRV or through option FTRGRP.

An operating company can allow option FTRGRP for RES lines on the central office switch. Option FTRGRP allows a group of lines to become a member of one feature group. To assign one feature group, you can assign options like option CNAMD in table FTROPT. This action occurs so that the members of that feature group can obtain the calling party name.

dv-Call-Callingname-U message (function CALLNAME)

Where the Name Display/Delivery mode uses the QUERY mechanism, the feature sends the message dv-Call-Offered-U. The feature sends the call event dv-Call-Callingname-U mesagge.

The switch performs a series of checks before the switch sends the dv-Call-Callingname-U message. The switch verifies the following:

- The Service Version is a minimum of SCAI10. The dv-Application-Logon-message contains the parameter Service Version.

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

This parameter identifies the protocol version stream of messages that are sent during the session.

- The terminating line has option ECM.
- The terminating line associates to a CompuCALL session. The session subscribes to the dv-Call-Callingname-U message.

The dv-Call-Callingname-U message is not sent if the calling name is not available when the query time-out occurs.

The parameters for the dv-Call-Callingname-U message, function CALLNAME, in table SCAISSRV appear in the following table.

Note: A description of the entries in the following table is available. See "Datafilling table SCAISSRV" in this feature description.

CALLNAME parameters for MDC and RES

Category	Function	Parameters
CTXEVENT	CALLNAME	NCALLID {Y,N}
		DEVICEID {Y,N}
		CALLNGNO {Y,N}
		CALLNGNAME {Y,N}
		CALLNGDIAL {Y,N}
RESEVENT	CALLNAME	NCALLID {Y,N}
		DEVICEID {Y,N}
		CALLNGNO {Y,N}
		CALLNGNAME {Y,N}
		CALLNGDIAL {Y,N}

dv-Call-Offered-U message (function CALLOFFR)

To deliver the name and number of the caller in call events, this feature uses the dv-Call-Offered-U message. Before this feature sends this message, the switch verifies that the Service Version is a minimum of SCAI10. The dv-Application-Logon-message contains the parameter Service Version. This parameter identifies the protocol version stream of messages that are sent during the session.

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

This function does not change the current parameters for the dv-Call-Offered-U message. For a description of the current message parameters, refer to table SCAISSRV in the data schema section of this document.

dv-Call-Answered-U message (function CALLANSWR)

This function does not change the current parameters for the dv-Call-Answered-U message. For a description of the current message parameters, refer to table SCAISSRV in the data schema section of this document.

Application logon service version

This feature uses the dv-Application-Logon message. The message contains the Service Version parameter. The service version identifies the version of messages sent during a CompuCALL session. The SCAI10 is the service version for the version of messages that associate with this feature in the NA008 software release.

When the SCAI10 service version is specified, the messages associated with the NA008 software release and earlier versions are available.

A service version that associates with an earlier release can be specified. When this event occurs, the messages that associate with the NA008 software release are not available.

Operational measurement (CLGNAMEU)

This feature uses the register CLGNAMEU in the operational measurement (OM) group SCAISRV3. This register increases each time the switch sends the dv-Call-Callingname-U message. For additional information about register CLGNAME, refer to OM group SCAISRV3 in the *Operational Measurements Reference Manual*.

Translations table flow

CompuCALL Enhancements-Screen-Assisted Telephony does not affect translations table flow. Enter the tables that CompuCALL Enhancements-Screen-Assisted Telephony. accesses through SERVORD. Refer to SERVORD for additional information.

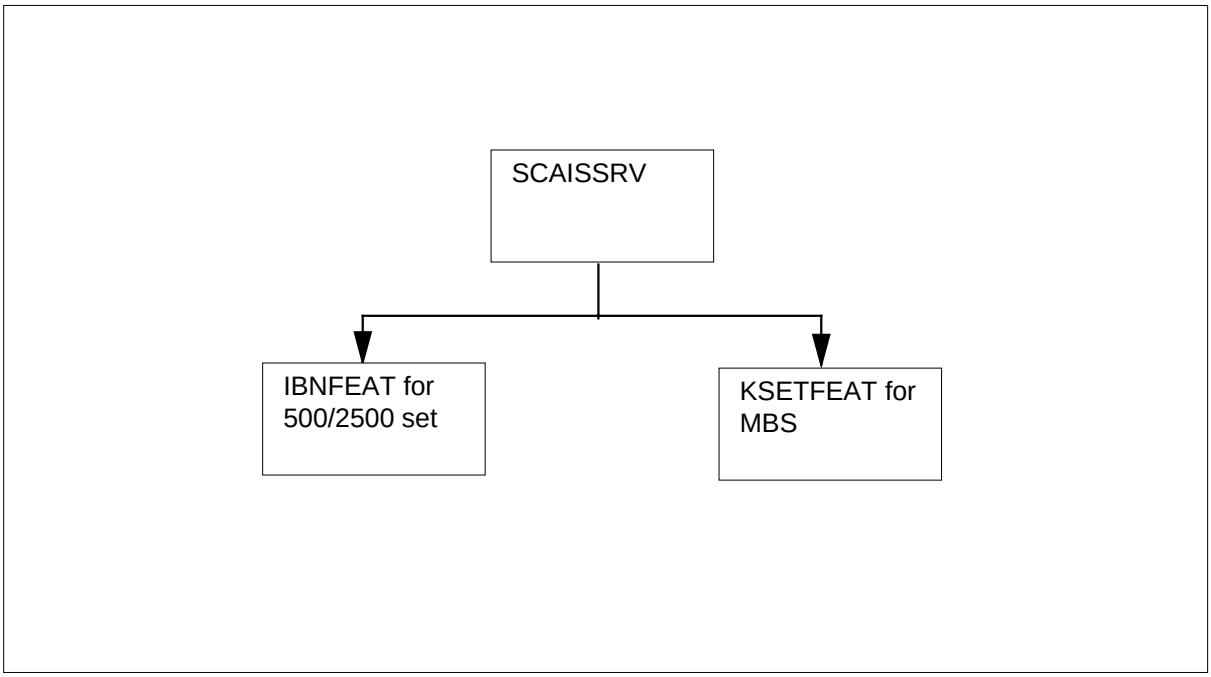
CompuCALL Enhancements-Screen-Assisted Telephony (continued)

A description of the CompuCALL Enhancements-Screen-Assisted Telephony translations tables appear in the following list:

- Table SCAISSRV (Switch Computer Application Interface Subservices) identifies CompuCALL service categories and messages.
- Table IBNFEAT (integrated business network (IBN) Line Feature) lists line features assigned to MDC lines in table IBNLINES.
- Table KSETFEAT (Business Set and Data Unit Feature) lists line features assigned to the business sets and data units in table KSETLINE.

The CompuCALL Enhancements-Screen-Assisted Telephony translation process appears in the following flowchart.

Table flow for CompuCALL Enhancements-Screen-Assisted Telephony



A list of the datafill content in the flowchart appears in the following table.

Datafill example for CompuCALL Enhancements-Screen-Assisted Telephony (Sheet 1 of 2)

Datafill table	Example data
SCAISSRV	ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y) (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y) (CALLREL Y Y Y Y Y) (AGTLGDIN Y Y Y) (AGTLGDOUT Y Y) (AGTREADY Y Y) (AGTNREADY Y Y N) $

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

Datafill example for CompuCALL Enhancements-Screen-Assisted Telephony (Sheet 2 of 2)

Datafill table	Example data
IBNFEAT	HOST 06 1 05 29 0 ECM ECM Y Y Y Y Y $
KSETFEAT	HOST 06 1 05 30 1 ECM ECM Y Y N Y Y $

Limits

The following limits apply to CompuCALL Enhancements-Screen-Assisted Telephony:

- Incoming and outgoing call-event messages with parameters must be subscribed to in table SCAISSRV.
- The dv-Call-Callingname-U message is sent for an incoming call when the Caller Name data is in the dv-Call-Offered-U message.
- The incoming event messages for functions Call Offered, Call Answered and Call Released are not delivered. These message are not delivered when functions Call Forwarded Intragroup (CFI), Call Forward Universal (CFU), or Call Forward Busy (CFB) are active on an associated busy line. When Call Forward Don't Answer (CFD) is active on an associated line and a call comes to the line, a Call Offered message is sent. The Calling Name message is sent. When the line is not answered and the system forwards the call, a Call Released message is sent.
- This feature does not enhance the ACD call event messages to include the dialable number and name fields. The ACD name is not available. The name cannot be sent in the MDC or RES call history.

Interactions

This section describes the interactions between CompuCALL Enhancements-Screen-Assisted Telephony and other functionalities.

Teen Service feature

The Teen Service feature allows members of the same house to have separate phone numbers. A primary directory number (DN) and a maximum of six secondary DNs (SDN) can be assigned to a single line. Different ring patterns identify the number called.

When a call terminates on a Teen Service SDN, the Call Offered message contains the SDN. When the SDN answers the call, the Call Answered message contains the SDN. When the SDN releases the call, the Call Release message contains the SDN.

In three-party call events, the SDN is not delivered.

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

Three-Way Call Interaction with Teen Service

A call terminates on a Teen Service SDN with the Three-Way Calling (3WC) service. The 3WC controller can add a second leg to the call. When this event occurs, the feature delivers the name and number of the primary DN to that call.

The feature delivers the primary DN to the controller in the Call Answered message.

Call Forward Don't Answer Interaction with Teen Service

The feature delivers the name and number of the primary DN when the following events occur:

1. A call terminates on a type P, Teen Service SDN when the primary DN has option CFDA or option CFBL.
2. The system forwards the call to another DN that is ECM associated.

Private Number or Caller

This feature follows the Calling Name Delivery Blocking (CNAB) and Calling Number Delivery Blocking (CNDB) standards. For example, when the originating line has CNAB, the Call Offered message does not deliver the name. The host computer can retain the name.

Call Screen

The Selective Call Rejection (SCRJ) feature allows a subscriber to reject calls that arrive from a list of known DNs. A caller can terminate on an associated RES line in the SCRJ list of the caller. When this event occurs, call event messages are not sent to the host. The messages concern the associated RES line.

The Selective Call Acceptance (SCA) feature allows a subscriber to accept calls that arrive from a list of known DNs. A caller can terminate on an associated RES line that is not in the SCA list of the caller. When this event occurs, call event messages are not sent to the host. These messages concern the associated RES line.

MDC feature interactions

The ACD name is not available to send because this feature does not enhance the ACD call event messages. Message enhancement includes the number and name fields that you can dial.

When ACD call terminates to an MDC or RES line, the name or number of the call is not available. The system can forward the call to or conferences another

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

associated MDC or RES line. When this event occurs, party C receives the name and number of party B. The MDC or RES line is party C.

Three-Way Call chaining scenarios

Party A calls party B, and party B conferences party C, and party C conferences party D. When this event occurs, the following calling name and number delivery occurs:

- Party B receives the name and number of party A.
- Party C receives the name and number of party B.
- Party D receives the name and number of party C.

Suspended Service

Option Suspended Service (SUS) on single line and multiline telephone sets does not allow service on these sets. The subscriber cannot originate or receive any calls. When an MDC or RES line has option SUS, the host does not receive any call event messages. These messages concern the suspended line.

Interswitch Call Forwarding interactions with CompuCALL messages

The call history information in the Call Offered and Call Answered messages is lost for calls forwarded to a different switch. For example, over an SS7/PRI network. These messages contain the information that relates to the call after the system forwards the call.

Call Forwarding without the call presenting to the forwarding party

Option CFD or Call Forward Don't Answer (CFDA) is the only call forward ability for which CompuCALL call event messages are sent. For other call forwarding abilities, the system forwards the call and is not offered to the forwarding party. The forwarding party does not send or receive the CompuCALL call event messages. The CompuCALL call event messages for the forwarded party treat the call as a call that comes from the forwarding party. Call forwarded information is not provided.

Activation/deactivation by the end user

CompuCALL Enhancements-Screen-Assisted Telephony does not require activation or deactivation by the end user.

Billing

CompuCALL Enhancements-Screen-Assisted Telephony does not affect billing.

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

Station Message Detail Recording

CompuCALL Enhancements-Screen-Assisted Telephony does not affect Station Message Detail Recording.

Datafilling office parameters

CompuCALL Enhancements-Screen-Assisted Telephony does not affect office parameters.

Datafill sequence

CompuCALL Enhancements-Screen-Assisted Telephony does not affect datafill sequence. Enter the tables that CompuCALL Enhancements-Screen-Assisted Telephony. accesses through SERVORD. See “SERVORD" for additional information.

A list of the tables that require datafill to start CompuCALL Enhancements-Screen-Assisted Telephony appears in the following table. The tables appear in the correct entry order.

Datafill requirements for CompuCALL Enhancements-Screen-Assisted Telephony

Table	Purpose of table
SCAISSRV	Table Switch Computer Application Interface Subservices (SCAIS) acts as a look-up table for CompuCALL service categories and the messages that go in the categories.
IBNFEAT	Table IBN Line Feature specifies that a specified customer group can use CompuCALL after you enter option ECM.
KSETFEAT	Table Business Set and Data Unit Feature lists line features assigned to the business sets and data units in table KSETLINE. Table KSETLINE is Business Set and Data Unit Line Assignment.

Datafilling table SCAISSRV

Datafill for CompuCALL Enhancements-Screen-Assisted Telephony for table SCAISSRV appears in the following table. The fields that apply to CompuCALL Enhancements-Screen-Assisted Telephony appear in this table.

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

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

Datafilling table SCAISSRV

Field	Subfield	Entry	Explanation and action
SUBSERV		character string of a maximum of 16 characters	Subservice Profile Name. Enter the service profile name. This field is the key to table SCAISSRV. The fixed subservice names are: • CTXEVENT10$ • RESEVENT10$
SPROFILE		refer to subfield	Subservice Profile Contents. This field has subfield CATEGORY.
	CATEGORY	CTXEVENT, RESEVENT	CompuCALL Enhancements-Screen-Assisted Telephony service categories are: • CTXEVENT—entry for MDC line call events • RESEVENT—entry for RES line call events

Datafilling the CTXEVENT category

Datafill for MDC CompuCALL for category CTXEVENT in table SCAISSRV appears in the following table.

Datafilling category CTXEVENT (Sheet 1 of 2)

Function	Refinement	Entry	Explanation and action
CALLNAME		refer to refinements	Caller name. This field has refinements.
	NCALLID	Y, N	Network call identification. This subfield identifies the call as a call of the network of the subscriber. Enter Y to include the parameter. When you select N, the switch cannot track CompuCALL messages.

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

Datafilling category CTXEVENT (Sheet 2 of 2)

Function	Refinement	Entry	Explanation and action
	DEVICEID	Y, N	Device identification. This parameter identifies the specified workstation to which the call is offered. The parameter is different in the switch. The parameter is a choice parameter. The available choice is the station number. The station number is a subparameter that includes the specified MDC line to which the call is offered. Enter Y to include the parameter.
	CALLNGNO	Y, N	Calling number. This parameter indicates the calling line DN. Enter Y to include the parameter.
	CALLNGDIAL	Y, N	Calling dialable number. Enter Y to include the parameter.
	CALLNGNAME	Y, N	Calling name. Enter Y to include the parameter.
CALLOFFR		CALLOFFR	Call offer. Enter CALLOFFR to select the call offer message.
	CALLNGNO	Y or N	Calling number. This parameter indicates the calling line DN. Enter Y to include the parameter.
	CALLNGDIAL	Y or N	Calling dialable number. Enter Y to include the parameter.
	CALLNGNAME	Y or N	Calling name. Enter Y to include the parameter.
CALLOFFR		CALLOFFR	Call offer. Enter CALLOFFR to select the call offer message.
	CALLNGNO	Y or N	Calling number. This parameter indicates the calling line DN. Enter Y to include the parameter.
	CALLNGDIAL	Y or N	Calling dialable number. Enter Y to include the parameter.
	CALLNGNAME	Y or N	Calling name. Enter Y to include the parameter.

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

Datafilling the RESEVENT category

Datafill for RES CompuCALL for category RESEVENT in table SCAISSRV appears in the following table.

Datafilling category RESEVENT

Function	Refinement	Entry	Explanation and action
CALLNAME		refer to refinements	Caller name. This field has refinements.
	CALLNGNO	Y, N	Calling number. This parameter indicates calling line DN. Enter Y to include the parameter.
	CALLNGDIAL	Y, N	Dialable calling number. Enter Y to include the parameter.
	CALLNGNAME	Y, N	Calling name. Enter Y to include the parameter.
CALLOFFR		CALLOFFR	Call offer. Enter CALLOFFR to select the call offer message.
	CALLNGNO	Y or N	Calling number. This parameter indicates calling line DN. Enter Y to include the parameter.
	CALLNGDIAL	Y or N	Dialable calling number. Enter Y to include the parameter.
	CALLNGNAME	Y or N	Calling name. Enter Y to include the parameter.
CALLANSWR		CALLANSWR	Call answer. Enter CALLANSWR to select the call answer message.
	CALLNGNO	Y or N	Calling number. Parameter indicates the calling line DN. Enter Y to include the parameter.
	CALLNGDIAL	Y or N	Dialable calling number. Enter Y to include the parameter.
	CALLNGNAME	Y or N	Calling name. Enter Y to include the parameter.

Datafill example for table SCAISSRV

Sample datafill for table SCAISSRV appears in the following example.

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

MAP example for table SCAISSRV

```
    SUBSERV
SPROFILE
----------------------------------------------------------------------
    CTXEVENT07$
CTXEVENT (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y Y Y)
(CALLANSWR Y Y Y Y Y Y Y Y N N Y Y Y) (CALLREL Y Y Y) $

    MYEVENT
RESEVENT (CALLNAME Y Y Y Y Y ) (SETOFFHK Y Y)
(CALLOFFR Y Y Y Y Y Y Y Y Y Y) (CALLANSWR Y Y Y)
(CALLREL Y Y Y) $

    CTXEVENT (SETOFFHI Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y Y Y)
(CALLANSWR Y Y Y Y Y Y Y Y Y Y Y Y Y) (CALLREL Y Y Y) (CALLNAME Y Y Y Y
Y) $
```

Error messages for table SCAISSRV

Error messages do not apply to table SCAISSRV.

Datafilling table IBNFEAT

Datafill for CompuCALL Enhancements-Screen-Assisted Telephony for table IBNFEAT appears in the following table. The fields that apply to CompuCALL Enhancements-Screen-Assisted Telephony appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNFEAT (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
DF		ECM	Data feature set. Enter ECM for the Extended Call Management feature.
FEATURE		ECM	Feature. Enter ECM.
DATA		refer to subfield	Data. This field has subfield ECM.
Note: The ECM feature is not compatible with MADN, UCD, ACD, SLQ, and data units.			

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

Datafilling table IBNFEAT (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	ECM	refer to refinement	Enhanced Call Management. This subfield has refinement CHKLOPT.
	CHKLOPT	N,Y	Check line option. Enter Y to select option CHKLOPT. When you do not select this option, enter N.
Note: The ECM feature is not compatible with MADN, UCD, ACD, SLQ, and data units.			

Datafill example for table IBNFEAT

Sample datafill for table IBNFEAT appears in the following example.

MAP example for table IBNFEAT

```
              LEN
               DNNO                 DF       FEATURE
                                                                  DATA
-----------------------------------------------------------------------
HOST  06 1 05 29
                  0                 ECM      ECM   Y Y Y Y Y          $
```

Error messages for table IBNFEAT

Error messages do not apply to table IBNFEAT.

Datafilling table KSETFEAT

Datafill for CompuCALL Enhancements-Screen-Assisted Telephony for table KSETFEAT appears in the following table. The fields that apply to CompuCALL Enhancements-Screen-Assisted Telephony appear in this table.

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

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

Datafilling table KSETFEAT

Field	Subfield or refinement	Entry	Explanation and action
FEATURE		ECM	Key set feature set. Enter ECM for the Extended Call Management feature.
KVAR		refer to subfield	Key variable refinements. This field contains subfield ECM.
	ECM	refer to refinement	Extended Call Management. This subfield consists of refinement CHKLOPT.
	CHKLOPT	N,Y	Check line option. Enter Y to select refinement CHKLOPT. When you do not select this option, enter N.

Datafill example for table KSETFEAT

Sample datafill for table KSETFEAT appears in the following example.

MAP example for table KSETFEAT

```
                          FEATKEY      FEATURE
                                                                    KVAR
 ---------------------------------------------------------------------
 HOST  06 1 05 30 1          ECM          ECM        Y Y N Y Y        $
```

Error messages for table KSETFEAT

Error messages do not apply to table KSETFEAT.

Tools for verifying translations

CompuCALL Enhancements-Screen-Assisted Telephony does not use tools for verifying translations.

SERVORD

The CompuCALL uses the ECM data feature option. This feature uses this option to allow a CompuCALL host application session to receive the calling name and number. The CompuCALL Enhancements-Screen-Assisted Telephony feature uses the ECM optional field CHKLOPT. This feature uses this field to allow additional checks on a line for the calling name and number

CompuCALL Enhancements-Screen-Assisted Telephony (continued)

delivery. The calling name and number delivery must subscribe as a line or feature group option. The line must subscribe to function CALLNAME under the category RESEVENT and/or category CTXEVENT in table SCAISSRV.

SERVORD limits

The following SERVORD limits apply to CompuCALL Enhancements-Screen-Assisted Telephony:

- The calling name and number delivery option must subscribe as a line or feature group option.
- The line must subscribe to function CALLNAME under the category RESEVENT and/or category CTXEVENT in table SCAISSRV.

SERVORD prompts

The SERVORD prompts that add CompuCALL Enhancements-Screen-Assisted Telephony to a line appear in the following table.

SERVORD prompts for CompuCALL Enhancements-Screen-Assisted Telephony

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line you change
OPTION	ECM	Indicates the name of the option
OPTKEY	1-69	Appears when the option ECM is assigned to a KSET line. The feature is assigned to the selected DN key. The ECM line feature is assigned to lines.
CHKLOPT	Y or N	Enter Y to allow this option. This option verifies that the CompuCALL host computer can receive the name or number of the caller. The host computer can receive the name and number after validation of the line or feature group options. Enter N to allow the name and number, when available, to be sent without validation of line or feature group options.

CompuCALL Enhancements-Screen-Assisted Telephony (end)

SERVORD example for adding the CompuCALL Enhancements-Screen-Assisted Telephony feature

The addition of CompuCALL Enhancements-Screen-Assisted Telephony to a line that uses the ADO command appears in the following SERVORD example.

SERVORD example for CompuCALL Enhancements-Screen-Assisted Telephony in prompt mode

```
> SERVORD
SO:
> ADO
SONUMBER:           NOW  95  8  7  PM
>
DN_OR_LEN
> 6212300
OPTKEY:
> 1
OPTION:
> ECM
CALL_EVENTS
> Y
MAKCALL:
> Y
CONF_XFER:
> Y
MSG_WAIT:
> Y
CHKLOPT:
> Y
OPTKEY:
> $
COMMAND AS ENTERED:
ADO NOW 95 8 7 PM 6212300 ( 1 ECM Y Y Y Y Y) $
ENTER Y  TO CONFIRM,N TO REJECT OR E TO EDIT
> Y
```

SERVORD example for CompuCALL Enhancements-Screen-Assisted Telephony in no-prompt mode

```
> ADO 6212300 1 ECM Y Y Y Y Y $
```

ECM/SCAI Support for Non-ACD

Ordering codes

Functional group ordering code: ACD00002

Functionality ordering code: ACD00008

Release applicability

BCS34 and later versions

Requirements

The ECM/SCAI Support for Non-ACD does not have requirements.

Description

The ECM/SCAI Support for Non-ACD feature is the first in a two-phase process. The process provides a non-Automatic Call Distribution (ACD) Centrex environment. This non-ACD feature has the capabilities of extended call management (ECM) and switch computer application interface (SCAI). These features provide incoming call information to an agent position. This first phase provides the information in four messages. These messages are association, call offered, call answered and call released.

Operation

Background

This feature provides ECM/SCAI capability. The feature provides both association messages and coordinated voice and data (CVD) messages. A modification of the association message allows the message to accept a non-ACD directory number (DN). This feature allows non-ACD lines to associate with a host computer. This feature provides some of the coordinated voice and data messages for non-ACD lines. The CVD messages supported for non-ACD lines are the call offered, call answered and call released messages.

ECM association message

When a host computer logs on the DMS-100 switch, the host computer does not associate with any line. The host computer sends an ECM association message to associate the host computer with a line. The host computer receives information on the line that associates with the host computer. A host can specify the DN to select a line and associate with the line. A non-ACD line with ECM/SCAI capability can associate with a host computer when the following conditions occur:

- the host computer and the line are in the same customer group
- the line is not associated with another host computer

ECM/SCAI Support for Non-ACD (continued)

The association message has the following parameters:

- Associate DN. This parameter is the DN assigned to the line
- DN operation. This parameter can be ADD or DELETE. The operation adds or deletes the specified DN to or from the set of DNs associated with the session. Non-ACD associate does not support the DEFINE operation.

Call offered message

When a call is offered to a line associated with an SCAI session, the system sends a call offered message. The system sends the message to the host computer. The call offered message contains the following parameters:

- network call ID. This parameter identifies the call in the context of the subscriber network.
- device ID. This parameter is the station ID for non-ACD stations.
- original calling number. This parameter includes the DN of the calling line.
- original charge number. This parameter includes the charge number that the operating company assigns. The charge number is the ANI number.
- call history information. This parameter contains the following information:
  - — call type, which indicates if the call is transferred, redirected, overflowed or forwarded
  - — original inbound DN, which contains the original DN associated with the call before the transfer, redirect, overflow or forward
  - — previous application ID, which contains the ID of the host application involved with the call earlier
  - — host call data, which contains miscellaneous call-related information that the host application provides.

Note: The call offered message can include two additional parameters, the ACD group and the call mode. The ACD group is for an ACD-only environment. The call mode can be call-waited in a non-ACD environment.

ECM/SCAI Support for Non-ACD (continued)

Call released message

When a call terminates from a line associated with an SCAI session, a call released message transmits to the host computer. The call release message contains the following parameters:

- network call ID, which identifies the call in the context of the end user network
- release reason, which can have one of the following values:
  - — call cleared. This value indicates a call the system disconnects and does not transfer, overflow, redirect, forward or pick up.
  - — call transferred. This value indicates a call the system transfers.
  - — call forwarded. This value indicates a call the system forwards after the system offers the call. This value applies to Call Forward Don't Answer only.
  - — call picked up. This value is for a call that the called party answers after the system offers the call.
- device ID, which is the station ID for non-ACD lines
- ACD group. This parameter is for an ACD-only environment.

Note: The release reason parameter can also include overflow and redirected values in an ACD-only environment.

User interface

Feature ECM/SCAI Support for Non-ACD adds information to query commands. These commands show if a line can support this feature. Option ECM denotes the capability of the line. The query commands are as follows:

- QLEN (query line equipment number)
- QDN (query directory number)
- QDNWRK (query working DN)
- QLENWRK (query working LEN)

Feature ECM/SCAI Support for Non-ACD introduces the SCAI alarm. The SCAI alarm is a critical input/output device (IOD) alarm the system generates. The system generates this alarm when a logged-on SCAI session does not terminate normally.

Translations table flow

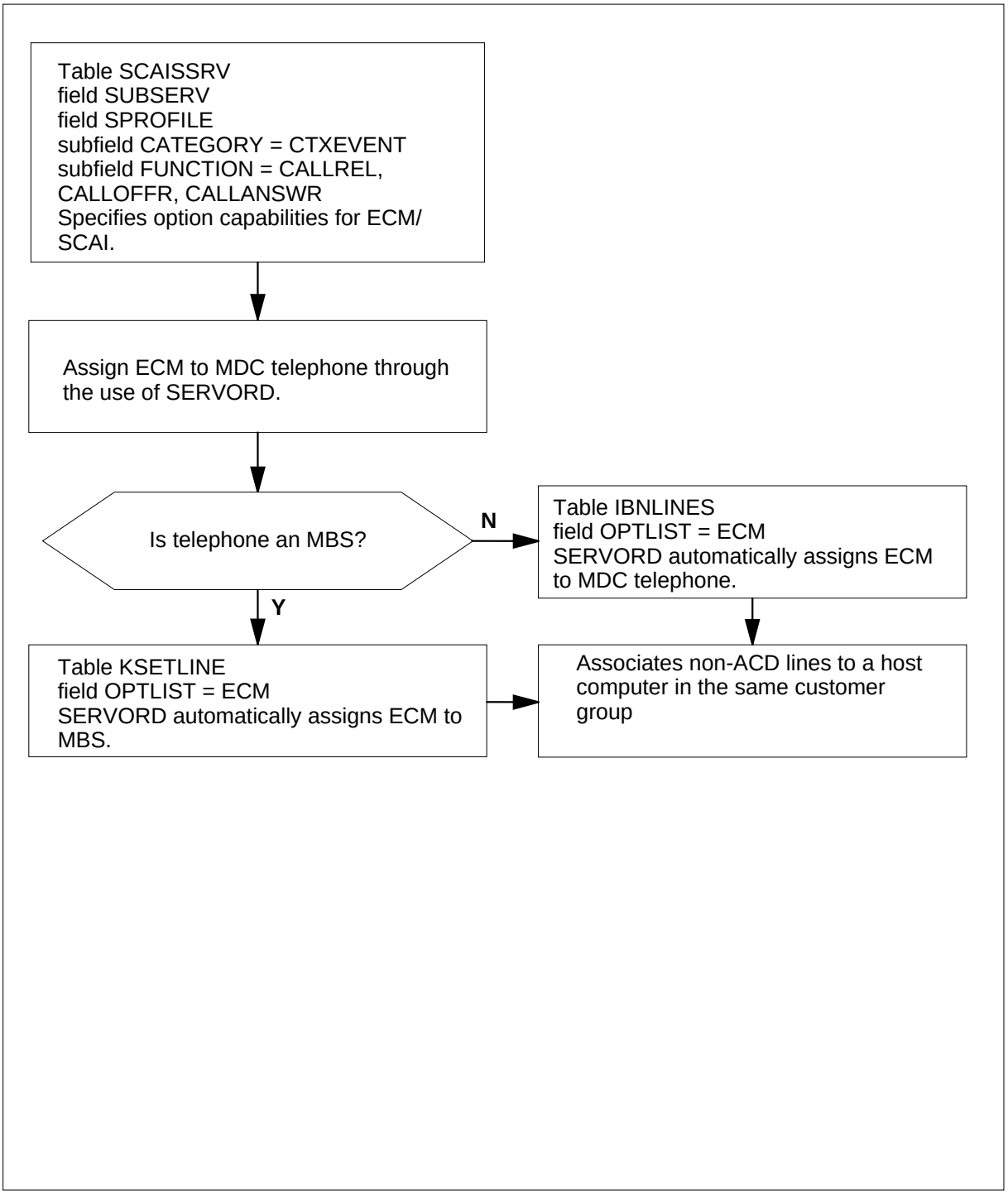
The ECM/SCAI Support for Non-ACD uses Table SCAISSRV. Table SCAISSRV (SCAI Service Profiles) defines the services that each SCAI group provides.

ECM/SCAI Support for Non-ACD (continued)

The ECM/SCAI Support for Non-ACD translation process appears in the flowchart that follows.

ECM/SCAI Support for Non-ACD (continued)

Table flow for ECM/SCAI Support for Non-ACD



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

Datafill example for ECM/SCAI Support for Non-ACD

Datafill table	Example data
SCAISSRV	ECMPROF2 CTXEVENT (CALLOFFR Y Y Y Y Y N N N Y) (CALLANSWR Y Y Y Y Y Y Y Y Y) (CALLREL Y Y Y) $
KSETLINE	HOST 00 0 08 00 5 DN Y 123 GOC 2 123 518 (ECM)$
IBNLINES	HOST 00 0 14 01 2 5 DT MDN IBN 727 COMKODAK 5 123 919 MCA Y N (ECM) $

Limits

The following limits apply to ECM/SCAI Support for Non-ACD:

- the association and CVD messages only apply to a DN assigned to a single line. This feature does not support features like Multiple Appearance Directory Number (MADN) and Hunt Groups which assign a DN to multiple lines. Option ECM assigned to Hunt Group lines is not blocked by tables IBNLINES and KSETLINE.
- one association message is sent for each associated DN
- this feature does not support the DEFINE operation of the association message for non-ACD lines
- this feature does not apply to consoles, data units, ISDN functions or IVD sets

Interactions

The interactions between ECM/SCAI Support for Non-ACD and other functionalities appear in the following paragraphs.

Note: In the paragraphs that follow, assume that parties A, B and C are associated with host computers A, B and C. Parties A, B and C use sets A, B and C.

Call Forwarding

Party A calls party B. Host computer B receives a call offered message without call history information. Party B has the Call Forwarding Don't Answer (CFD) feature programmed to forward calls to party C. Party B does not answer the call. When the system forwards the call, host computer B receives a call released message. The call released message has the release reason parameter set to call forwarded. Host computer C receives a call offered message with the call type parameter set to forwarded.

ECM/SCAI Support for Non-ACD (continued)

Call Pickup

Party A calls party B. Host computer B receives a call offered message that does not have call history information. Party B is in the same Call Pickup group as party C. Party B does not answer the call. Party C answers the call. At this point, host computer B receives a call released message with the release reason parameter set to call picked up. Host computer C does not receive an ECM message at this point.

Call Transfer

Party A calls party B and set B starts to ring. Host computer B receives a call offered message that specifies that set B receives a call offer. The call offered message sent to host computer B does not contain any call history information. Party B answers the call and decides to transfer the call to party C. Set C starts to ring and the system sends a call offered message to host computer C. The call offered message sent to host computer C contains the call history information. The call offered message has the release reason parameter set to call transferred.

Call Waiting

Party A calls party B and set B is busy. Party B includes the Call Waiting (CWT) feature. The system offers the call to set B. The system sends a call offered message with the call type parameter set to call waited to host computer B.

Activation/deactivation by the end user

Feature ECM/SCAI Support for Non-ACD does not require activation or deactivation by the end user.

Billing

Feature ECM/SCAI Support for Non-ACD does not affect billing.

Station Message Detail Recording

Feature ECM/SCAI Support for Non-ACD does not affect Station Message Detail Recording.

Datafilling office parameters

Feature ECM/SCAI Support for Non-ACD does not affect office parameters.

Datafill sequence

The tables that require datafill to use ECM/SCAI Support for Non-ACD appear in the following table. The tables appear in the correct entry order.

ECM/SCAI Support for Non-ACD (continued)

The following tables require datafill to use ECM/SCAI Support for Non-ACD. The tables appear in the correct entry order. Table SCAISSRV specifies the ECM as the Application Service. Table KSETLINE and Table IBNLINES also have the added line option ECM. Option ECM specifies SCAI/ECM capability.

Datafill requirements for ECM/SCAI Support for Non-ACD

Table	Purpose of table
SCAISSRV	The SCAI Service Profiles Table. This table defines the services each SCAI group provides.
KSETLINE (Note)	Business Set And Data-Unit Line Assignment Table. This table contains the directory number appearances for business sets and data units.
IBNLINES (Note)	The IBN Line Assignments Table. This table contains the line assignments for data channel links. The data channel links are for the Bulk Calling Line Identification (BCLI) feature under the format name of BL.
Note: Data entered in this table is through SERVORD. This table does not provide a datafill procedure or example. Refer to SERVORD for an example of how to use SERVORD to enter data in this table.	

Datafilling table SCAISSRV

Table SCAISSRV (SCAI Service Profiles) defines the services provided by each SCAI group. The name of these table entries is service profiles. The service profiles define a set of SCAI messages that an SCAI end user can receive or use. Each service profile must have an SCAI application service assigned. Each application has a set of messages. Some of these messages are optional.

> ***Note:*** Table SCAISSRV is added in BCS35. Table SCAISSRV replaces Table SCAISRVC in BCS34 and earlier versions.

Datafill for table SCAISSRV for ECM/SCAI Support for Non-ACD appears in the following table. The fields that apply to ECM/SCAI Support for Non-ACD appear in this table. See the data schema section of this document for a description of the other fields.

ECM/SCAI Support for Non-ACD (continued)

Datafilling table SCAISSRV (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SUBSERV		alphanumeric	Subservice Profile Name. This field is the key to Table SCAISSRV. Enter the name assigned to the service profile. The name has a maximum of 16 alphanumeric characters.
SPROFILE		see subfield	Subservice Profile. This field contains subfield CATEGORY.
	CATEGORY	CTXEVENT	Service Profile Category. This subfield specifies the name of the application service assigned to the service profile. Enter CTXEVENT.
If the value of CATEGORY is CTXEVENT, subfield FUNCTION requires datafill for options CALLREL, CALLOFFR or CALLANSWR.			
	FUNCTION	CALLREL, CALLOFFR, or CALLANSWR	Function. This subfield specifies requirements for subfields CALLREL, CALLOFFR and CALLANSWR. Enter CALLREL, CALLOFFR or CALLANSWR.
If the value of subfield FUNCTION is CALLREL, subfields NCALLID, RELTYPE and DEVICEID require datafill.			
	NCALLID	Y or N	Network Call ID. This subfield specifies if a network call ID is required. Enter Y or N.
	RELTYPE	Y or N	Release Type. This subfield specifies if a release type is required. Enter Y or N.
	DEVICEID	Y or N	Device ID. This subfield specifies if a device ID is required. Enter Y or N.
If the value of option FUNCTION is CALLOFFR or CALLANSWR subfields NCALLID, DEVICEID, CALLNGNO, CHARGENO, CALLTYPE, ORIGDN, PREVAPPL, HOSTCALD and CALLMODE require datafill.			
	NCALLID	Y or N	Network Call ID. This subfield specifies if a network call ID is required. Enter Y or N.
	DEVICEID	Y or N	Device ID. This subfield specifies if a device ID is required. Enter Y or N.

Datafilling table SCAISSRV (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	CALLNGNO	Y or N	Calling Number. This subfield specifies if a calling number is required. Enter Y or N.
	CALLTYPE	Y or N	Call Type. This subfield specifies if a call type is required. Enter Y or N.
	ORIGDN	Y or N	Originating Directory Number. This subfield specifies if an originating directory number is required. Enter Y or N.
	PREVAPPL	Y or N	Previous Application ID. This subfield specifies if a previous application ID is required. Enter Y or N.
	HOSTCALD	Y or N	Host Call Data. This subfield specifies if host call data is required. Enter Y or N.
	CALLMODE	Y or N	Calling Mode. This subfield specifies if calling mode is required. Enter Y or N.

Datafill example for table SCAISSRV

Sample datafill for table SCAISSRV appears in the following example.

MAP example for table SCAISSRV

```
      SUBSERV
                                   SPROFILE
-------------------------------------------------------------
     CTXEVENT344
CTXEVENT (CALLOFFR Y Y Y Y Y Y Y Y Y)(CALLANSWR Y Y Y Y Y Y
 Y Y Y)(CALLREL Y Y Y) $
```

Tools for verifying translations

Feature ECM/SCAI Support for Non-ACD does not use tools for verifying translations.

ECM/SCAI Support for Non-ACD (continued)

SERVORD

Table KSETLINE

Table Business Set and Data Unit Line Assignment (KSETLINE) contains data for DN appearances on the following devices:

- business sets and data units
- Meridian business sets
- integrated services digital network lines
- Meridian feature transparency (MFT) lines

Table KSETLINE assigns a line to a business set or data unit. Table KSETLINE assigns line option ECM to MBS lines, MFT lines and IBN lines.

Table IBNLINES

Table IBN Line Assignment (IBNLINES) contains the line assignments for each 500/2500 set assigned to an MDC group. Table IBNLINES assigns the options to an MDC line. This table has option ECM included in the list of options for the table.

SERVORD limits

The following Service Order System (SERVORD) limits apply to the ECM/SCAI Support for Non-ACD.

The ECM/SCAI Support for Non-ACD feature introduces option ECM. The following SERVORD commands specify option ECM:

- NEW (Establish Service)
- ADO (Add Option)
- DEO (Delete Option)

Option ECM is not compatible with the following options:

- ACD
- BNN
- DLH
- DNH
- MLH
- MDN
- MDNNAME
- PRL

- PRV
- MEMDISP

Option ECM is compatible with the following line class codes:

- IBN
- PSET
- M5009
- M5112
- M5209
- M5212

SERVORD prompts

The SERVORD prompts used to assign ECM/SCAI Support for Non-ACD to a current line appear in the following table.

SERVORD prompts for ECM/SCAI Support for Non-ACD

Prompt	Valid input	Explanation
OPTION	ECM	Specifies the line option. Enter ECM.

Note: The system automatically enters data in tables IBNLINES and KSETLINE when SERVORD is used to assign ECM/SCAI Support for Non-ACD - PH I.

SERVORD example for adding ECM/SCAI Support for Non-ACD

The following SERVORD example shows how to add the ECM/SCAI Support for Non-ACD to a current line. This feature is added with the ADO command .

ECM/SCAI Support for Non-ACD (end)

SERVORD example for ECM/SCAI Support for Non-ACD in prompt mode

```
>
SO:
>ADO
SONUMBER:     NOW  90  1  2 AM
>
DN_OR_LEN:
> 7211000
OPTION:
> ECM
OPTION:
> $
```

SERVORD example for ECM/SCAI Support for Non-ACD in no-prompt mode

```
>ADO $ 7211000 ECM $
```

4 Datafilling ACD Networking

The following chapter describes the ACD Networking, ACD00004, functionality.

ACD Nodal Treatment in NACD

Order codes

Functional group order code: ACD00004

Functionality order code: does not apply

Release applicability

DMSCCM04 and later versions

Requirements

The ACD Nodal Treatment in NACD feature package does not have requirements.

Description

This package allows a Network Automatic Call Distribution (NACD) group to route an ACD call to a threshold route (THROUTE) specified in Table ACDGRP. The NACD group routes the call when one of two events occur. The first event occurs when the wait time of the call exceeds the maximum wait time (MAXWAIT) for the ACD group. The second event occurs when the call queue size exceeds the maximum call queue size (MAXCQSIZ) for the ACD group.

When the NACD group has the improved overflow option entered in Table ACDGRP, the following condition applies. The NACD group can route the call to a target ACD group instead of the threshold route.

Operation

Before this feature, when the source NACD group did not answer a call, the following action occurred. The system overflowed the call to another NACD group in the network. The switch determined the best group for reception of the call. When all NACD groups in the network were not able to accept the call, the system routed the call to the threshold route.

When this feature is present, the system does not overflow the call to the network. An NACD group can route an ACD call to the threshold route specified in Table ACDGRP. This action can occur when the call wait time exceeds the MAXWAIT parameter specified in Table NACDGRP. This action can occur when the call queue size exceeds the MAXCQSIZ parameter specified in Table NACDGRP.

ACD Nodal Treatment in NACD (continued)

Translations table flow

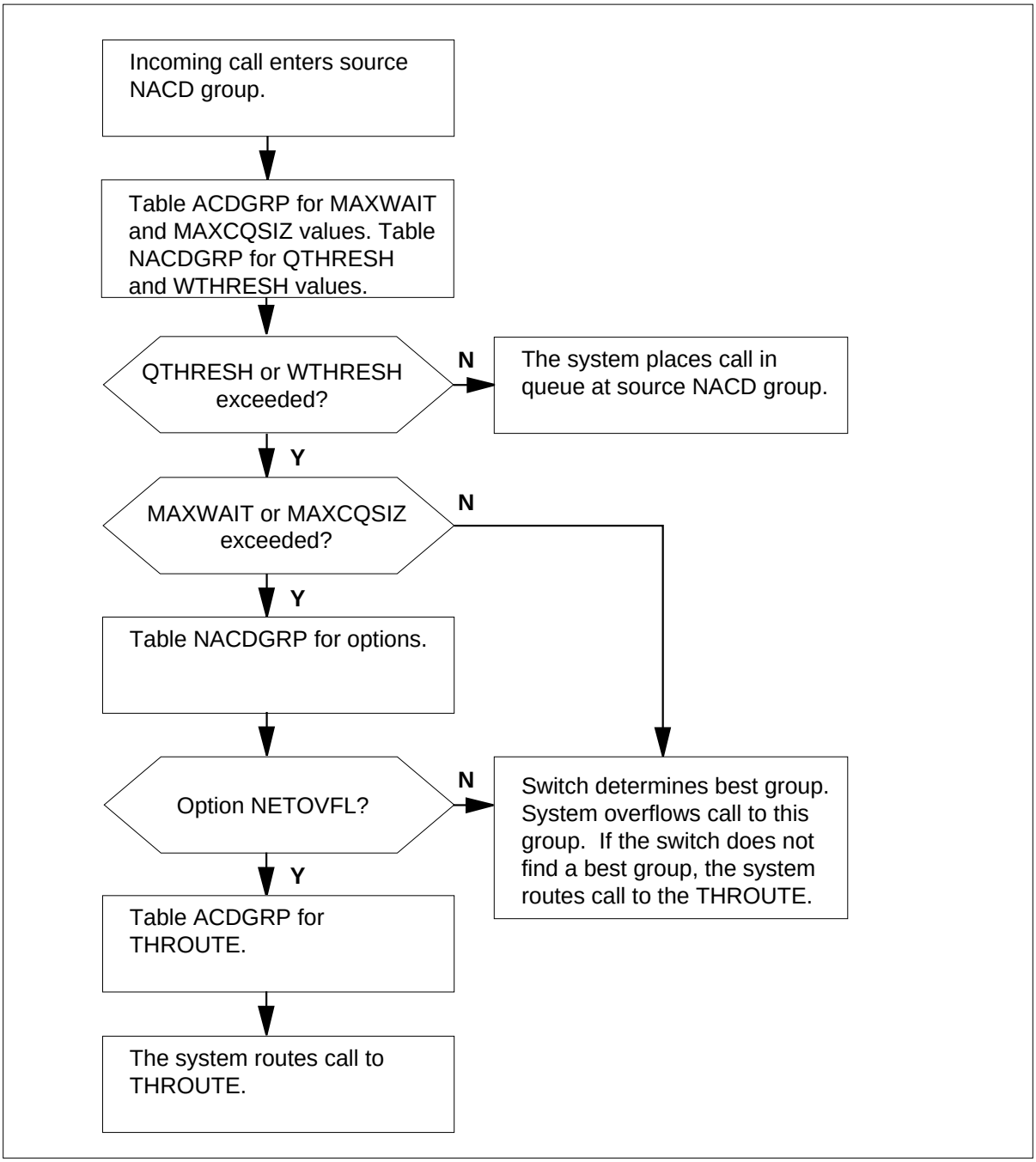
Descriptions of the ACD Nodal Treatment in NACD translations tables appear in the following list:

- Table ACDGRP defines and describes ACD groups. In the datafill example, ACD group NACDA has a maximum wait time of 200 seconds. The ACD group NACDA has a maximum call queue size of 20. When values reach one of these thresholds, the system overflows incoming calls to this ACD group to the threshold route. The threshold route is office route 44 in Table OFRT.
- Table NACDGRP defines and describes the options associated with the NACD group. In the datafill example, ACD group NACDA has three other ACD groups entered to which the system can overflow calls. The system overflows calls to these other groups with the following requirement. Values must not exceed the maximum wait time and maximum call queue size threshold of the source NACD group. The ACD group has the option NETOVFL entered. This entry causes the following event to occur when values exceed one of the thresholds. The system overlows incoming calls to the threshold route entered in Table ACDGRP for the ACD group.

The ACD Nodal Treatment in NACD translation process appears in the flowchart that follows.

ACD Nodal Treatment in NACD (continued)

Table flow for ACD Nodal Treatment in NACD



ACD Nodal Treatment in NACD (continued)

A list of the datafill content that the flowchart uses appears in the following table. The datafill indicates the ACD group name, MAXCQSIZ, MAXWAIT, NACD group name, QTHRESH, THROUTE, WTHRESH fields.

Datafill example for ACD Nodal Treatment in NACD

Datafill table	Example data
ACDGRP	NACDA CUSTGRPA 30 OFRT 44 OFRT 45 0 N 20 200 Y POOL1 SUBPOOL1 N $ Y 5 10 15 WAIT N Y 5 NONE N Y Y OFRT 1003 (TMDELOFL 10 ALLPRIO) (OVFLINQ OVFLIN 1 Y 5) $
NACDGRP	NACDA 2 10 2 N 180 10 10 (REM NACDC 2) (REM NACDD 2) (LCL NACDB 2) $ NETOVFL $

Limits

When values exceed the maximum call queue size or maximum wait time threshold, the system gives nodal treatment to calls. To receive this treatment, the calls must be direct calls to an NACD group.

Interactions

The ACD Nodal Treatment in NACD feature package has the same interactions as normal NACD.

Activation/deactivation by the end user

The ACD Nodal Treatment in NACD feature package does not require activation or deactivation by the end user.

Billing

The ACD Nodal Treatment in NACD feature package does not affect billing.

Station Message Detail Recording

The ACD Nodal Treatment in NACD feature package does not affect Station Message Detail Recording.

Datafilling office parameters

The ACD Nodal Treatment in NACD feature package does not affect office parameters.

ACD Nodal Treatment in NACD (continued)

Datafill sequence

The table that requires datafill to implement ACD Nodal Treatment in NACD appears in the following table.

Datafill requirements for ACD Nodal Treatment in NACD

Table	Purpose of table
NACDGRP	Network Automatic Call Distribution Group table contains the options for NACD groups. This tables defines the option NETOVFL.

Datafilling table NACDGRP

Datafill for ACD Nodal Treatment in NACD for table NACDGRP appears in the following table. The fields that apply to ACD Nodal Treatment in NACD appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table NACDGRP

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		NETOVFL	Options - NETOVFL. When an entry of option NETOVFL is present for an NACD group, the following event occurs. The system routes incoming calls to the nodal threshold treatment instead of NACD treatment in a specified condition. This condition occurs when values exceed the maximum call queue size or maximum wait time parameter.

Datafill example for table NACDGRP

Sample datafill for table NACDGRP appears in the following example.

MAP example for table NACDGRP

```
ACDGRP QTHRESH WTHRESH PWF BESTGRP SRVRATE NUMIDLE
TIMEIDL

NTWKGRPS
           OPTIONS
-------------------------------------------------------
NACDA  2      10     2     N     180      10      10
                  (REM NACDC   2) (REM NACDD   2)
                  (LCL NACDB   2) $   NETOVFL $
```

ACD Nodal Treatment in NACD (end)

Tools for verifying translations

The ACD Nodal Treatment in NACD feature package does not use tools for verifying translations.

SERVORD

The ACD Nodal Treatment in NACD feature package does not use SERVORD.

ACD Supergroup

Ordering codes

Functional group ordering code: ACD00004

Functionality ordering code: does not apply.

Release applicability

BCS34 and later versions.

Feature package requirements

To operate, ACD Supergroup has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007
- ACD Base, ACD00001

Description

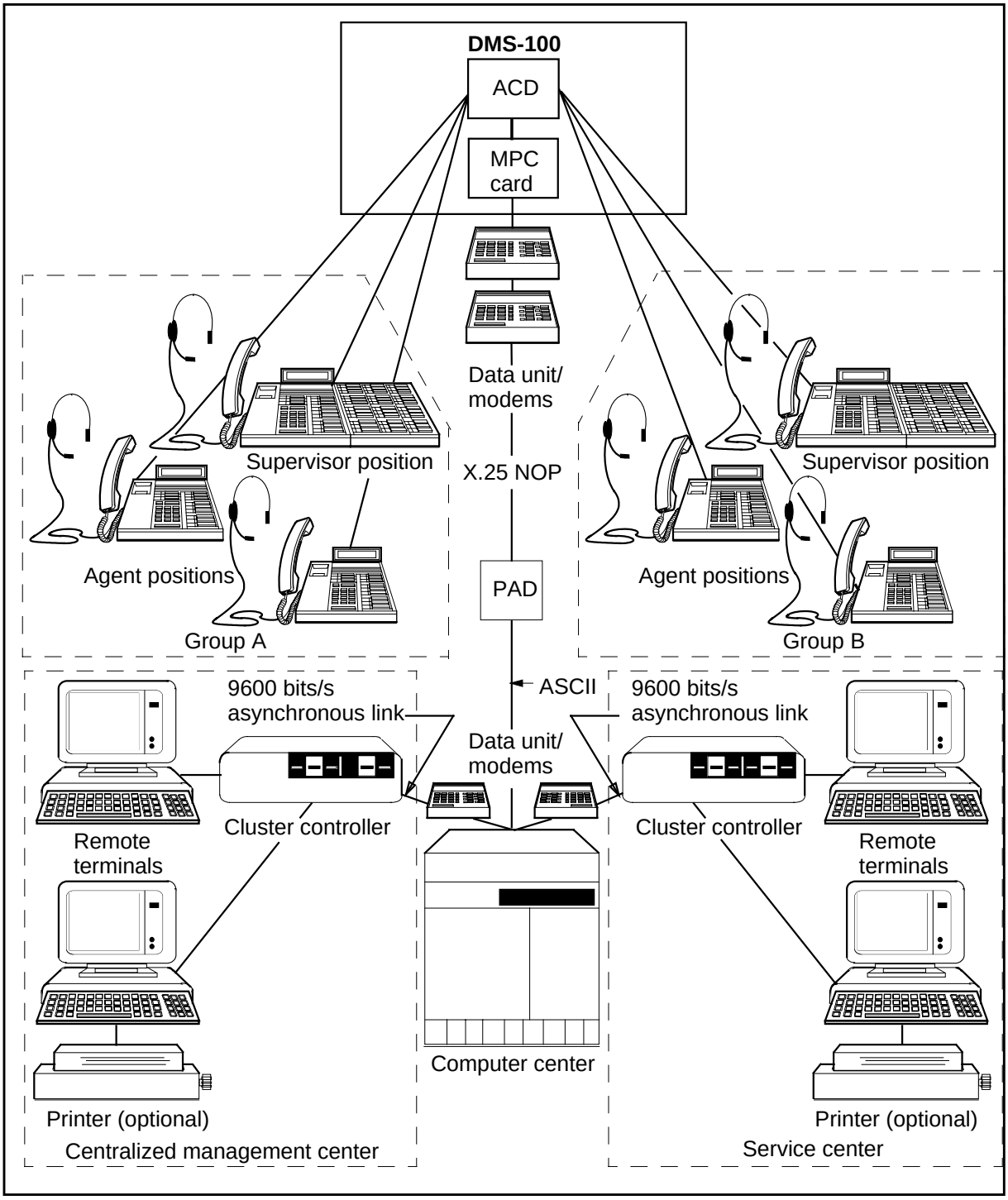
The ACD Supergroup feature package allows Automatic Call Distribution (ACD) groups in the same Meridian Digital Centrex (MDC) customer group to function as one large group. The package allows a maximum of 49 ACD groups to function together to provide overflow protection for each other. These networks of combined groups are network ACD (NACD) supergroups.

Single-node configuration

The NACD is configured on a single node for specified users. These users have close agents and callers with needs that exceed the abilities that Base ACD provides. A maximum of 49 ACD groups, with a maximum of 1024 agents each, network with NACD. This process creates a supergroup with a maximum of 9999 agents. A single network operations protocol (NOP) link connects the DMS-100E switch and the computer center. This link handles all the call processing messages each of the ACD groups generates. A single-node NACD configuration appears in the following figure.

ACD Supergroup (continued)

Sample single-node NACD configuration



ACD Supergroup (continued)

Networked ACD - algorithm implementation

This feature increases the ability of the network to decide which NACD group receives a call. With this feature implemented, the network considers the following factors to determine the best group:

- a resource index (RI) algorithm that considers:
  - — the number of idle agents
  - — the queue size
  - — the wait time of the oldest call
  - — the wait time of the most idle agent
- enhancements to the night service feature to route calls to the best group available. The night service does not route calls directly to the defined night service route.
- audit changes
- inclusion of the source group to determine the best group to receive time overflow calls

Networked ACD - Remote Line Module (RLM) enhancements

With this feature implemented, operating company personnel can use load management from a remote site to change parameters. The parameters that can change are the following parameters in the ACD or NACD configuration:

- priority promotion time-out
- time delay overflow time-out
- if only priority 0 calls or calls of all priorities overflow
- which calls in the overflow in queues receive service first: first in, oldest or priority 0 calls
- maximum number of calls that can be in the overflow in queue
- controlled interflow route

Networked ACD - MIS Enhancements

This activity provides the call event, initialization, logon and logoff messages required for Automatic Call Distribution Management Information System (ACDMIS) to support NACD.

NACD Operational Measurements

This activity creates two Operational Measurement (OM) groups for NACD, NACDGRP1 and NACDGRP2.

Operation

For large ACD operations, a maximum of 49 ACD groups, of a maximum of 1024 agents each, can network together. This event creates supergroups of a maximum of 9999 agents in a DMS-100E switch. These supergroups are teams in the NACD management information system. Each ACD group can be a member of different supergroups at the same time. This ability increases the call handling abilities of the end user.

NACD queuing structure

The NACD provides intelligence to current queuing and overflow abilities. To provide intelligence, the NACD provides communication or networking between ACD groups. When a call comes to an NACD group that cannot accept the call, the system performs a check. The system checks the load status of other groups in the network. This check determines the best group for routing the call. This best group can include the original NACD group.

The queuing structure for NACD is different from Base ACD queuing. Queuing can occur across multiple groups. To network ACD calls from one group to another, the following three types of queue are available:

- physical queue
- overflow out queue (logical outgoing queue)
- overflow in queue (logical incoming queue)

Physical queue

The physical queue is the where the system first places the incoming call if an agent is not available to answer the call. The physical queue is not always the incoming call queue for the group called.

Overflow out queue

When a call waits in a physical queue beyond customer-established limits, the following event occurs. The system places the call in the overflow out queue while the call is in the physical queue. The overflow out queue is a logical or simulated queue reserved as a waiting place. The queue is a waiting place while the DMS-100 switch searches for the best group to handle a call. If the DMS-100 switch locates a potential overflow group, the system removes the call from the logical overflow out queue. The system places the call in the logical overflow in queue of the best group.

Overflow in queue

The overflow in queue is a logical queue reserved for incoming overflow calls. If a group is the best group to receive an overflow call, calls wait. Calls wait in the overflow out queue of the original group and the overflow in queue for an available agent. When an agent answers a call, the system removes the call

ACD Supergroup (continued)

from the physical queue and the logical overflow in queue. The agent can be an agent in the original group or an agent in the selected overflow group.

NACD networking capabilities

The NACD expands basic queuing abilities. The NACD enhances the networking abilities of a group. Calls can route to other network groups if values exceed the queue or wait threshold. You can overflow calls in the network based on priority 0 calls only or all priority calls. You can choose if the system considers the original group to determine the best group to receive the overflow call.

If you decide to overflow only priority 0 calls, other priority calls that exceed the specified waiting time do not overflow immediately. Other priority calls do not overflow until the calls reach priority 0 through priority promotion. A priority 0 call can have a wait time that exceeds the maximum waiting time in queue. The system moves this call to the logical overflow out queue of the group. The call remains in this queue until the system determines the best queue to receive the overflowed call. When the system determines this group, the system places the call in the logical overflow in queue of the new group. The call remains in this queue and in the overflow out queue of the original group. The call remains in the two queues until an agent is available to answer the call.

If you choose to promote all priority calls, all calls overflow to another group when the calls exceed the acceptable wait time. When a priority 1 to 3 call exceeds the maximum wait time, the system marks the call as overflowed. The system does not physically move the call to the overflow out queue. The system places the call in a logical queue at the overflow in queue of the best group. The original priority of the call determines the place in the queue. The call is qualified for priority promotion. This promotion occurs in the physical queue of the original group not the overflow in queue of the new group. When the call reaches priority 0, the system moves the call. The system moves the call from the physical queue of the original group to the overflow out queue.

NACD load balancing

Each group in the NACD network communicates the network load status information of the group to the other groups. This information helps to determine the best group to handle networked calls. The load status information is the desirability measure (DM). Two factors are involved in the calculation of the DM. These factors are the preference weighting factor (PWF) and the resource index (RI). The formula to determine the DM is:

```
DM = RI + PWF
```

A group with a higher DM receives a call before a group with a lower DM.

ACD Supergroup (continued)

Preference weighting factor: The PWF is a customer-defined value assigned to each group in the NACD network. The PWF is a means to give call receiving preference to a specified NACD group. This assigned preference, or weight, is a numeric value that ranges from 0 to 32 767. A high PWF for a group indicates that the group is best to receive overflow calls. A low PWF indicates the group is not best for overflow calls.

Resource index: The RI is a calculated numeric value that represents the load status, or availability, of an ACD group to accept calls. The factors included during RI calculation are:

- number of agents logged in
- number of available agents
- number of calls in queue
- maximum queue size
- average call waiting time
- average call holding time

When idle agents are in the ACD group, the following algorithm determines the RI:

```
RI = 2500 + (NUMIDLE × no. of idle agents) + queue size + (no.
of active agents ÷ 26) + (idle time × TIMEIDLE)
```

When idle agents are not present, the following calculation determines the RI:

```
RI = 2500 - [(number of physical calls +1)(SRVRATE)] - SRVRATE/
no. active agents] - SRVRATE
```

> ***Note:*** The customer defines NUMIDLE, TIMEIDLE and SRVRATE values.

Communication of RI values occurs at normal intervals, or at the time when the value changes and an update occurs. An RI value of 0 for a group immediately transmits to all groups. This value indicates the system must not route additional calls to that group. A group has an RI value of 0 if any of the following conditions occur:

- a value exceeds the maximum for a call queue size
- a value for the queue wait time exceeds the maximum
- a value for the queue size for the overflow queue exceeds the maximum
- the ACD group is in night service

ACD Supergroup (continued)

Local and remote Broadcast modifications: The process that broadcasts the RI to ACD groups normally operates at the same frequency for the local and remote broadcasts. The option is available to specify different frequencies for local and remote broadcasts. This option is useful because frequent remote broadcasts can cause network problems at busy times.

This option is under Software Optionality Control (SOC), Order Code SVBA0002. This category allows the option to set the broadcast interval between local and remote broadcasts at the following values. The option can set this interval from 1 s to a maximum of 1800 s. The specification is on an ACD group base. This specification allows individual NACD groups to tailor the timings. To achieve this specification, enter data for the NBI option of NACDGRP.

> ***Note:*** Software Optionality Control (SOC), Order Code SVBA0002 applies only to Multi-market Platform (MMP) switches. SOC Order Code SVBA0002 does not apply to North American (NA) switches.

Peg groups: Peg groups are NACD groups used to peg OMs to poll the status of the other groups in the networked configuration. Peg groups cannot have ACD agents assigned. Peg groups act as distribution nodes only for other, staffed groups. The OM Peg group does not broadcast the group RI to other ACD groups.

The NACDPEG option in table NACDGRP sets the Peg option for the specified NACD group.

Desirability measure: When an ACD group receives an RI value from another group, the following action occurs. The DMS-100E switch combines the RI with the PWF for that group. This collection results in the DM. This value is calculated again on a group-by-group base. This calculation occurs each time an ACD group receives an RI in a load traffic status update. Each group also calculates the DM for that group. Each group stores the DM in local storage with the DMs of the other groups in the network. The system references these values to determine the best group to receive an overflow call at any given time. The group with the higher DM receives overflow calls.

Call queuing and overflow treatment

When an ACD group receives an RI value from another ACD group, the following action occurs. The DMS-100E switch combines the RI with the PWF for that group. This collection results in a single value that determines the place to logically queue a call. This value is the DM. The DM is calculated on a group-by-group base. This calculation occurs each time an ACD group receives an RI in a load traffic status update. Each ACD group also calculates the current RI for that group and combines this value with the PWF of that

group. This collection results in a specified DM for that group. Each ACD group stores the values that result in a local location. The system references these values to determine the best ACD group to receive an overflow call at a given time.

When a call comes to an ACD group, the system examines the resources of the group. The system can place the new call in the queue at the priority assigned to the DN. This condition occurs if the call queue is not full and the call at the queue head does not wait beyond established threshold limits. This DN is the DN to which the system placed the call. Selection of a call queue of an alternate group occurs if the call queue of the original group is full. This selection also occurs if the original group contains calls that wait beyond established limits. The system chooses an alternate queue if the ACD network is configured for pure networking. In pure networking, the wait and queue thresholds are set to 0. The DM determines the selection of the alternate group.

Priority promotion

After the system places calls in a queue, calls remain in the queue at the original priority of the calls. Calls remain in this condition for a specified period of time. When this time passes, the calls can escalate to the next higher priority through priority promotion. If the call is not answered after a set period of time, the call reaches priority 0. Priority 0 is the highest priority. In most events, when calls reach priority 0, the system moves the calls to the overflow out queue for the group. When the calls are in the overflow out queue, the system logically queues the calls. The system places these calls in the overflow in queue for a specified group. This group answers the calls quickly. The switch considers trunking costs to reroute the calls to the best group.

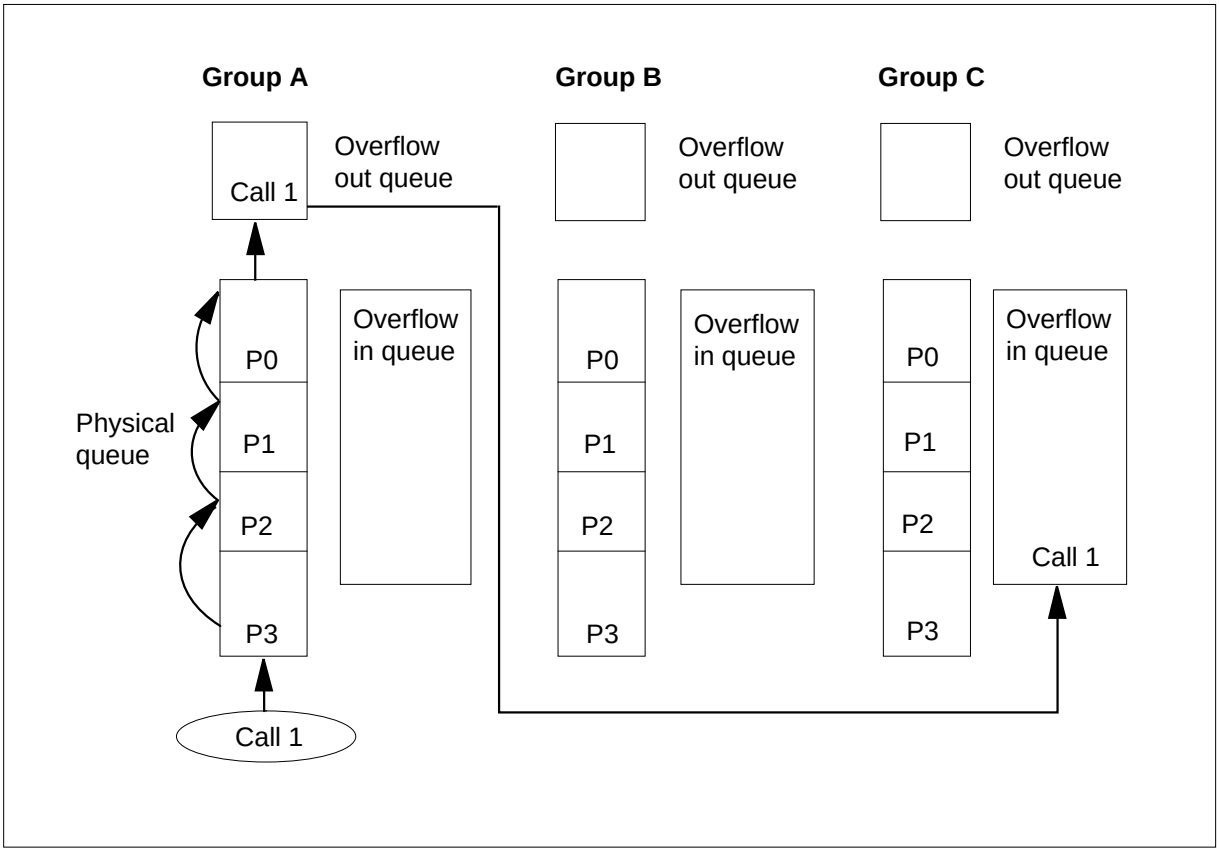
A parameter can be set that allows all calls to receive network overflow treatment. Calls receive treatment when the time of calls in queue exceeds the established limit. This option replaces priority promotion. Use of this option causes the system to place calls in a new queue when calls overflow. The position of calls in a new queue depends on the priority level and the order of received calls. In some occurrences, analysis of all DMs indicate the following condition. The group a call is now in is the group that answers the call most quickly. In this condition, the call remains in the original queue of the call. An attempt to find a second best group does not occur.

The handling a call receives when an ACD network is configured to use priority promotion and overflow treatment appears in the following figure. In this condition, a call first placed in the Group A queue escalates to priority 0 and overflows to Group C. The selection of Group C is based on the DMs of all groups that Group A knows. Teams in the NACD management information system appear in this figure. One example of NACD queuing configuration

ACD Supergroup (continued)

appears in this figure. Queuing configurations that do not have limits are present. Design a queuing structure that suits the needs you have.

Example of NACD queuing configuration



Translations table flow

Descriptions of the ACD Supergroup translations tables appear in the following list:

- Table ACDGRP contains options that can affect NACD networking and queuing operations. The acceptance of calls in the physical incoming call queue is based on the maximum call queue size field (MAXCQSIZ) or the maximum wait time field (MAXWAIT). The NACD groups overflow calls after the calls wait in the physical queue for a predetermined amount of time. Each of these NACD groups has the option time delay overflow (TMDELOFL) entered in this table. For a group to accept overflow calls from other NACD groups, table ACDGRP must define the option

ACD Supergroup (continued)

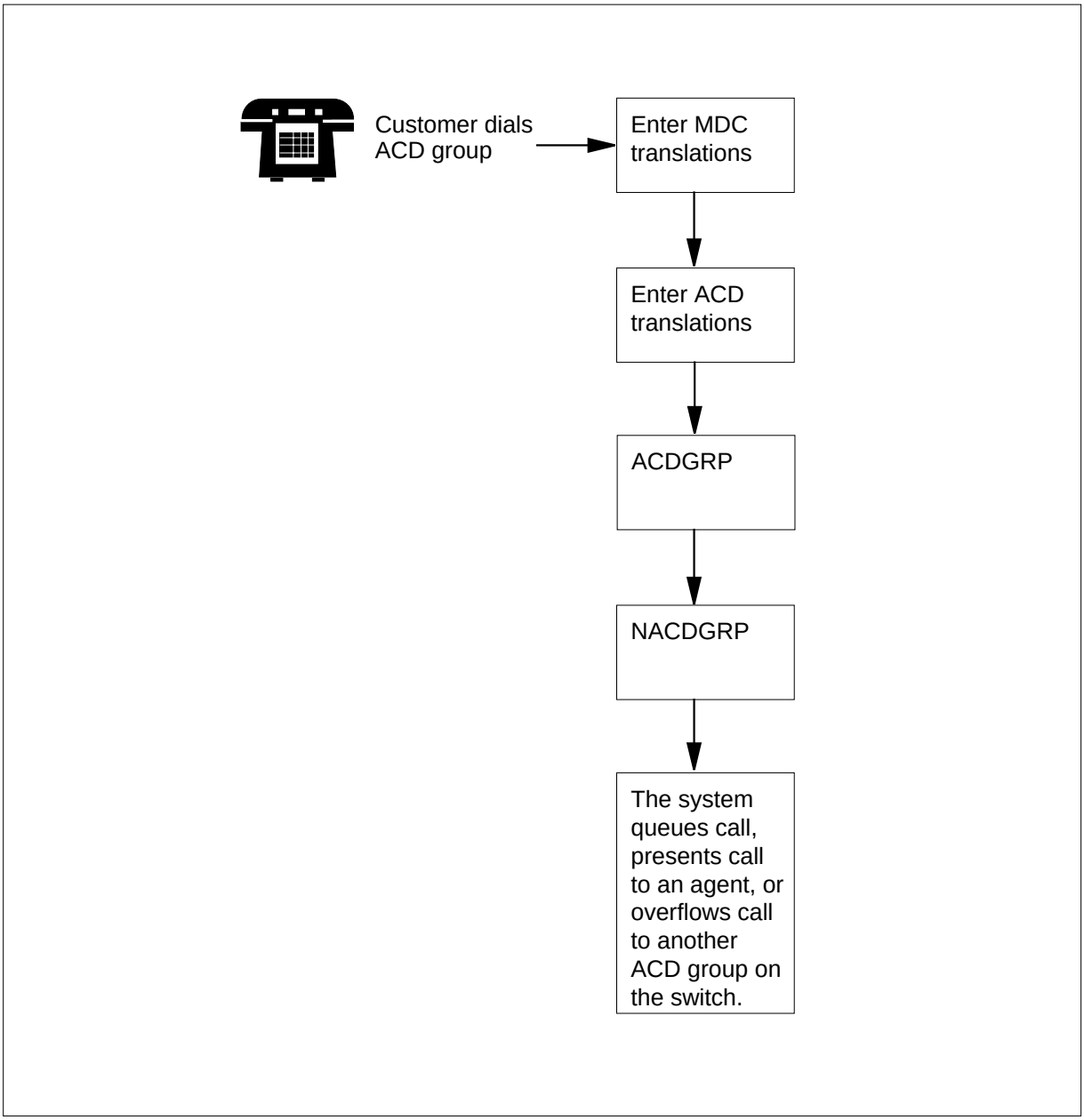
OVFLINQ also. This table defines the pool name when the ACDMIS option is defined.

- Table NACDGRP designates an ACD group as an NACD group. Table NACDGRP defines the time and conditions networking for this NACD group to occur. The ACD groups on a DMS-100E switch that become members of a network supergroup must be in table NACDGRP.

The ACD Supergroup translation process appears in the following flowchart.

ACD Supergroup (continued)

ACD Supergroup translation process



ACD Supergroup (continued)

A list of the datafill content used in the flowchart appears in the following table. Customer group item is CUSTGRPA. The NACD group item is NACDGRP1A. The local overflow NACD group item is NACDGRP2A.

Datafill example for ACD Supergroup

Datafill table	Example data
ACDGRP	NACDGRP1A CUSTGRPA 30 OFRT 44 OFRT 45 0 N 20 200 Y POOL1 SUBPOOL1 N $ Y 5 10 15 WAIT N Y 5 NONE N Y Y OFRT 1003 (TMDELOFL 10 ALLPRIO) (OVFLINQ OVFLIN 1 Y 5) $
NACDGRP	NACDGRP1A 10 40 0 Y 90 10 100 (LCL NACDGRP2A 80)$

Limits

The ACD Supergroup feature package has the following limits:

- When you use remote partners in table NACDGRP, office parameter NO_OF_SMALL_EXT_BLKS must have the correct provisions. Refer to the appropriate reference sections for additional information.
- When you use the NACD Broadcast interval (NBI) option, a short remote broadcast interval can affect processing time. When you change the remote broadcast interval, small incremental changes must occur with constant checks on switch performance.
- When you use the NBI option, the remote broadcast interval subfield can be set to a value greater than 10 s. This value applies if the SOC tariff requirements are met. When you use a Data Modification Order processor (DMOPRO) to enter data in tables, the following requirement is present. You must manually confirm data if the process attempts to set the remote broadcast interval to a value less than 10 s.

Interactions

The following paragraphs describe the actions between ACD Supergroup and other functionalities.

An NACD group can have a night service route and a threshold route defined. The system only uses the threshold route if an incoming call cannot be networked and values exceed one of two thresholds. These thresholds include the maximum call queue size and maximum call queue wait time of the original group.

ACD Supergroup (continued)

ACD called name/called number display

The system can display the ACD name and number of the source group on the second line of the agent set, if space permits. This display appears if two conditions occur. A call overflows from a source ACD group to another ACD group called the destination group. The destination group has the ACDDISP option assigned in table ACDGRP. Table DNATTRS contains the ACD name and number of the source group.

NACD broadcast interval

If the NBI option is entered, this option overrides the use of NACD_RI_BRDCAST_INTERVAL in table OFCENG for the group specified.

Activation/deactivation by the end user

The NACD is transparent to the user that places a call to the NACD group. The NACD subscriber uses the following remote load management commands to manage the NACD supergroup:

- CHANGE PRIOPRO (change priority promotion)
- CHANGE TMDELOFL (change time delay overflow parameters)
- CHANGE OFLTYPE (change the type of calls allowed to overflow)
- CHANGE SERVICE (change which calls in the incoming call queue are serviced first)
- CHANGE MAXVQSIZE (change the maximum number of calls that can overflow)
- CHANGE CIFROUTE (change the controlled interflow routing)

For additional information about load management commands, refer to *DMS-100E Family Commands Reference Manual* 297-1001-822.

The NBI option is in section SOC, Order Code SVBA0002 and Option Name NACD RI Broadcast Control.

Billing

The ACD Supergroup feature package does not affect billing.

Station Message Detailed Recording (SMDR)

The ACD Supergroup feature package does not affect SMDR.

Datafilling office parameters

The office parameters that ACD Supergroup use appear in the following table. Refer to the *Office Parameters Reference Manual* for additional information about office parameters.

Office parameters by ACD Supergroup

Table name	Parameter name	Explanation and action
OFCENG	NACD_BRDCAST_INTERVAL	This parameter determines a time interval. This interval is between the broadcasts of load status information by each NACD group to other groups in the network. The default value is 60 s. Valid entries are from 0 to 1800 s.
	NACD_RI_DELTA_PARM	This parameter provides the delta value to use to determine if the NACD RI value changes to warrant an update. The difference between the current RI and the previous RI is computed. A comparison of this difference occurs against the NACD_RI_DELTA_PARM value. If the difference meets or exceeds the NACD_RI_DELTA_PARM value, the current RI is broadcast to update the network. The default value is 5. Valid entries are from 0 to 32 767.

Datafill sequence

A list of the tables that require datafill to provide ACD Supergroup appears in the following table. The tables appear in the correct entry order.

Datafill requirements for ACD Supergroup (Sheet 1 of 2)

Table	Purpose of table
OFCENG	Office Engineering table. This table contains data on engineering parameters for the office. Refer to Datafilling office parameters for how ACD Supergroup affects office parameters.
ACDGRP	Automatic Call Distribution table. This table defines and describes ACD groups.

ACD Supergroup (continued)

Datafill requirements for ACD Supergroup (Sheet 2 of 2)

Table	Purpose of table
ACDMISPL	ACDMIS Subpool table. This table establishes the pools, passwords and protocols for ACDMIS users.
NACDGRP	Network Automatic Call Distribution table. This table designates an ACD group as an NACD group.

Datafilling table ACDGRP

Datafill for ACD Supergroup for table ACDGRP appears in the following table. The fields that apply to ACD Supergroup appear in this table. See the data schema section of this document for additional information about office parameters.

Datafilling table ACDGRP (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		TMDELOFL	Options. Enter TMDELOFL to allow calls to overflow to another ACD call queue. Calls overflow when calls wait in queue for a specified time. f option TMDELOFL is entered, subfields TIME and OFLTYPE appear.
	TIME	0 to 1800	Overflow time delay. Enter the length of time that a call can wait in the ACD call queue. After this time period, the system deflects the call to the appropriate overflow queue. Valid entries are from 0 to 1800 s.
	OFLTYPE	ALLPRIO or PRI0ONLY	Overflow type. Enter ALLPRIO if the overflow time delay applies to all priorities of calls. Enter PRI0ONLY if the overflow time delay applies only to priority 0 calls. If you enter PRI0ONLY, subfield START appears.
	START	P0ONLY or IMMEDIAT	Start. Enter P0ONLY to indicate that timing starts when the system places calls in the priority 0 call queue. Enter IMMEDIAT to indicate that timing starts when calls are received.

ACD Supergroup (continued)

Datafilling table ACDGRP (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		OVFLINQ	Options. Enter OVFLINQ to allow specified types of calls, like priority 0, to have service first. Enter OVLINQ to establish a size for an incoming overflow call queue. If you enter option OVFLINQ, subfields SERVICE, MAXVQSIZ and MAXVQLMT appear.
	SERVICE	OVFLIN, P0FIRST, or OLDEST	Service. Enter the type of queued calls to service first: incoming overflow, priority 0 or oldest. Valid entries are OVFLIN, P0FIRST and OLDEST, in that order.
	MAXVQSIZ	0 to 511	Maximum overflow queue size. Enter the maximum number of calls that can be in the overflow queue at one time. Valid entries are from 0 to 511.
	MAXVQLMT	Y or N	Maximum value for the maximum overflow queue size. Enter Y (yes) if the maximum value for MAXVQSIZ will be set. Enter N (no) if this value will not be set. If you enter Y, subfield VQLMT appears.
	VQLMT	0 to 511	Maximum value of MAXVQSIZ. Use the table control or load management to change this value. Enter the maximum value that MAXVQSIZ can be. Valid entries are from 0 to 511.

Datafill example for table ACDGRP

Sample datafill for the ACD Supergroup feature package in table ACDGRP appears in the following example. In this example, the two NACD groups have the option OVFLINQ. This option allows the groups to accept overflow calls from other NACD groups. The two NACD groups have the option TMDELOFL. This option allows calls to overflow after the calls wait in the physical queue for a predetermined amount of time. The maximum call queue size field (MAXCQSIZ) or the maximum wait time field (MAXWAIT) set the number of calls accepted in the physical incoming call queue. This table defines the pool name when the ACDMIS option is defined.

ACD Supergroup (continued)

MAP example for table ACDGRP

```
 ACDNAME      CUSTGRP ACDRNGTH        THROUTE
    NSROUTE PRIOPRO DBG MAXCQSIZ MAXWAIT
                                            ACDMIS
                              MSQS DISTRING OBSWTONE
        FRCNGTSV
                                           OPTIONS
 NACDGRP1A     CUSTGRPA 30         OFRT 44
  OFRT 45      0    N       20      200
                Y POOL1 SUBPOOL1 N                $
         Y   5   10  15  WAIT N Y  5    NONE      N
            Y  Y  OFRT  1003
    (TMDELOFL 10 ALLPRIO) (OVFLINQ  OVFLIN 1 Y 5)$

NACDGRP2A     CUSTGRPB 30         OFRT 44
 OFRT 45      0    N       20      200
               Y POOL1 SUBPOOL1 N                $
        Y   5   10  15  WAIT N Y  5    NONE      N
           Y  Y  OFRT  1003
   (TMDELOFL 10 ALLPRIO) (OVFLINQ  OVFLIN 1 Y 5)$
```

Datafilling table ACDMISPL

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

Datafilling table ACDMISPL

Field	Subfield or refinement	Entry	Explanation and action
PROTOCOL		BCSnn	Protocol. Enter the BCS cycle (BCSnn) in which the ACDMIS protocol was implemented.

Datafill example for table ACDMISPL

Sample datafill for the ACD Supergroup feature package in table ACDMISPL appears in the following example. In this example, the pool, password and protocol are defined for NACD users that use the management software.

MAP example for table ACDMISPL

```
POOL   PASSWORD PROTOCOL OUTEVENT
_____________________________________________

 POOL1   ACDMIS    BCS30     110
 POOL2   MISACD    BCS30     110
```

Datafilling table NACDGRP

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

Datafilling table NACDGRP (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
ACDGRP		alphanumeric (1 to 16 characters)	Automatic Call Distribution group. Enter the 1-character to 16-character alphanumeric name assigned before to the ACD group in table ACDGRP.
QTHRESH		0 to 511	Queue threshold size. Enter the maximum number of calls treated as nodal, local calls. After this number is reached, calls that follow overflow to the network. Valid entries are from 0 to 511. Enter 0 if the ACD group does not have call queuing ability.
WTHRESH		0 to 1800	Wait threshold time. Enter the maximum length of time, in seconds, that a call must wait in the incoming queue. After this number is reached, calls that follow overflow to the network. Valid entries are from 0 to 1800. Enter 0 if the ACD group does not have call queuing ability.
PWF		0 to 32 767	Preference weighting factor. Enter the PWF associated with the specified NACD group. A high PWF indicates that the source NACD group must answer calls. Calls must not overflow to the network. Valid entries are from 0 to 32 767.

ACD Supergroup (continued)

Datafilling table NACDGRP (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
BESTGRP		Y or N	Best group. This field indicates if the system must consider the source group to determine the best group. An example is the logical queue location for the call. Enter Y if the system considers the source group to determine the best group. Enter N if the system does not consider the source group to determine the best group.
SRVRATE		0 to 600	Service rate. Enter the length of time in, seconds, that an agent requires to answer/complete a normal NACD call. The average length of time is approximately 3 min. Valid entries are from 0 to 600 s. This field is used to calculate the RI for each NACD group when idle agents are not present.
NUMIDLE		0 to 255	Number of idle agents. Enter the multiplication factor to use calculation of the RI for each NACD group. This calculation occurs when idle agents are not present. Valid entries are from 0 to 255. When this value increases, the RI calculated increases.
TIMEIDLE		0 to 600	Time idle. When idle agents are present, this field indicates the idle time of one idle agent. This agent is the most idle agent in the calculation of the RI for each NACD group. Valid entries are from 0 to 600. When this value decreases, the RI calculated increases as the idle time of the most idle agent increases.
NTWKGRPS		LCL	Network ACD selector. Enter LCL so calls overflow to a local ACD group. If you enter LCL, subfields LCLGRP and PWF appear.
	LCLGRP	alphanumeric (1 to 16 characters)	Local ACD group. Enter the 1-character to 16-character alphanumeric name assigned to the associated local ACD group.

ACD Supergroup (continued)

Datafilling table NACDGRP (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	PWF	0 to 32 767	Preference weighting factor. Enter the PWF associated with the specified NACD group. A high PWF indicates the source NACD group must answer calls. Calls must not overflow to the network. Valid entries are from 0 to 32 767.
OPTIONS	OPTION	NETOVFL, NACDPEG or NBI	Options. The system can route incoming calls to nodal threshold treatment instead of NACD treatment. To route the calls to nodal threshold treatment, the following two conditions must be present. Option NETOVFL must be entered. Values must exceed the MAXWAIT and MAXCQSIZ parameters. Refer to How to enter data for Custom ACD - Give Nodal Treatment to NACD Calls - NTXL35AA, for additional information on this field. Enter NACDPEG to assign this NACD group as a peg group. Peg groups are NACD groups that peg OMs to poll the status of other groups in the networked configuration. Peg groups cannot have ACD agents assigned. This option specifies this group cannot have ACD agents assigned. A tuple cannot have this option assigned if that tuple has ACD agents assigned. Note: Addition of the NBI option and the NACDPEG option to the same tuple can occur. To add the two options to the same tuple, the following two conditions must be present. The tuple must not have ACD agents assigned. The tuple must not have remote partners assigned.
		see subfields	Enter NBI to allow separate specification of the RI broadcast interval. This interval is for a given ACD group for remote and local broadcasts.
	LOCAL_BROADCAST_INTERVAL INTERVAL REMOTE_BROADCAST_INTERVAL	numeric (1 to 1800) 1 to 1800 numeric (1 to 1800)	Enter values for the local and remote broadcast intervals in these subfields. Note that SOC controls the interval value for the remote broadcast. If the SOC password is not entered, the values you can enter for the remote interval must be in a range. This range is from 10 to 1800. You must not enter values of 1 to 9.

ACD Supergroup (end)

Datafill example for table NACDGRP

Sample datafill for table NACDGRP appears in the following example.

MAP example for table NACDGRP

```
ACDGRP QTHRESH WTHRESH PWF BESTGRP SRVRATE NUMIDLE TIMEIDLE
                                                NTWKGRPS
                    OPTIONS
_____________________________________________________________


 NACDGRP1A 10    40  0   Y   90     10       100
                (LCL NACDGRP2A  80)$
                            $
 NACDGRP2A 10    40  0   Y   90  10  100
                (LCL NACDGRP1A  0)$
                            $
```

Tools for verifying translations

The ACD Supergroup feature package does not use tools for verifying translations.

SERVORD

The ACD Supergroup feature package does not use SERVORD.

Forced Announcements for NACD

Ordering codes

Functional group ordering code: ACD00004

Functionality ordering code: does not apply

Release applicability

NA011 and up

Prerequisites

To operate, Forced Announcements for NACD requires the ACD Base feature, ACD00001.

Description

Forced Announcements for NACD allows overflow calls on an ACD network to receive audio treatment. Before this feature, Network Automatic Call Distribution (NACD) did not have forced announcements for overflow calls (FOAUDIO). This feature also allows calls to overflow immediately after forced announcements for incoming calls (FIAUDIO) completes for time-delay overflow calls with a setup time of zero.

Note: FIAUDIO for NACD is not introduced by this feature.

With this feature, FOAUDIO is provided to all NACD calls that immediately overflow to another NACD group or to a threshold route. After FOAUDIO completes, the call overflows to the selected best group or threshold route.

This feature also improves FIAUDIO functionality for NACD as follows:

- If the TMDELOFL option in table ACDGRP is selected with a wait time of zero, the call will overflow to the selected group when FIAUDIO completes.
- If the TMDELOFL option in table ACDGRP is selected for all priority calls and a wait time of zero, a non-zero priority call that receives FIAUDIO will overflow immediately to the selected group when FIAUDIO completes.

Operation

An optional forced announcement can be specified for incoming and overflow calls in table ACDRTE. If option FIAUDIO is selected, every incoming call arriving to the NACD group is forced to an announcement. If option

Forced Announcements for NACD (continued)

FOAUDIO is selected, a forced announcement is provided when calls overflow under the following conditions:

- the best group is not identical to the source group, and one of the following is true:
  - — the QTHRESH and WTHRESH values in table NACDGRP are met or exceeded
  - — the source group is in night service
  - — all agents are in a make set busy (MSB) state
- the MAXWAIT or MAXCQSIZ values in table ACDGRP are exceeded and the NETOVFL option is selected in table NACDGRP
- a best group cannot be determined, and the MAXWAIT and MAXCQSIZ values in table ACDGRP are exceeded

If an audio option is selected, a corresponding audio group and treatment must be datafilled in table AUDIO. The types of treatment available for forced audio are announcements, music, silence, or ringing.

When a call comes in to the ACD network, the DMS-100 switch evaluates the status of all ACD groups to determine which group can provide the fastest answering time. This is referred to as the best group. Before a call goes to an agent or is queued, the call receives the FIAUDIO announcement. After the call is queued, the call receives the call-delay announcement selected in table AUDIO.

The following table lists the conditions under which FOAUDIO is provided for NACD calls.

Conditions for FOAUDIO with NACD calls (Sheet 1 of 2)

Condition	Action
The MAXCQSIZ and MAXWAIT values in table ACDGRP are exceeded for the source group. The NETOVFL option is selected in table NACDGRP for the source group.	FOAUDIO is provided to the call and the call is routed to a threshold route.
The best group is different from the source group.	FOAUDIO is provided to the call. When FOAUDIO completes, the best group for overflow is determined again because the status of the best group is dynamic. The source group is not considered again for best group. If a best group cannot be determined, the call is routed to a threshold route, even if the NACD group is in night service.

Forced Announcements for NACD (continued)

Conditions for FOAUDIO with NACD calls (Sheet 2 of 2)

Condition	Action
The best group is identical to the source group.	FOAUDIO is not provided. The FIAUDIO treatment defined for the source group is provided to the call. The call is placed in the queue of the source group.
The best group cannot be determined.	If the source group is in night service, no FOAUDIO is provided. The call is routed to a night service route. If the source group is not in night service, FOAUDIO is provided and the call is routed to a threshold route when MAXCQSIZ or MAXWAIT have been exceeded. ***Note:*** Night service indicates that either the group has been forced into night service by the supervisor or all agents are in a make set busy (MSB) state.

Translations table flow

The Forced Announcements for NACD translations tables are described in the following list:

- Table ACDGRP defines options and queuing operations for ACD groups. The acceptance of calls in the incoming call queue is based on the maximum call queue size value in field (MAXCQSIZ) or the maximum wait time value in field (MAXWAIT). In the datafill example, ACD group NACDA has a maximum wait time of 200 seconds. The ACD group NACDA has a maximum call queue size of 20 calls. When values reach one of these thresholds, the system overflows incoming calls to the threshold route.
- Table NACDGRP designates an ACD group as an NACD group and provides additional information on networking capabilities. In the datafill example, the NACD group has a queue threshold size of 5 calls and a wait threshold time of 5 s. The NACD group has the option NETOVFL entered. This entry causes the system to overflow incoming calls to the threshold route entered in table ACDGRP when the values in fields MAXCQSIZ or MAXWAIT have been exceeded.
- Table ACDRTE defines the overflow routes for incoming NACD calls. The default overflow route can be a threshold route, night service route, audio group, or controlled interflow route. In the datafill example, option

Forced Announcements for NACD (continued)

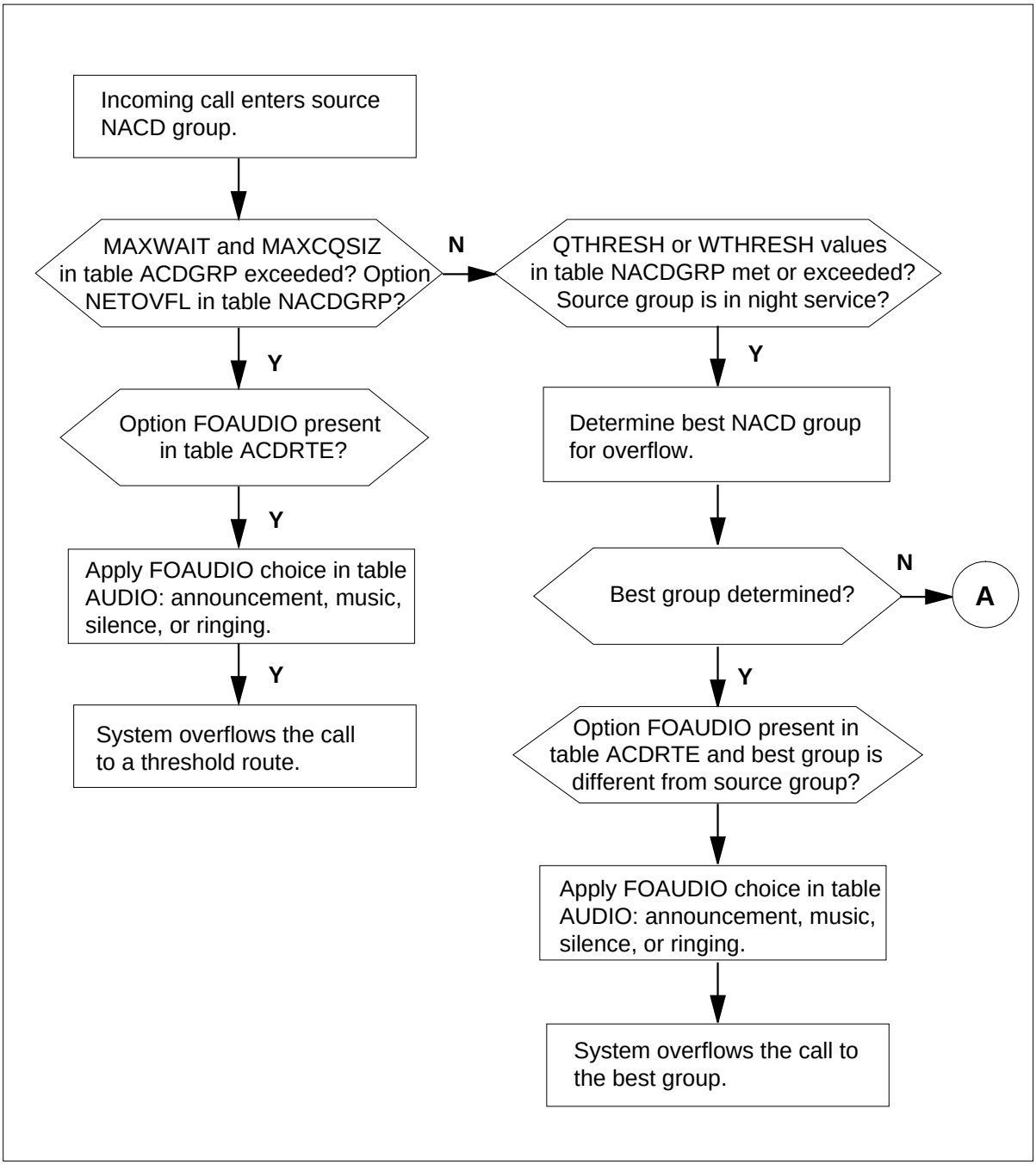
FOAUDIO is selected and the forced announcement audio group name (FOAUDGRP) is AUDIO1.

- Table AUDIO defines the audio broadcasts that can be assigned to an audio group. The broadcasts can be an announcement, music, silence, or ringing. In the datafill example, the broadcast type is an announcement. The common language location identifier (CLLI) name of the announcement is MSLCANNC.

The Forced Announcements for NACD translation process for overflow calls is shown in the flowchart that follows.

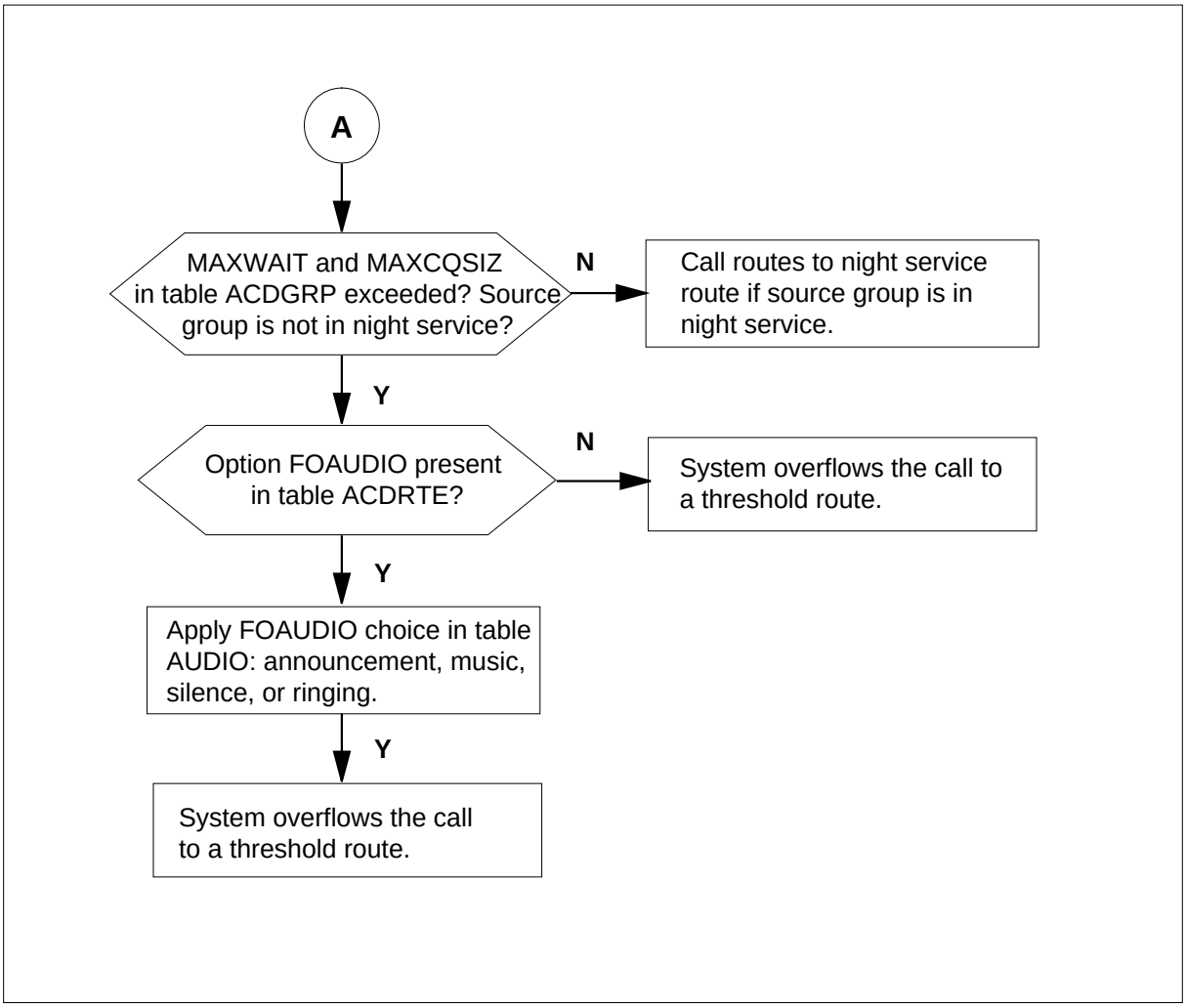
Forced Announcements for NACD (continued)

Table flow for Forced Announcements for NACD



Forced Announcements for NACD (continued)

Table flow for Forced Announcements for NACD continued



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

Datafill example for Forced Announcements for NACD (Sheet 1 of 2)

Datafill table	Example data
ACDGRP	NACDA CUSTGRPA 30 OFRT 44 OFRT 45 0 N 20 200 Y POOL1 SUBPOOL1 N $ Y 5 10 15 WAIT N Y 5 NONE N Y Y OFRT 1003 (TMDELOFL 10 ALLPRIO) (OVFLINQ OVFLIN 1 Y 5) $
NACDGRP	NACDA 5 5 100 N 180 10 10 (REM NACDC 2) (REM NACDD 2) (LCL NACDB 2) $ NETOVFL $

Forced Announcements for NACD (continued)

Datafill example for Forced Announcements for NACD (Sheet 2 of 2)

Datafill table	Example data
ACDRTE	NACDA FOAUDIO FOAUDIO AUDIO1 $
AUDIO	AUDIO1 ACDQ (ANN Y 1 MSLCANNC) $

Limitations and restrictions

The following limitations and restrictions apply to Forced Announcements for NACD:

- When FOAUDIO has completed for a call that is designated to overflow to the best group, the best group is determined again. The source group is not considered again in the second choice of the best group, because FOAUDIO has already been provided.
- FOAUDIO has completed for a call that is designated to overflow to the best group. If the best group cannot be determined in the second choice of the best group, the call is routed to the threshold route, even if the source NACD group is in night service.
- The time the call takes receiving the FIAUDIO announcement is not tracked and therefore does not appear on the ACD management information system (MIS). This limitation is identical to the FIAUDIO and nodal ACD interaction.
- Because a call from an attendant console does not overflow to an NACD group, no FOAUDIO is provided.
- The TMDELOFL option is not compatible with calls that originate from an attendant console. Therefore, this feature has no effect on NACD calls from an attendant console receiving FIAUDIO where the NACD group has the TMDELOFL option selected. If no idle agent exists, the call remains in the queue when the time-delay-overflow timer expires.
- FOAUDIO does not apply to calls that are rerouted to night service (when no best group can be determined), controlled interflow, or time delay overflow.

Interactions

NACD is not compatible with the original groups announcement (ORGANN) option in table ACDGRP.

Activation/deactivation by the end user

Forced Announcements for NACD requires no activation or deactivation by the end user.

Forced Announcements for NACD (continued)

Billing

Forced Announcements for NACD does not affect billing.

Station Message Detail Recording

Forced Announcements for NACD does not affect Station Message Detail Recording.

Datafilling office parameters

Forced Announcements for NACD does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Forced Announcements for NACD. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Forced Announcements for NACD

Table	Purpose of table
ACDGRP	Automatic Call Distribution Group. This table assigns ACD features to specific ACD groups.
NACDGRP	Network ACD Group. This table contains the options and networking capabilities for NACD groups. This table defines the option NETOVFL.
ACDRTE	ACD Route. This table defines routing and overflow options for specific ACD groups.
AUDIO	Audio Interlude. This table defines the audio broadcasts for Integrated Business Network (IBN) audio groups and features. The broadcasts include announcement, music, silence, or ringing.

Datafilling table ACDGRP

The following table shows the datafill related to Forced Announcements for NACD for table ACDGRP. Only those fields that apply directly to Forced

Forced Announcements for NACD (continued)

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

Datafilling table ACDGRP

Field	Subfield	Entry	Explanation and action
MAXCQSIZ		0 to 511	Maximum call queue size. Enter the maximum number of calls that can be in the incoming call queue at one time. After this threshold is reached, all subsequent calls are deflected to the route that is specified in field THROUTE. Enter 0 (zero) if the ACD group does not have call queuing capability.
MAXWAIT		0 to 1800	Maximum waiting time. Enter the maximum time (in seconds) that a call must wait in the incoming call queue. After this number is reached, all subsequent calls are sent to the route that is specified in field THROUTE. Enter 0 (zero) if calls that cannot immediately terminate on an available agent position are to be rerouted to the overflow route specified in field THROUTE.

Datafill example for table ACDGRP

The following example shows sample datafill for table ACDGRP. The maximum call queue size field (MAXCQSIZ) or the maximum wait time field (MAXWAIT) set the number of calls accepted in the incoming call queue.

MAP display example for table ACDGRP

```
ACDNAME  CUSTGRP ACDRNGTH  THROUTE  NSROUTE PRIOPRO  DBG
MAXCQSIZ  MAXWAIT  ACDMIS   MSQS   DISTRING  OBSWTONE
FRCNGTSV   OPTIONS
---------------------------------------------------------
NACDA   CUSTGRPA    30    OFRT 44  OFRT 45  0   N
20   200    Y   POOL1   SUBPOOL1   N   $  Y  5  10  15
WAIT N Y 5 NONE N Y Y OFRT 1003 (TMDELOFL 10 ALLPRIO)
(OVFLINQ OVFLIN 1 Y 5 ) $
```

Datafilling table NACDGRP

The following table shows the datafill related to Forced Announcements for NACD for table NACDGRP. Only those fields that apply directly to Forced

Forced Announcements for NACD (continued)

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

Datafilling table NACDGRP

Field	Subfield	Entry	Explanation and action
QTHRESH		0 to 511	Queue threshold size. Enter the maximum number of calls treated as nodal, local calls. After this number is reached, calls that follow overflow to the network. Valid entries are from 0 to 511.
WTHRESH		0 to 1800	Wait threshold time. Enter the maximum length of time, in seconds, that a call must wait in the incoming queue. After this number is reached, calls that follow overflow to the network. Valid entries are from 0 to 1800.
OPTIONS		NETOVFL	Network overflow. This option routes incoming calls to the nodal threshold treatment instead of NACD treatment in a specified condition. This condition occurs when values exceed the maximum call queue size or maximum wait time parameter.

Datafill example for table NACDGRP

The following example shows sample datafill for table NACDGRP.

MAP display example for table NACDGRP

```
ACDGRP  QTHRESH  WTHRESH  PWF  BESTGRP  SRVRATE  NUMIDLE
TIMEIDL          NTWKGRPS
                                         OPTIONS
---------------------------------------------------------

NACDA   5    5    100    N    180   10  10  (REM NACDC 2)

(REM NACDD 2) (LCL NACDB 2) $  NETOVFL $
```

Datafilling table ACDRTE

The following table shows the datafill related to Forced Announcements for NACD for table ACDRTE. Only those fields that apply directly to Forced

Forced Announcements for NACD (continued)

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

Datafilling table ACDRTE

Field	Subfield	Entry	Explanation and action
OPTNAME		FIAUDIO FOAUDIO	Option name. Enter FIAUDIO or FOAUDIO.
OPTION		FIAUDIO FOAUDIO	Option. Enter FIAUDIIO or FOAUDIO. If the entry in field OPTION is FIAUDIO, datafill refinement FIAUDGRP. If the entry in field OPTION is FOAUDIO, datafill refinement FOAUDGRP.
	FIAUDGRP	AUDIO1 to AUDIO512	Forced announcements for incoming calls. Enter the forced announcement audio group name.
	FOAUDGRP	AUDIO1 to AUDIO512	Forced announcements for overflow calls. Enter the forced announcement audio group name.

Datafill example for table ACDRTE

The following example shows sample datafill for table ACDRTE.

MAP display example for table ACDRTE

```
ACDGRP      OPTNAME       OPTION

------------------------------------------------------------
NACDA    FIAUDIO   FIAUDIO   AUDIO1 $

NACDA    FOAUDIO   FOAUDIO   AUDIO1 $
```

Datafilling table AUDIO

The following table shows the datafill related to Forced Announcements for NACD for table AUDIO. Only those fields that apply directly to Forced

Forced Announcements for NACD (continued)

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

Note: Tables CLLI, ANNS, and ANNMEMS must be datafilled before table AUDIO.

Datafilling table AUDIO

Field	Subfield	Entry	Explanation and action
AUDIOKEY		see subfields	Audio key. This field consists of subfields GROUP and FTRINDEX.
	GROUP	AUDIO1 toAUDIO512	Group. Enter the audio group name.
	FTRINDEX	ACDQ	Feature index. Enter the feature that requires a broadcast. Enter ACDQ for Automatic Call Distribution Queue. If less than six features are required, end the list with a $ (dollar sign).
ROUTES		see subfield	Routes. This field consists of up to 6 occurrences of subfield CHOICE and refinements.
	CHOICE	ANN, MUSIC, SILENCE, RINGING, or REPEAT	Audio choice. Enter ANN, MUSIC, SILENCE, RINGING, or REPEAT and datafill refinements. • If the choice is ANN (announcement), enter data in refinements AR, CYCLE, and ANNCLLI. • If the choice is MUSIC, enter data in refinements MUSICLLI and TIME. • If the choice is SILENCE, enter data in refinement TIME. • If the choice is RINGING, enter data in refinement TIME. • If the choice is REPEAT, enter data in refinement ROUTE.

Datafill example for table AUDIO

The following example shows sample datafill for table AUDIO.

Forced Announcements for NACD (end)

MAP display example for table AUDIO

```
AUDIOKEY           ROUTES
AUDIO1  ACDQ  ( ANN Y  1  MSLCANNC 1)   $

AUDIO2  ACDQ  (ANN N 1 ANN1) (ANN N 1 ANN2)   $
```

Translation verification tools

Forced Announcements for NACD does not use translation verification tools.

SERVORD

Forced Announcements for NACD does not use SERVORD.

Networked ACD on CCS7

Ordering codes

Functional group ordering code: ACD00004

Functionality ordering code: ACD00009

Release applicability

NA013 and later versions

Requirements

The Networked ACD on CCS7 has the following requirements:

- Base ISUP, ISP70001
- TEL CCS7 Base, TEL00008

Description

An NACD network that uses CCS7 contains a minimum of two switching and processing nodes. These nodes interconnect with signaling links. The size and complexity of the network depends on the volume of traffic and degree of redundancy required. Two methods are available to connect multiple switches:

- connection with signaling transfer points (STP)
- connection with associated signaling (F links)

To use associated signaling, two DMS offices must connect. Intermediate offices cannot occur between the two DMS offices.

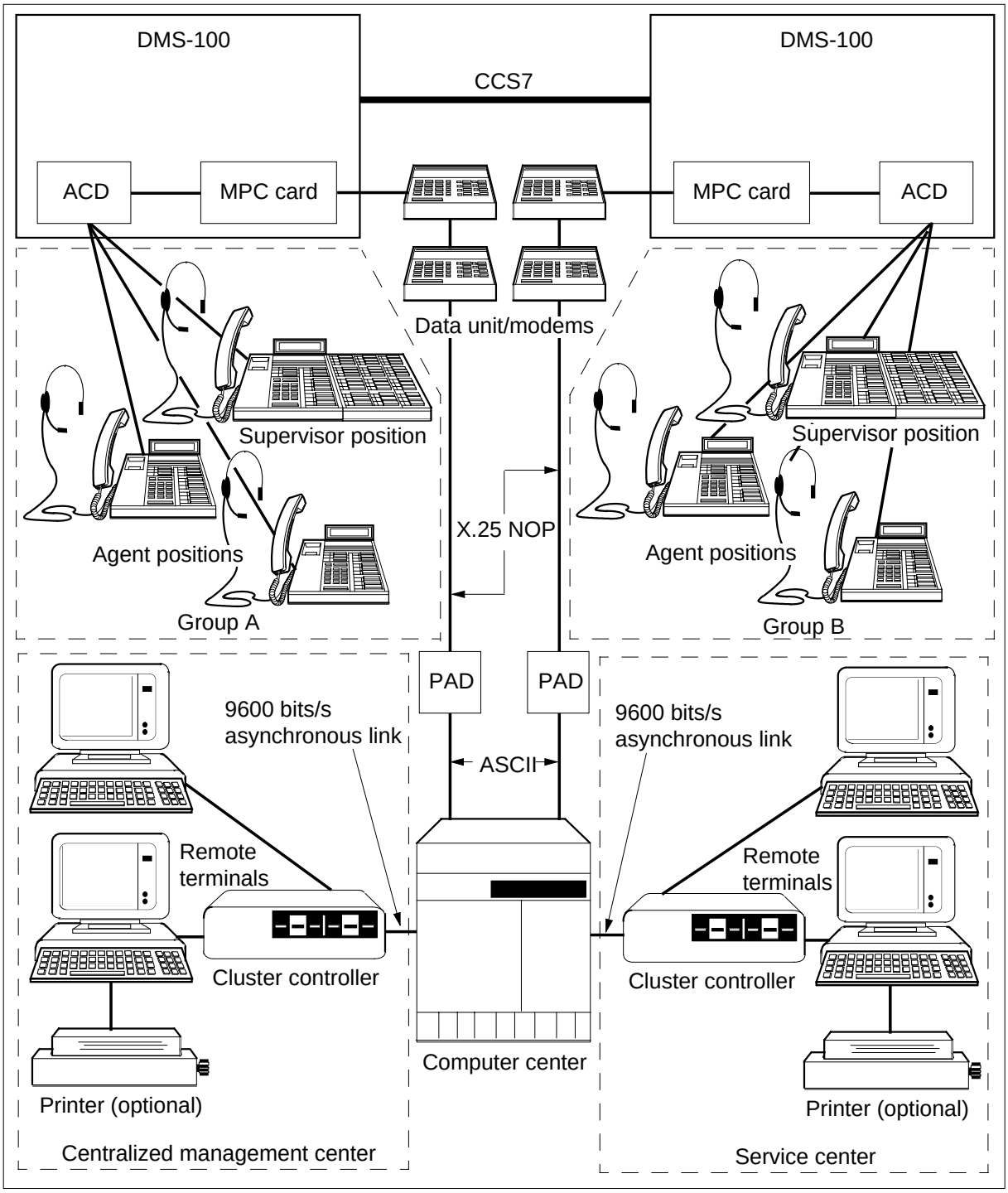
The CCS7 signaling and standard trunking arrangements allow the NACD network to form NACD supergroups with a maximum of 12 000 agents. The network uses ACD groups dispersed over large geographic areas.

For a network example of Networked ACD on CCS7, refer to Network example for ACD that uses CCS7.

A multinode NACD group that connects with CCS7 trunks appears in the following figure. The supergroup has an ACD Management Information System (ACDMIS).

Networked ACD on CCS7 (continued)

Sample multinode NACD configuration on CCS7



Networked ACD on CCS7 (continued)

NACD Network Transport Parameter

The NACD Network Transport Parameter feature creates a network transport parameter for NACD. A network transport parameter is an American National Standard Institute (ANSI) parameter that a switch sends or receives. This parameter contains between one and three parameters specified for NACD. Non-DMS switches discard the parameters because the switches cannot recognize the parameters. The following components can contain the network transport parameter:

- an ISUP initial address message (IAM)
- information request message (INR)
- information message (INF)
- address complete message (ACM)
- call progress message (CPG)
- answer message (ANM)

This feature allows the NACD to carry these parameters transparently through the multi-vendor CCS7 network.

Note: The names CCS7 and Signaling System 7 (SS7) are the same. This document interchanges these names.

Operation

See “Translations table flow" for information on how Networked ACD on CCS7 flows through the data tables.

Translations table flow

The Networked ACD on CCS7 translations tables appear in the following list:

- Table DNROUTE identifies the primary DN for the ACD group and a maximum of 16 additional DNs.
- Table NACDGRP defines an ACD group as an NACD group. Several parameters determine when and under what condition networking occurs. In the datafill example, ACD group ACDGRP1 answers calls directed to ACDGRP1 until ten calls are in queue. The QTHRESH parameter sets the maximum limit of ten calls. The ACDGRP1 answers these calls until the call at the head of the incoming call queue waits a minimum of 50 s. The number of calls can exceed the QTHRESH parameter. When this condition occurs, the NACD checks each group to determine the best group to receive the call. The WTHRESH parameter sets the limit of 50 s. The call at the head of the incoming call queue can wait longer than the threshold that the WTHRESH parameter defines. When this condition

occurs, the NACD checks each group to determine the best group to receive the call. The preference waiting factor (PWF) is higher for ACDGRP1 (400) than ACDGRP2 or ACDGRP3. The system sends as many calls as possible to ACDGRP1. The PWF is higher for ACDGRP2 (200) than ACDGRP3 (100). Calls can route to ACDGRP2 before ACDGRP3.

- Table ACDGRP defines the options that affect NACD networking and queuing operations. Each NACD group must have an entry in this table. This entry associates the NACD group with an ACD group and the parameters associated with the ACD group.

  The maximum call queue size (MAXCQSIZ) and the maximum wait time (MAXWAIT) options affect the NACD. Set these options to a value other than 0. If you set these values to 0, the NACD group cannot have calls in the incoming call queue. The NACD group can have calls that overflow to the network after the calls wait for a specified time. When this condition occurs, table ACDGRP must have the option time delay overflow (TMDELOFL). Table ACDGRP must have the option overflow in queue (OVFLINQ). This option allows an NACD group to accept time delay calls.

  The maximum call queue size value for the ACD group in the datafill example is 20. This value determines the call queue size of the group. The maximum wait time for the ACD group is 100. When the call at the head of the queue waits 100 s, the physical queue closes to incoming calls. Calls in queue that are not answered for 30 s, overflow to the network. The TMDELOFL parameter sets the limit of 30 s. The ACD group accepts a maximum of 15 calls at a time in the logical overflow in queue. The ACD group services the oldest call in the physical or logical overflow in queue first.

- Table ACDSGRP identifies the ACD groups that have supervisors. The subgroup number provides a link between supervisors and agents.

- Table CUSTNTWK provides the network name, a customer group name, and a global numeric identifier. Different switches can operate in the network. When this condition occurs, the customer groups that have NACD must specify the same network name and the same global numeric identifier. In the datafill example, customer group MDC2 has the same network name as customer group MDC1 (PUBLIC). Customer group MDC2 has the same global numeric identifier (2) as customer group MDC1 (PUBLIC).

- Table REMNACD provides routing information associated with NACD groups on remote switches. In Table NACDGRP, the datafill example has the NACDSEL field entered with REM (remote). This field identifies the

Networked ACD on CCS7 (continued)

names of the groups on another switch. The route index can point to tables IBNRTE, IBNRT2, IBNRT3, or IBNRT4.

- Table TCAPTRID allocates memory for simultaneous NACD CCS7 transactions.

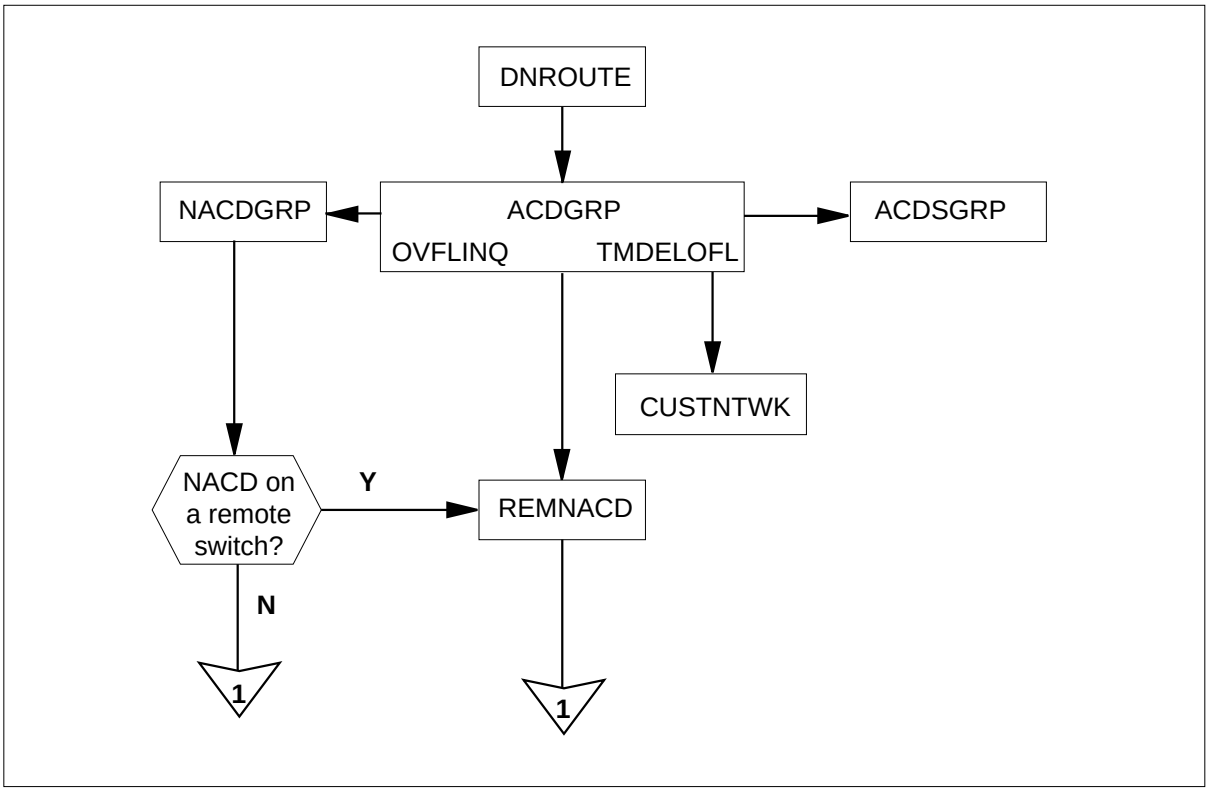
  Note: Table TCAPTRID is obsolete. See Data Schema Reference Manual for details.

- Table IBNRTE refers the call to a specified route. This action occurs when a preceding table identifies table IBNRTE as a route reference index.
- Tables IBNRTE, IBNRT2, IBNRT3, and IBNRT4 identify the routes the call takes to flow to the remote ACD groups. The system indexes this information from table REMNACD.
- Table TRKGRP identifies the trunks that provide access between MDC customer groups on different switches.
- The additional information for each subgroup assigned to each trunk group in table TRKGRP appears in table TRKSGRP.
- Table C7TRKMEM relates the circuit identification code to the common language location identifier (CLLI) and the trunk member number.
- Table ISUPDEST logically associates the signaling network ID with the trunking tables.
- Table C7RTESET logically associates linksets as possible routes for each signaling point in the network.
- Table C7NETWRK defines valid network names.
- Table C7NETSSN defines the subsystem in use.
- Table C7LKSET defines the characteristics of a linkset. A linkset is a set of links that operate as a group.
- Table C7LINK defines the configuration of a linkset.
- The data for each trunk that tables TRKGRP and TRKSGRP define appears in table TRKMEM.

The Networked ACD on CCS7 translation process appears in the following flowchart.

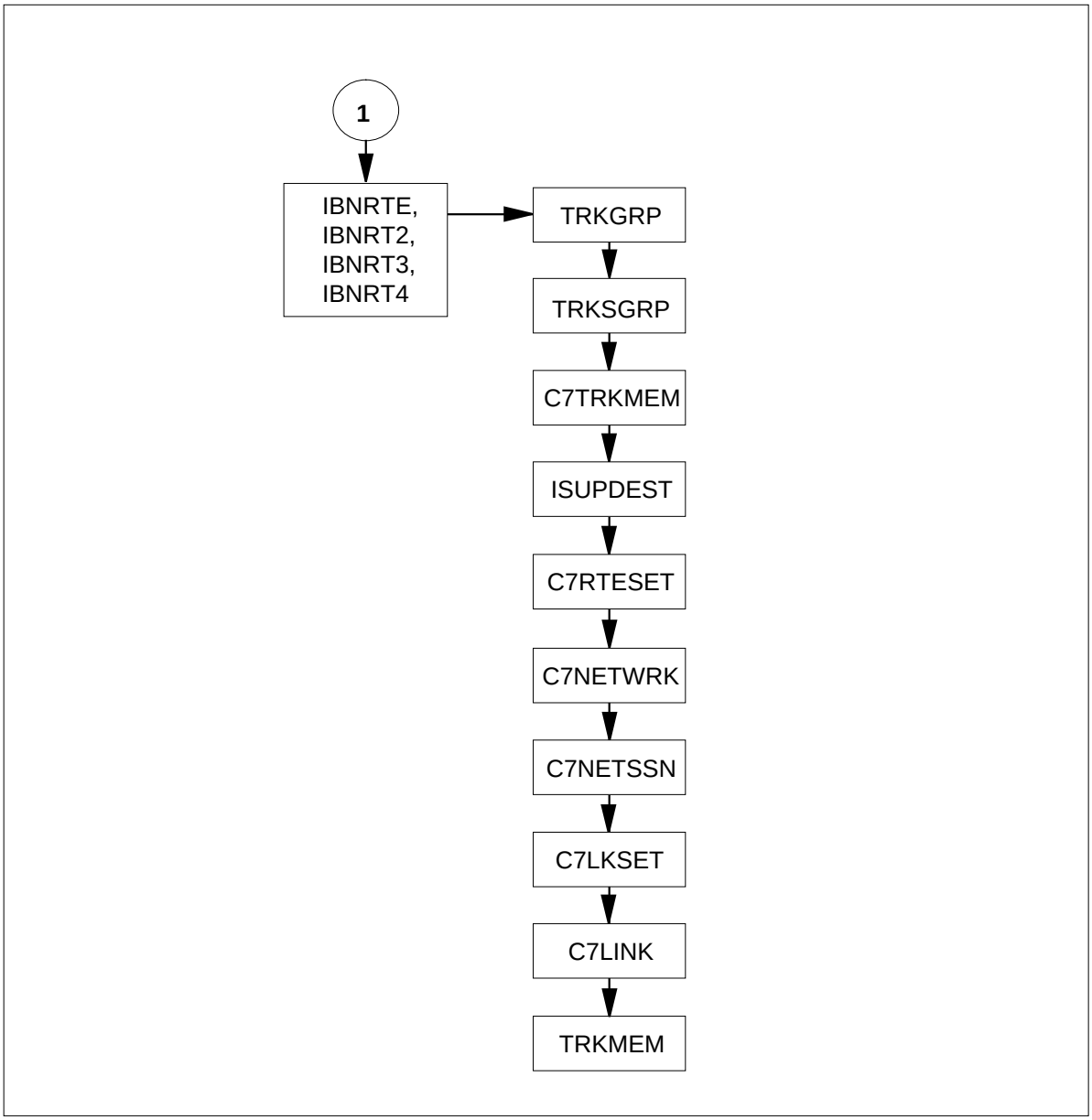
Networked ACD on CCS7 (continued)

Table flow for Networked ACD on CCS7



Networked ACD on CCS7 (continued)

Table flow for Networked ACD on CCS7 (continued)



The datafill content in the flowchart appears in the following table. The ACD is ACDGRP1 and ACDGRP2. The customer group is MCD1. The global

numeric identifier is 2. The NACD group is ACDGRP1. The network name is PUBLIC.

Datafill example for Networked ACD on CCS7 (Sheet 1 of 2)

Datafill table	Example data
DNROUTE	919 478 1200 FEAT ACD CLAIMS PRIM 0 1 $
	704 367 1400 FEAT ACD SERVICE PRIM 0 1 $
NACDGRP	ACDGRP1 10 50 400 Y 90
	10 100 REM ACDGRP2 200 ACDGRP3 100 $
ACDGRP	ACDGRP1 MDC1 30 OFRT 29
	OFRT 30 30 N 20 100
	Y POOL1 SUBPOOL1 N $
	Y 5 10 15 WAIT N Y 5 NONE N
	Y Y OFRT 1003
	(TMDELOFL 30 ALLPRI0) (OVFLINQ OLDEST 15) $
	ACDGRP2 MDC2 30 OFRT 35
	OFRT 36 35 N 30 80
	Y POOL1 SUBPOOL1 N $
	Y 5 10 15 WAIT N Y 5 Y N
	Y Y OFRT 1003
	(TMDELOFL 30 ALLPRI0) (OVFLINQ OLDEST 20) $
ACDSGRP	ACDGRP1 1 NONE
	ACDGRP2 2 NONE
	ACDGRP3 3 NONE
CUSTNTWK	MDC1 PUBLIC 2 $
	MDC2 PUBLIC 2 $
REMNACD	ACDGRP2 9193251500 31 $
	ACDGRP3 9195625600 32 $
IBNRTE	21 (S N Y N N PVTNETTRK1) $
OFRT	31 S ACDGRP2 $
	32 S ACDGRP3 $

Networked ACD on CCS7 (continued)

Datafill example for Networked ACD on CCS7 (Sheet 2 of 2)

Datafill table	Example data
TRKGRP	MDCACDTRK IBNT2 0 ELO NCRT MDCACD 0 MIDL 0 N ANSDISC 0 N N N N N N Y 0 0 N 0 0 0 0 N N N N N N N N N N NATL $ LONLONEIOS IBNT0 0 ELO NCRT MDCACD 0 MIDL ANSDISC 0 N 0 0 8 9 N N N N N N NATL $
TRKSGRP	MDCACDTRK DS1SIG STD 2W MF WK N 5 5 MF WK 7 0 Y NO NO N N N M 7 0 UNEQ
C7TRKMEM	LONLONEOIS 0 614
ISUPDEST	LONLONEOIS 0 C7RTESET1
C7RTESET	C7RTESET1 C7NETWRK1 N ANSI7 (4) (5) (6) $ (C7LKSET1 0) $
C7NETWRK	C7NETWRK1 ANSI7 1 2 3 INTLSPARE Y Y 3 Y Y
C7NETSSN	C7RTESET1 (INTERWRK 200) $
C7LKSET	C7LKSET1 ALINK C7NETWRK1 ANSI7 4 5 6 C7LKSET1 N N Y 0 0 1
TRKMEM	MDCACDTRK 5 0 DTC 11 218

Limits

The following limits apply to Networked ACD on CCS7:

- The network transport parameter only includes the supplementary service information (SSI), first called ACDDN, and transaction request parameters.
- Each switch in the network must have transaction capability application part (TCAP) capabilities for the NACD Network Transport Parameter feature to work.

- For the NACD Network Transport Parameter feature, only a network configuration with DMS switches supports compatibility between BCS34 switches and pre-BCS34 switches.
- For the NACD Network Transport Parameter feature, compatibility between multiple vendor switches can be supported. Support for this feature occurs when each node in a network has BCS34 or later versions of software.

Interactions

The following paragraph describes the interactions between Networked ACD on CCS7 and the ACD Called Name/Called Number Display function.

ACD Called Name/Called Number Display

A call can overflow from a source ACD group to another ACD group. The ACD group to which the call overflows is the destination group. The destination group can have the ACDDISP option assigned in table ACDGRP. When these conditions occur, the ACD name and number appear on the second line of the agent set. The name and number appear when space is available. Table REMNACD contains the ACD name and number of the source group.

Activation/deactivation by the end user

Networked ACD on CCS7 does not require activation or deactivation by the end user.

Billing

Networked ACD on CCS7 does not affect billing.

Station Message Detail Recording

Networked ACD on CCS7 does not affect Station Message Detail Recording.

Datafilling office parameters

Networked ACD on CCS7 does not affect office parameters.

Networked ACD on CCS7 (continued)

Datafill sequence

The tables that require datafill to implement Networked ACD on CCS7 appear in the following table. The tables appear in the correct entry order.

> ***Note:*** Many data tables require datafill for Networked ACD on CCS7 to work. The table provides datafill descriptions and examples for data tables that Networked ACD on CCS7 directly affects.

Datafill requirements for Networked ACD on CCS7 (Sheet 1 of 2)

Table	Purpose of table
ADJNODE	Adjacent Node Table. Identifies the name and type of node that connects to the DMS-100.
TRKGRP	Trunk Group Table. Assigns trunk groups.
TRKSGRP	Trunk Subgroup Table. The additional information for each subgroup assigned to a trunk group in table TRKGRP appears in this table.
TRKMEM	Trunk Member Table. The data associated with each analog or digital trunk appears in this table.
C7LKSET	CCS7 Linkset Table. Defines the characteristics of a linkset.
C7LINK	CCS7 Link Table. Associates the physical aspects of a link and the logical view as a part of a set of links.
C7RTESET	CCS7 Routeset Table. Associates linksets as possible routes for each signaling point in the network.
C7NETSSN	CCS7 Network Subsystem Routing Table. Provides the set of remote nodes and subsystems where the SCCP routes messages.
C7LOCSSN	CCS7 Local Subsystem Table. Provides information for the local subsystem.
ISUPDEST	CCS7 ISDN User Part Destination Table. Defines a part of a signaling network ID that is logically associated with tables TRKGRP and TRKSGRP.
C7TRKMEM	CCS7 Trunk Member Table. Relates the circuit ID code part of the signaling network ID to the common language location identifier (CLLI) and trunk member number. Entry of ISUP trunks can occur here.
IBNRTE	IBN Route Table. Defines route lists.
ACDGRP	Automatic Call Distribution Group Table. Defines and describes the ACD groups.
REMNACD	Remote Network Automatic Call Distribution Table. Provides the routing information associated with an NACD group on a remote switch.

Datafill requirements for Networked ACD on CCS7 (Sheet 2 of 2)

Table	Purpose of table
NACDGRP	Network Automatic Call Distribution Group Table. Defines NACD groups.
CUSTNTWK	Customer Group Network Table. Defines the network name with which a customer group associates. Defines a predetermined global numeric ID in a specified network name for the customer group.
MSGRTE	PRA Facility Message Routing Table. Routes PRI facility messages.

Datafilling table ADJNODE

Datafill for Networked ACD on CCS7 for table ADJNODE appears in the following table. The fields that apply to Networked ACD on CCS7 appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table ADJNODE

Field	Subfield or refinement	Entry	Explanation and action
SIGDATA		PRA, ISUP	Signaling data. Valid entries are PRA and ISUP.
If you enter ISUP, subfield PRODUCT appears:			
	PRODUCT	alphanumeric	Product name. Enter the product name of the adjunct node.
	OPTIONS	NONACDNTP	Options. This entry determines the format to send the NACD information. When you enter NONACDNTP, the NACD parameters are not enclosed in the network transport parameter. The system sends messages to other nodes in the network. Enter NONACDNTP.

Datafill example for table ADJNODE

Sample datafill for table ADJNODE appears in the following table.

MAP example for table ADJNODE

```
ADJNODEK  SIGDATA
                                                SIGDATA
_____________________________________________________________
XSUPPORT     OTHER
                                        (  NONACDNTP)$
```

Networked ACD on CCS7 (continued)

Datafilling table REMNACD

Datafill for Networked ACD on CCS7 for table REMNACD appears in the following table. The fields that apply to Networked ACD on CCS7 appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table REMNACD

Field	Subfield or refinement	Entry	Explanation and action
REMGROUP		alphanumeric	Remote NACD group. Enter the 1-character to 16-character alphanumeric name of the remote NACD group.
REMOTEDN		numeric	Remote directory number. Enter the DN of the remote NACD group.
ROUTE		IBNRTE, IBNRT2, IBNRT3, IBNRT4 0 to 1023	Route. Enter the table name and index that routes calls to the remote NACD group. Valid table entries are IBNRTE, IBNRT2, IBNRT3, and IBNRT4. Valid index entries are from 0 to 1023.
OPTIONS		$, NONDMS	Options. Enter NONDMS if the remote NACD group is in a non-DMS switch. If the remote NACD group is not in a non-DMS switch, enter $.
If you enter NONDMS , subfield TRGTRI appears:			
	TRGTRI	alphanumeric	Target resource index. Enter the hard-coded RI for the non-DMS remote NACD group.

Datafill example for table REMNACD

Sample datafill for table REMNACD appears in the following example.

MAP example for table REMNACD

```
REMGROUP       REMOTEDN        ROUTE           OPTIONS
_____________________________________________________________
  STOREA   9193625000  IBNRTE  31                        $
  XSUPPORT 9193625000  IBNRTE  31                        $
```

Datafilling table NACDGRP

Datafill for Networked ACD on CCS7 for table NACDGRP appears in the following table. The fields that apply to Networked ACD on CCS7 appear in

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

Datafilling table NACDGRP

Field	Subfield or refinement	Entry	Explanation and action
NTWKGRPS		LCL, REM	Network ACD groups. Enter LCL if calls overflow to a local NACD group. Enter REM if calls are overflow to a remote NACD group.
If you enter LCL for NTWKGRPS, subfields LCLGRP and PWF appear:			
	LCLGRP	alphanumeric	Local NACD group. Enter the 1-character to 16-character alphanumeric name assigned to the local NACD group.
	PWF	0 to 32,767	Preference weighting factor. Enter the PWF associated with the specified local NACD group. A high PWF indicates calls must route to this NACD group. Valid entries are from 0 to 32,767.
If you enter REM for NTWKGRPS, subfields REMGRP and PWF appear:			
	REMGRP	alphanumeric	Remote NACD group. Enter the 1-character to 16-character alphanumeric name assigned to the remote NACD group.
	PWF	0 to 32,767	Preference weighting factor. Enter the PWF associated with the specified remote NACD group. A high PWF indicates calls must route to this NACD group. Valid entries are from 0 to 32,767.

Datafill example for table NACDGRP

Sample datafill for table NACDGRP appears in the following example.

Networked ACD on CCS7 (end)

MAP example for table NACDGRP

```
ACDGRP QTHRESH WTHRESH  PWF BESTGRP SRVRATE NUMIDLE TIMEIDLE
                             NTWKGRPS
               OPTIONS
_____________________________________________________________
CATALOG     2     19  100     Y    60    60     60
                            ( LCL  SUPPORT  100) $
                       $
SUPPORT     2     13  100     Y    60    60     60
            ( LCL  CATALOG  100) (REM XSUPPORT 10) $
                       $
```

Tools for verifying translations

Networked ACD on CCS7 does not use tools for verifying translations.

SERVORD

Networked ACD on CCS7 does not use SERVORD.

Networked ACD on PRA

Ordering codes

Functional group ordering code: ACD00004

Functionality ordering code: ACD00010

Release applicability

BCS29 and later versions

Requirements

To operate, Networked ACD on PRA requires the following:

- BAS Generic, BAS00003
- ACD Base, ACD00001
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007
- NI0 ISDN Base, NI000007
- NI0 ISDN PRI Base, NI000022

Description

The Automatic Call Distribution (ACD) groups are on multiple nodes. The system uses integrated services digital network (ISDN) primary rate interface (PRI) links to connect the nodes. The Networked ACD on PRA feature package allows the system to group the nodes logically in a supergroup.

For a network example of Networked ACD on PRA, refer to Network example for NACD using PRI.

Network ACD - TCAP Support

This package uses the improved Common Channel Signaling No. 7 (CCS7) transaction ability application part (TCAP) messaging support. The CCS7 TCAP supports load status information updates and the logical overflow of ACD calls. The updates and calls occur between the DMS-100 switches, across the CCS7 links.

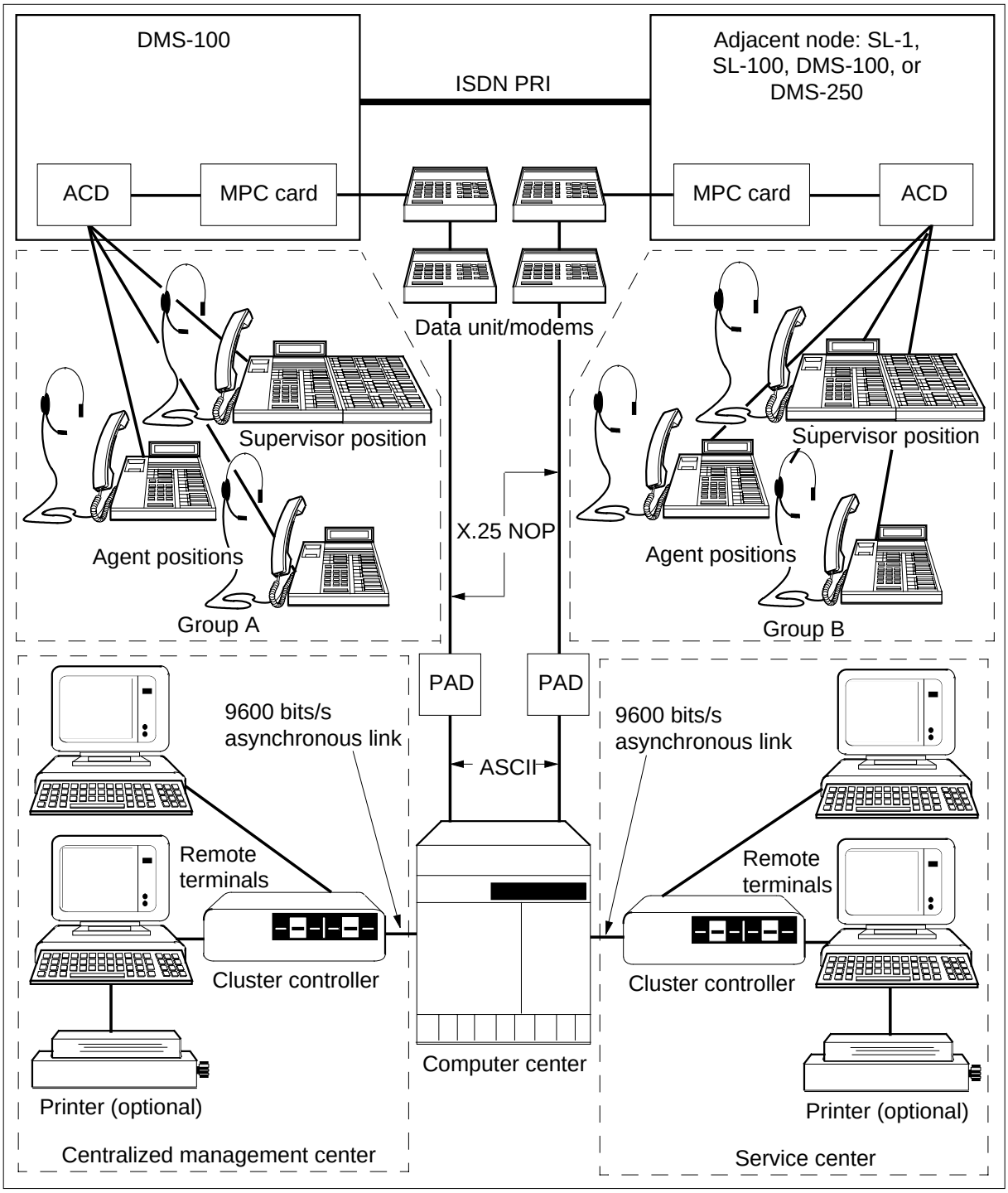
NACD Prework - TCAP SCCP Decoupling

The signaling connection control part (SCCP) was the only transport medium. The PRI introduces a second transport medium. This feature separates TCAP messaging from the SCCP. Users can choose the transport medium, SCCP or PRI.

An NACD network with PRI link connections appears in the following figure.

Networked ACD on PRA (continued)

Sample multinode NACD configuration on PRA



Operation

Call type significance

The setup protocol carries messages call type switches. For PRI, the call type determines the translations. The system uses translations to route an incoming call. The call type is important to the local PRI. When the call enters the next exchange, the system discards the call type. Later versions of the same call can have different call types.

> ***Note:*** Use of the integrated service access (ISA) route selector to route a call to a PRI trunk is optional. Use of the ISA route selector is optional if the call type is public or private. You can use route selectors S or N to route private and public calls to a PRI trunk. The ISA route selector generates a numbering plan indicator (NPI) and network specific facilities (NSF) for the call. If a call uses another route selector, the system generates an NPI. The system passes the NPI to the terminating node.

The setup protocol message contains information about a call. With ISA, the two information elements in the setup message are the NPI and NSF.

The data that these information elements contain combined with the switch datafill determine the call type and the translations for a PRI call.

Numbering plan indicator

The called party number part of the setup message contains the NPI. The NPI indicates the numbering plan as public or private. The numbering plan refers to the called number.

Public. When the called party number has an NPI equal to E.164 a default can occur. To support the connection, the system routes the call to public network facilities. An example of the public network facilities is the central office trunks. The called number conforms to the public network numbering plan E.164.

Private. When the NPI is private, the called number conforms to the private numbering plan of the customer group. An example of a private network numbering plan is the Electronic Switched Network (ESN). The system uses facilities to route private calls. Examples of these facilities are tie trunks or foreign exchange trunks.

Network specific facilities

The NSF information element indicates the network facilities to use for the call. Incoming calls can use the NSF to access a specified service.

Networked ACD on PRA (continued)

The NSF information element contains the following:

- a service selector that indicates the requested type of service. The different types of service include the following: FX, TIE, INWATS or OUTWATS.
- an optional service identifier. The service identifier indicates the facility to use to route the call. An example of a service identifier is the zone number for an OUTWATS call.

Translations for PRI call originations

A PRI call origination is an incoming call to the DMS-100 switch from an adjacent node over a PRI trunk.

The following steps describe how to access tables to translate an incoming PRI call.

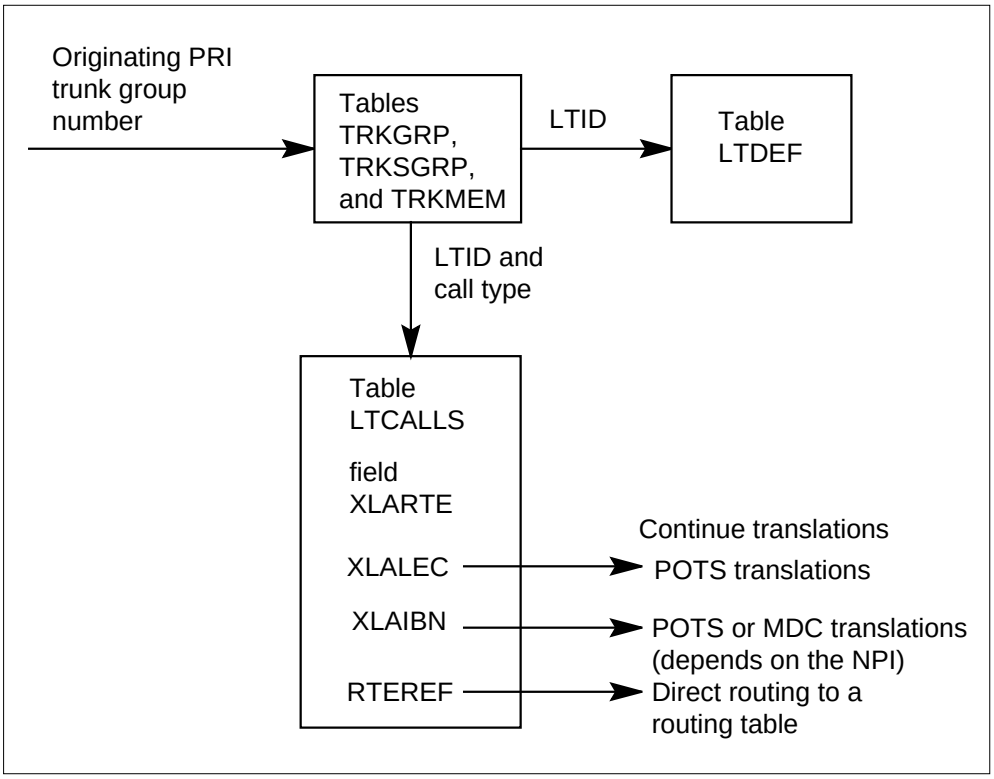
- The DMS-100 receives the setup message. The NSF and NPI are mapped to a call type with the following value:
  - If an NSF is not present, the call type is the value of the NPI.
  - If an NSF is present, the call type is the value of the NSF.
- To determine of the characteristics of the originating trunk group it is necessary to access TRKMEM, table TRKSGRP, and table TRKGRP. Table TRKGRP contains the logical terminal identifier (LTID) assigned to the trunk.
- Access to table LTDEF occurs through the LTID from table TKGRP. Table LTDEF determines the access privileges. The access privileges are assigned to the LTID.
- Access to table LTCALLS occurs through the LTID from table TRKGRP and the call type. Table LTCALLS, field XLARTE determines the next step for translations. Digit translation takes place with the called number digits. The number digits section of the called party number information element stores the called number digits.

The number digits can include prefix digits for a preferred inter-LATA carrier (10xxx digits).

The tables accessed in the DMS-100 for an incoming call over a PRI trunk appear in the following figure.

Networked ACD on PRA (continued)

Originating PRI call incoming to the DMS switch



Translations for PRI terminations

A PRI termination is an outgoing call from the DMS-100 switch to an adjacent node over a PRI trunk.

A call can terminate at a PRI trunk and the system can route the call to an adjacent node. When this event occurs, a routing table provides the trunk group common language location identifier (CLLI). The call terminates at the specified trunk group CLLI. The routing tables are as follows:

- OFRT
- IBNRTE
- HNPACONT.RTEREF
- FNPACONT.RTEFEF
- FNPACONT.FNPASTS.RTEREF

Networked ACD on PRA (continued)

From the routing table, the call proceeds with the translation process as follows:

- In the routing table, the ISA route selector specifies the CLLI of the trunk group to route calls to a specified PRI trunk group. The CLLI value is for access to table TRKGRP.
- Table TRKGRP contains the LTID of the trunk. With the LTID from table TRKGRP and the call type from the routing table, access to table LTCALLS occurs next.
- Table LTCALLS determines if the call type is acceptable on the trunk. If a tuple in table LTCALLS matches the LTID and call type, the call is acceptable. The call routes over the trunk to the terminating node. The NPI and NSF are forwarded to the node in the setup protocol message.

  Note: If tuples in table LTCALLS do not match the LTID and call type, the system blocks the call. The caller receives treatment.

The ISA route selector is different from other route selectors. The ISA selector causes the system to generate an NPI and NSF for the outgoing call. The NPI and NSF go to the terminating node in the setup protocol message. Use of the ISA route selector to route a call to a PRI trunk is optional. Use of the ISA route selector is optional if the call type is public or private. Route selectors like S or N route private and public calls to a PRI trunk. The ISA route selector generates an NPI and NSF for the call. If the use of other selectors occurs, the selector generates an NPI and passes the NPI to the terminating node.

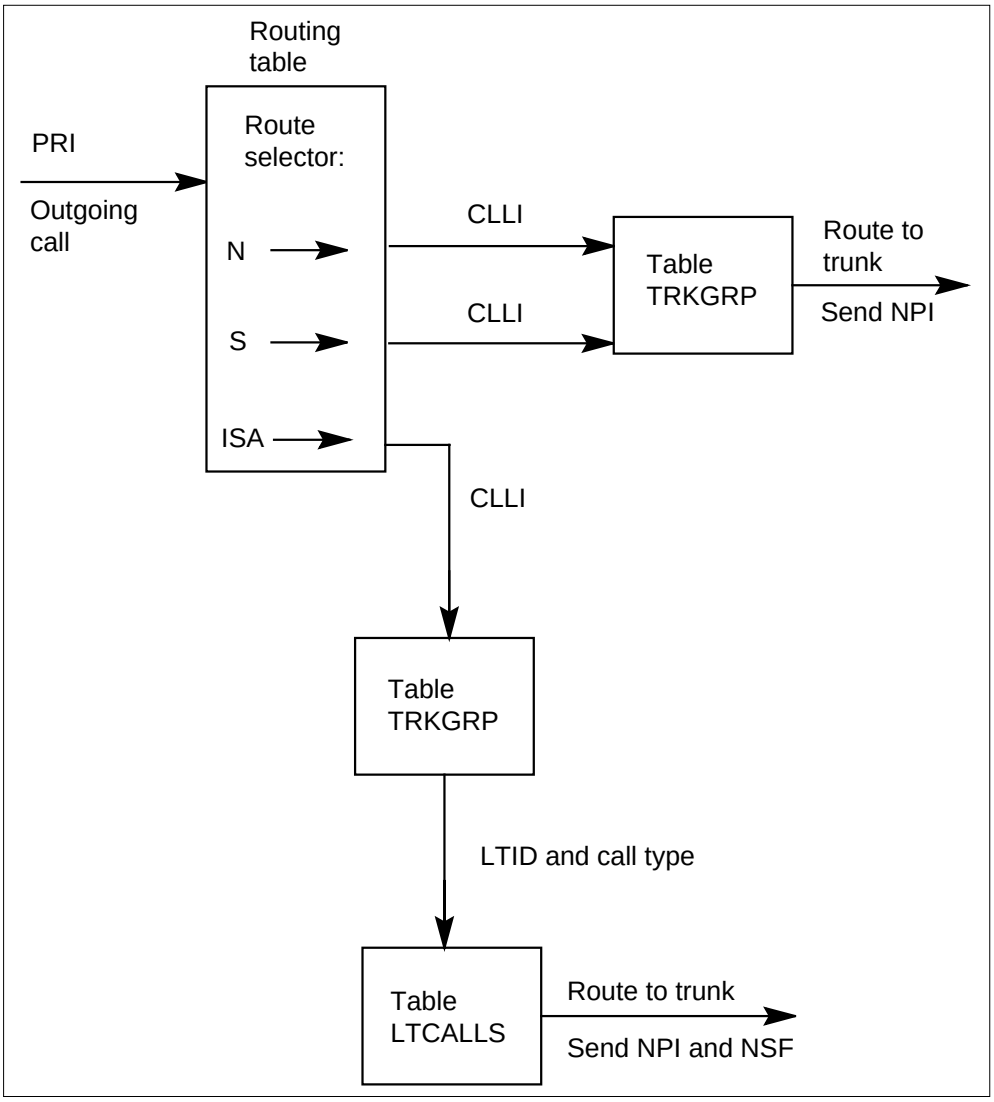
To generate a billing record with the ISA route selector, set up translations to route the call through a virtual facility group (VFG).

When you enter data for the ISA route selector in a routing table, you can specify a digit manipulation index. The digit manipulation index points to table DIGMAN and allows modification of the called number digits before outpulsing.

The basic translations flow for a call that terminates to a PRI trunk group appears in the following diagram.

Networked ACD on PRA (continued)

Terminating PRI call outgoing from DMS switch



Translations table flow

The Networked ACD on PRA translations tables appear in the following list:

- Table NACDGRP designates ACD groups as NACD groups. Table NACDGRP designates when and under what conditions networking for these NACD groups occurs.
- Table ACDGRP contains options that can affect NACD networking and queuing operations. The incoming call queue accepts calls based on field MAXCQSIZ or MAXWAIT. Field MAXCQSIZ is for the maximum call queue size and MAXWAIT is for the maximum wait time. Calls wait in

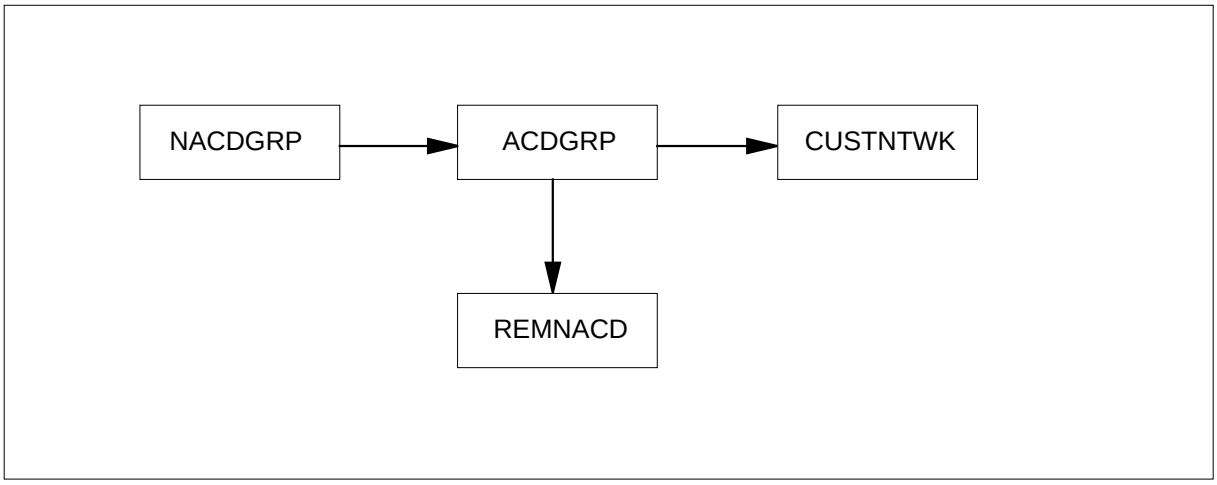
Networked ACD on PRA (continued)

the physical queue for a specified period. Each NACD group that overflows these calls must have the option time delay overflow (TMDELOFL) entered in this table. When NACD groups accept overflow calls from other NACD groups, table ACDGRP must contain a definition of the option OVFLINQ.

- Table CUSTNTWK provides the network name for a customer group and a global numeric identifier.
- Table REMNACD provides routing information associated with NACD groups on remote switches.

The Networked ACD on PRA translation process appears in the flowchart that follows.

Table flow for Networked ACD on PRA



Networked ACD on PRA (continued)

The datafill content in the flowchart appears in the following table. The ACD group is ACDGRP1, and customer group is MDC1.

Datafill example for Networked ACD on PRA

Datafill table	Example data
ACDGRP	ACDGRP1 MDC1 15 IBNRTE 100
	IBNRTE 401 5 N 5 20
	Y POOLA SUBPOOLA N $
	Y 5 10 15 WAIT N Y 5 NONE N
	Y Y OFRT 1003
	(TMDELOFL 30 ALLPRIO) (OVFLINQ OLDEST 15) $
NACDGRP	ACDGRP1 10 50 400 Y 90
	10 100 (REM ACDGRP2 200 REM ACDGRP3 100) $
REMNACD	ACDGRP2 9193255100 31 $
	ACDGRP3 9195628900 32 $
CUSTNTWK	MDC1 PUBLIC 2 $
	$

Limits

Networked ACD on PRA does not have limits.

Interactions

The interactions between Networked ACD on PRA and other functionalities appear in the following paragraph.

ACD Called Name/Called Number Display

If space permits, the ACD name and number of the source group can appear. The ACD name and number appear on the second line of the agent set if conditions occur as follows:

- a call overflows from a source ACD group to another ACD group, called the destination group
- the destination group has the ACDDISP option assigned in table ACDGRP

The ACD name and number of the source group are in table REMNACD.

Networked ACD on PRA (continued)

Activation/deactivation by the end user

Networked ACD on PRA does not require activation or deactivation by the end user.

Billing

Networked ACD on PRA does not affect billing.

Station Message Detail Recording

Networked ACD on PRA does not affect Station Message Detail Recording.

Datafilling office parameters

Networked ACD on PRA does not affect office parameters.

Datafill sequence

For Networked ACD on PRA to work, many data tables require datafill. Datafill descriptions and examples appear for data tables that Networked ACD on PRA directly affects.

The tables that require datafill to implement Networked ACD on PRA appear in the following table. The tables appear in the correct entry order.

This datafill sequence assumes that the feature has a customer group and routing plan specified.

Datafill requirements for Networked ACD on PRA (Sheet 1 of 2)

Table	Purpose of table
CLLI	Common Language Location Identifier. Assigns codes to trunk groups.
PADDATA	Pad Data Table. Defines the loss and level plan for PRI.
LTCINV	Line Trunk Controller Inventory Table. Contains a list of the ISDN digital trunk controller (DTCI) and line trunk controller (LTC) peripheral modules. This table identifies the following: • the location of the hardware • the load and executive programs required • the C-side DS-30 link connections to the network modules
CARRMTC	Carrier Maintenance Control Table. Contains the attributes of the DS-1 links that terminate to the DTC/LTCI. This table defines the line coding and frame formats for the DS-1 and provides maintenance control information for the links.

Networked ACD on PRA (continued)

Datafill requirements for Networked ACD on PRA (Sheet 2 of 2)

Table	Purpose of table
LTCPSINV	Line Trunk Controller P-Side Link Inventory Table. Contains the P-side link assignments for the DTCI and LTC. These assignments define the DS-1 links to the adjacent node.
ADJNODE	Adjacent Node Table. Identifies the name and type of node that connects to the DMS-100 by PRI.
TRKGRP (PRA)	Primary Rate Access Trunk Group (Type PRA) Table. Defines the data associated with each PRI trunk group.
TRKGRP (IBNT2)	IBN Two Way Trunk Group (Type IBNT2) Table. Defines the data associated with each IBNT2 trunk group.
TRKSGRP	Trunk Subgroup Table. Lists the auxiliary information for each subgroup assigned to a trunk group that Table TRKGRP lists. This table defines the channel that functions as the D-channel for each trunk group.
TRKMEM	Trunk Member Table. Defines the B-channels in each trunk group.
LTGRP	Logical Terminal Group Table. Defines the names of logical groups and the options for each group.
LTDEF	Logical Terminal Definition Table. Defines logical terminals and access privileges.
LTMAP	Logical Terminal Map Table. Assigns each PRI LTID, entered in table LTGRP, to a trunk group CLLI.
LTCALLS	Logical Terminal Calls Table. Specifies the types of calls that can route over each PRI trunk group. This table defines the first translationsfor each trunk group and type of call.
NETNAMES	Internal Logical Network Names Table. Defines the logical network to which the customer group belongs.
REMNACD	Remote Network Automatic Call Distribution Table. Provides the routing information associated with an NACD group on a remote switch.
NACDGRP	Network Automatic Call Distribution Group Table. Defines and describes NACD groups.
CUSTNTWK	Customer Group Network Table. Defines the network name for a customer group and a predetermined global numeric ID in a specified network name used for the customer group.
MSGRTE	PRA Facility Message Routing Table. Routes PRI facility messages.

Networked ACD on PRA (continued)

Datafilling table REMNACD

Datafill for Networked ACD on PRA for table REMNACD appears in the following table. The fields that apply to Networked ACD on PRA appear in this table. See the data schema section of this document for a description of the other fields

Datafilling table REMNACD

Field	Subfield or refinement	Entry	Explanation and action
REMGROUP		alphanumeric	Remote NACD group. Enter the 1-16 character alphanumeric name of the remote NACD group.
REMOTEDN		alphanumeric	Remote directory number. Enter the directory number (DN) of the remote NACD group.
ROUTE		IBNRTE, OFRT 0 to 1023	Route. Enter the table name and index the system uses to route calls to the remote NACD group. Correct table entries are IBNRTE and OFRT. Correct index entries are 0 to 1023.
OPTIONS		$, NONDMS	Options. Enter NONDMS if the remote NACD group is in a non-DMS switch. For other conditions, enter $.
If you enter NONDMS, the system presents subfield TRGTRI:			
	TRGTRI	alphanumeric	Target resource index. Enter the hard-coded resource index (RI) for the non-DMS remote NACD group.

Datafill example for table REMNACD

Sample datafill for table REMNACD appears in the following table. In this example, the NACD groups STOREA and XSUPPORT appear as remote NACD groups.

MAP example for table REMNACD

```
REMGROUP    REMOTEDN    ROUTE   OPTIONS
_____________________________________________________

   STOREA   9193625000  IBNRTE  31  $
   XSUPPORT 9193625000  IBNRTE  31  $
```

Datafilling table NACDGRP

Datafill for Networked ACD on PRA for table NACDGRP appears in the following table. The fields that apply to Networked ACD on PRA appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table NACDGRP

Field	Subfield or refinement	Entry	Explanation and action
NTWKGRPS		LCL, REM	Network ACD groups. Enter LCL if calls overflow to a local NACD group. Enter REM if calls overflow to a remote NACD group.
If you enter LCL for NTWKGRPS, the system presents subfields LCLGRP and PWF:			
	LCLGRP	alphanumeric	Local NACD group. Enter the 1-16 character alphanumeric name assigned to the local NACD group.
	PWF	0 to 32,767	Preference weighting factor. Enter the preference weighting factor (PWF) associated with the specified local NACD group. A high PWF indicates a preference to route calls to this NACD group. Correct entries are from 0 to 32,767.
If you enter REM for NTWKGRPS, the system presents subfields REMGRP and PWF:			
	REMGRP	alphanumeric	Remote NACD group. Enter the 1-16 character alphanumeric name assigned to the remote NACD group.
	PWF	0 to 32,767	Preference weighting factor. Enter the PWF associated with the specified remote NACD group. A high PWF indicates a preference to route calls to this NACD group. Correct entries are 0 to 32,767.

Datafill example for table NACDGRP

Sample datafill for the Networked ACD on PRA feature package in table NACDGRP appears in the following example. In this example, NACD groups CATALOG and SUPPORT are defined.

Networked ACD on PRA (end)

MAP example for table NACDGRP

```
ACDGRP QTHRESH WTHRESH  PWF BESTGRP SRVRATE NUMIDLE TIMEIDLE
                                                       NTWKGRPS
               OPTIONS
_____________________________________________________________

CATALOG       2       19  100       Y      60      60       60
   ( LCL  SUPPORT  100) $
                      $
SUPPORT       2       13  100       Y      60      60       60
   ( LCL  CATALOG  100) (REM XSUPPORT 10) $
                      $
```

Tools for verifying translations

Networked ACD on PRA does not use tools for verifying translations.

SERVORD

Networked ACD on PRA does not use SERVORD.

5 Datafilling ICM Call Manager Interface

The following chapter describes the ICM Call Manager Interface, ICM00001, functionality.

Called Party Address in ICM Messages

Ordering codes

Functional group ordering code: ICM00001

Functionality ordering code: ICM00003

Release applicability

NA013 and up

NA013 introduced the Called Party Address in ICM Messages feature.

Requirements

The Called Party Address in ICM Messages feature has no functional group requirements.

Description

This feature provides the Called Party Address (CPA) digits in Intelligent Call Management (ICM) messages for automatic call distribution (ACD) users. The CPA identifies the product or service the caller addresses. The CPA routing improves call distribution within the ACD system. The enhancement allows call routing to an ACD DN based on the CPA number.

The system delivers the CPA to the Computer Telephony Integration (CTI) host when the call goes to the ICM environment. The ICM environment receives the call through the dv_Call_Offered_U, dv_Call_Queued_U, dv_Call_Received_C, or dv_Call_Answered_U messages.

The originating switch sends the first call set-up message (Initial Address Message [IAM] for the integrated services digital network user part [ISUP]). The first call set-up message contains a parameter for the CPA. The terminating switch uses the value of the CPA to route the call. The ICM environment receives the address digits in the CPA parameter.

If there is overlap signalling, the system sends Subsequent Address Messages (SAM) following an IAM to show additional called party address information. The system delivers the complete CPA, which arrives in the IAM and the SAM.

This feature provides the dialed digits in ICM messages for ACD users for calls arriving over a line. The value of the CPA delivered to the ICM environment remains static for any additional extensions of the calls. The transfer, redirct, route, overflow, or forward options extend the calls. The CPA parameter in the ICM message remains static if the LOCAL_CALL_ID of the call remains the same for any additional extensions of the call. The value of the

Called Party Address in ICM Messages (continued)

CPA parameter in the ICM environment changes depending on the LOCAL_CALL_ID.

Operation

The originating switch sends the first call set-up message (IAM for ISUP) which contains a parameter for the CPA. The terminating switch uses the value of the CPA to route the call. The address digits in this CPA parameter go to the ICM environment.

Overlap signaling allows the transmission of address digits to start before reception of the digits from the preceding node is complete. The transmission of digits begins when the system can identify the outgoing route.

The ICM environment receives the complete CPA, which arrives in the IAM and the SAM.

The system supports the following incoming trunk agents:

- IBN7
- ETSI ISUP V1
- ETSI ISUP V2
- BTUP
- UK ISUP
- NTNA PRI
- ETSI PRI
- DPNSS
- ANSI ISUP with DPNSS feature transparency (DFT)
- CAS trunks (AC15, DC5, UKEARTH, and UKLOOP)

The system supports CAS trunks (AC15, DC5, UKEARTH, and UKLOOP) with the following types of IBN trunks:

- DP IC/DP OG—dial pulse incoming/dial pulse outgoing
- MF IC/MF OG—multi-frequency IC/MF OG
- DTMF IC/DTMF OG—dual-tone MF IC/ DTMF OG
- DP 2W—DP two-way
- MF 2W
- DTMF 2W

Called Party Address in ICM Messages (continued)

The system supports the following incoming lines:

- IBN—integrated business network
- EBS—electronic business set
- BRI—basic-rate interface

The ICM environment receives the CPA in the following ICM messages:

- dv_Call_Offered_U
- dv_Call_Queued_U
- dv_Call_Answered_U
- dv_Call_Received_C

If a call arrives over an unsupported agent, the ICM environment does not receive the dialed digits or the CPA. A blank display appears in the ICM message parameter.

The system ignores the address messages the system receives after the address complete message (ACM). If the CPA arrives in the SAM after the terminating switch sends the ACM, the switch ignores the CPA and SAM.

The CPADIGS parameter supports a maximum of 30 digits.

This feature adds service version SCAI15 to the current list of SCAI service versions. The system accepts the service version at application logon processing time.

To receive messages with the CPADIGS parameter, the following conditions apply:

- The party has enhanced call management (ECM) association.
- The party has a service version of SCAI15.
- The ICM session subscribes to the ACDEVENT category and the CALLQUED function. The CPADIGS parameter in the CALLQUED function is Y.
- The ICM session subscribes to the ACDEVENT category and the CALLOFFR function. The CPADIGS parameter in the CALLOFFR function is Y.

Called Party Address in ICM Messages (continued)

- The ICM session subscribes to the ACDEVENT category and the CALLANSWR function. The CPADIGS parameter in the CALLANSWR function is Y.
- The ICM session subscribes to the ROUTING category and the CALLRECDC function. The CPADIGS parameter in the CALLRECDC function is Y.

For extended networked calls, the host computer subscribes to the Network ICM (NICM) to receive the CPADIGS parameter in the ICM messages. The user also subscribes to the CPADIGS parameter.

This feature is NICM compliant. The NICM functionality carries an additional CPADIGS parameter over ANSI ISUP trunks and NTNA Primary Rate Interface (PRI) trunks. The ICM environment receives the address digits in the CPA parameter.

Translations table flow

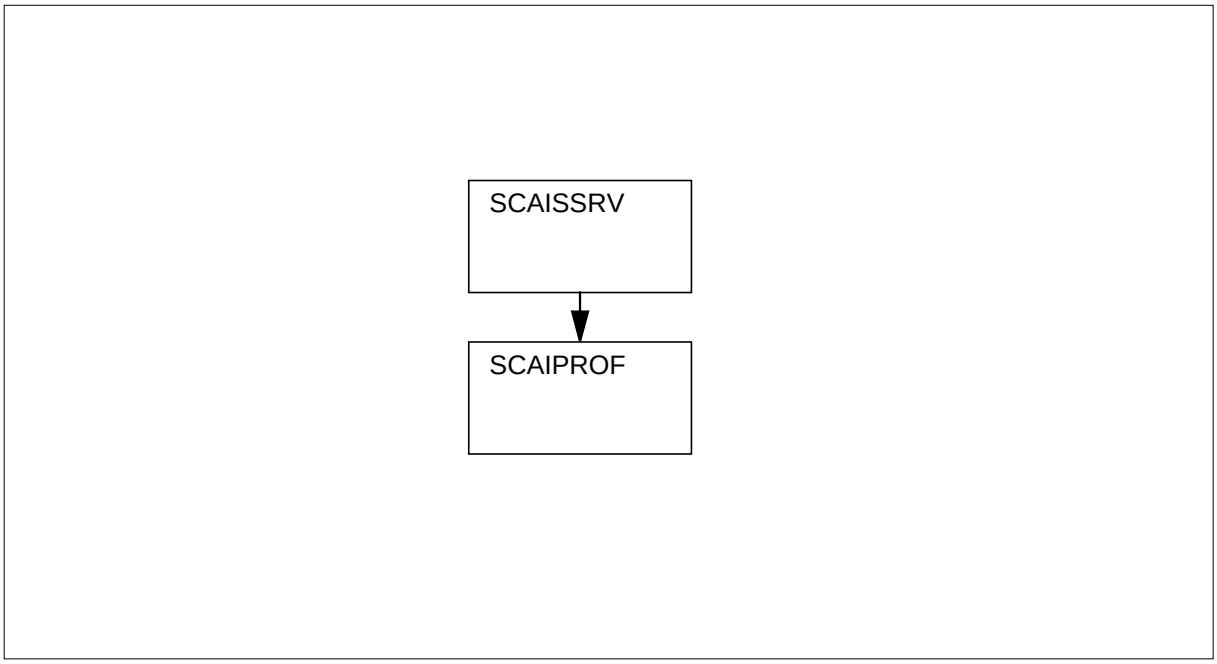
The paragraph that follows includes the Called Party Address in ICM Messages translations table:

Table SCAISSRV acts as a reference table for ICM service categories. This feature adds a parameter and two default tuples to the SCAISSRV table. This feature adds the CPADIGS parameter to the CALLQUED, CALOFFR, and CALLANSWR functions in the ACDEVENT category. The feature adds the CPADIGS parameter to the CALLRECDC function in the ROUTING category. The feature adds the ACDEVENT15$ default tuple to the ACDEVENT category and the ROUTING15$ default tuple to the ROUTING category.

The flowchart that follows provides the Called Party Address in ICM Messages feature translations process.

Called Party Address in ICM Messages (continued)

Table flow for Called Party Address in ICM Messages



The table that follows lists the datafill content used in the flowchart.

Datafill example for Called Party Address in ICM Messages

Datafill table	Example data
SCAISSRV	ACDEVENT15$ ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y) (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y) (CALLREL Y Y Y Y Y Y) (AGTLGDIN Y Y Y) (AGTLGDOUT Y Y) (AGTREADY Y Y) (AGTNREADY Y Y N) (LOBEVENT Y Y Y) (EMKEVENT Y Y Y Y Y Y) (AGTSETACT Y Y N)$ROUTING 15$ ROUTING (CALLRECDC Y Y Y Y Y Y Y Y Y Y Y)(CALLREDIR Y Y Y) $

Limitations and restrictions

The call related data and CPA parameter change if a call extends from a CTI agent to a non-CTI residential enhanced service and Centrex system number (RES/CTX) agent to a CTI agent. The ICM reads these extensions as separate calls. The call related data and the CPA parameter remain static if a call extends from a CTI ACD agent to a non-CTI ACD agent to a CTI ACD agent. All extensions occur on the same switch.

The value of a CPA disappears if a call extends to a switch with a lower version without the CPA functionality. If the call again extends from this switch to a

Called Party Address in ICM Messages (continued)

switch with a higher version with the CPA functionality, the CPA value changes from that of the first leg of the call.

Interactions

The paragraph that follows describes how the Called Party Address in ICM Messages feature interacts with other functionalities.

This feature supports the population of the CPADIGS parameter over NICM. For networked calls, the NICM subscription transports all NICM parameters with the CPADIGS parameter from one switch to another. The transport of NICM and CPADIGS parameters occurs with or without a subscription to the CPADIGS parameter. However, the subscription to the CPADIGS parameter ensures delivery of CPADIGS in ICM messages.

Activation and deactivation by the user

The Called Party Address in ICM Messages feature does not require activation or deactivation by the user.

Billing

The Called Party Address in ICM Messages feature does not generate billing records or changes.

Station Message Detail Recording

The Called Party Address in ICM Messages feature does not require Station Message Detail Recording.

Office parameters used by Called Party Address in ICM Messages

The Called Party Address in ICM Messages feature does not generate office parameters.

Datafill sequence

The table that follows lists the tables that require datafill to put the Called Party Address in ICM Messages feature into operation.

Datafill requirements for Called Party Address in ICM Messages

Table	Purpose of table
SCAISSRV	Switch-Computer Application Interface (SCAI) Subservices (SCAISSRV). This table acts as a reference table for ICM service categories and the messages that go into the categories.

Called Party Address in ICM Messages (continued)

Datafill related to Called Party Address in ICM Messages for table SCAISSRV

The table that follows provides the datafill related to the Called Party Address in ICM Messages feature for the SCAISSRV table. This table includes only those fields that apply directly to the Called Party Address in ICM Messages feature.

Datafill related to table SCAISSRV (Sheet 1 of 3)

Field	Subfield	Entry	Explanation and action
SPROFILE		see subfield	This feature modifies the ACDEVENT and ROUTING categories.
	CATEGORY	ACDEVENT, CALLINIT, CPGEVENT, CTXEVENT, DNQUERY, ICCM, RESEVENT, RESOURCE, ROUTING, SCAI3WC, SCAICC, SCAIMWTI, TPAC, TPCC, TPQC	This selector field allows selection of one of the possible service categories. Refinements are bound in for each service category. The feature adds the CPADIGS parameter in the ACDEVENT and ROUTING categories.
	ACDEVENT	AGTLGDIN, AGTLGDOUT, AGTNREADY, AGTREADY, AGTSETACT, CALLANSWR, CALLOFFR, CALLQUED, CALLREL, EMKEVENT, LOBEVENT	This feature modifies entries CALLQUED, CALLOFFR, and CALLANSWR.

Called Party Address in ICM Messages (continued)

Datafill related to table SCAISSRV (Sheet 2 of 3)

Field	Subfield	Entry	Explanation and action
	CALLQUED	With parameters: ACDDN, ACDGROUP, CALLNGNO, CALLTYPE, CHARGENO, CPADIGS, FWDPARTY, HOSTCALD, NCALLID, ORIGDN, PREVAPPL	If the system sets CPADIGS to Y, the user views CPADIGS in the dv_Call_Queued_U messages.
	CALLOFFR	With parameters: ACDDN, ACDGROUP, CALLNGNO, CALLTYPE, CHARGENO, CPADIGS, DEVICEID, FWDPARTY, HOSTCALD, NCALLID, ORIGDN, PREVAPPL	If the system sets CPADIGS to Y, the user views CPADIGS in the dv_Call_Offered_U messages.
	CALLANSWR	With parameters: ACDDN, ACDGROUP, CALLNGNO, CALLTYPE, CHARGENO, CPADIGS, DEVICEID, FWDPARTY, HOSTCALD, NCALLID, ORIGDN, PREVAPPL	If the system sets CPADIGS to Y, the user views CPADIGS in the dv_Call_Answered_U messages.

Called Party Address in ICM Messages (continued)

Datafill related to table SCAISSRV (Sheet 3 of 3)

Field	Subfield	Entry	Explanation and action
	ROUTING	CALLRECDC, CALLREDIR	This feature modifies entry CALLRECDC.
	CALLRECDC	With parameters: ACDDN, ACDGROUP, CALLNGNO, CALLTYPE, CHARGENO, CPADIGS, FWDPARTY, HOSTCALD, NCALLID, ORIGDN, PREVAPPL	If the system sets CPADIGS to Y, the user views CPADIGS in the dv_Call_Received_C messages.

Datafill example for table SCAISSRV

The figure that follows shows sample datafill for the SCAISSRV table.

MAP example for table SCAISSRV

```
SUBSERV
                                                    SPROFILE
---------------------------------------------------------------
ACDEVENT15$
ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y Y Y) (CALLOFFR Y Y Y
Y Y Y Y Y Y Y Y Y) (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y)
(CALLREL Y Y Y Y Y Y) (AGTLGDIN Y Y Y) (AGTLGDOUT Y Y)
(AGTREADY Y Y) (AGTNREADY Y Y N) (LOBEVENT Y Y Y)
(EMKEVENT Y Y Y Y Y Y) (AGTSETACT Y Y N)$

ROUTING 15$
ROUTING (CALLRECDC Y Y Y Y Y Y Y Y Y Y Y)
(CALLREDIR Y Y Y) $
```

Translation verification tools

The Called Party Address in ICM Messages feature does not use translation verification tools.

Called Party Address in ICM Messages (end)

SERVORD

The Called Party Address in ICM Messages feature does not use the Service Order System (SERVORD).

CompuCALL Transport Enhancements

Ordering codes

Functional group ordering code: ICM00001

Functionality ordering code: does not apply

Release applicability

The NA008 and later versions

CompuCALL Transport Enhancements appeared in NA008.

Requirements

This document includes all the datafill information for this functionality. Complete implementation can require software or hardware.

Description

The CompuCALL application provides a data communications channel, the CompuCALL link, to integrate computer and telephony applications. The CompuCALL Transport Enhancements feature provides a switched computer application interface (SCAI) link. The link is between the switch and the host computer. The CompuCALL Transport Enhancements feature uses a TCP/IP transport protocol through the Ethernet interface unit (EIU) to provide this link. The EIU enables Ethernet physical connectivity between the DMS-100 switch and host computer.

The SCAI link is a signaling interface the DMS-100 provides to the host computer. The information carried across the signaling link allows communication between applications that run in the DMS-100 with applications that run in the host computer. The two-way information flow allows the DMS-100 and host computer to provide enhanced services to an Automatic Call Distribution (ACD) customer.

The TCP/IP SCAI link that this feature provides can replace the MPC X.25 SCAI link.

Operation

The CompuCALL Transport Enhancements enhances CompuCALL in the following areas:

- TCP/IP transport
- table control
- auditing
- operational measurements and logs

CompuCALL Transport Enhancements (continued)

TCP/IP transport

The TCP/IP transport protocol uses the TLI interface to provide connectivity between the DMS-100 and a business computer. The TCP/IP uses a local area network (LAN) and an internet router. The EIU provides LAN connectivity to the DMS-100 switch.

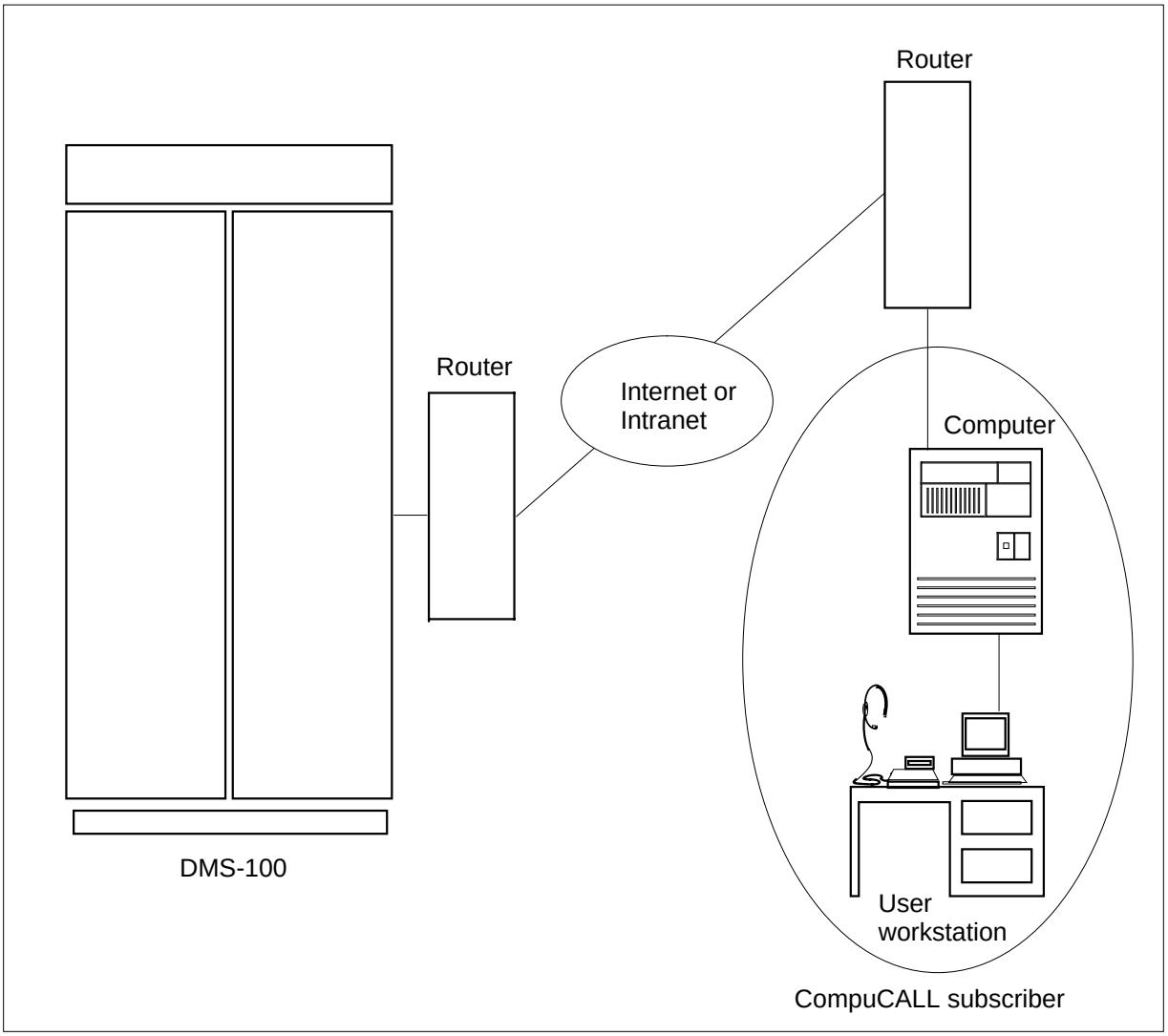
The system sends messages that originate from the business computer across the LAN or wide-area network (WAN) to the DMS-100 switch. The EIU on the DMS-100 switch forwards the messages to the control model (CM) on the switch.

This feature allows three possible configurations.

A possible hardware configuration that uses routers appears in the following figure. The transport flows in the intranet of the operating company and between the operating company and the end-user network through the internet.

CompuCALL Transport Enhancements (continued)

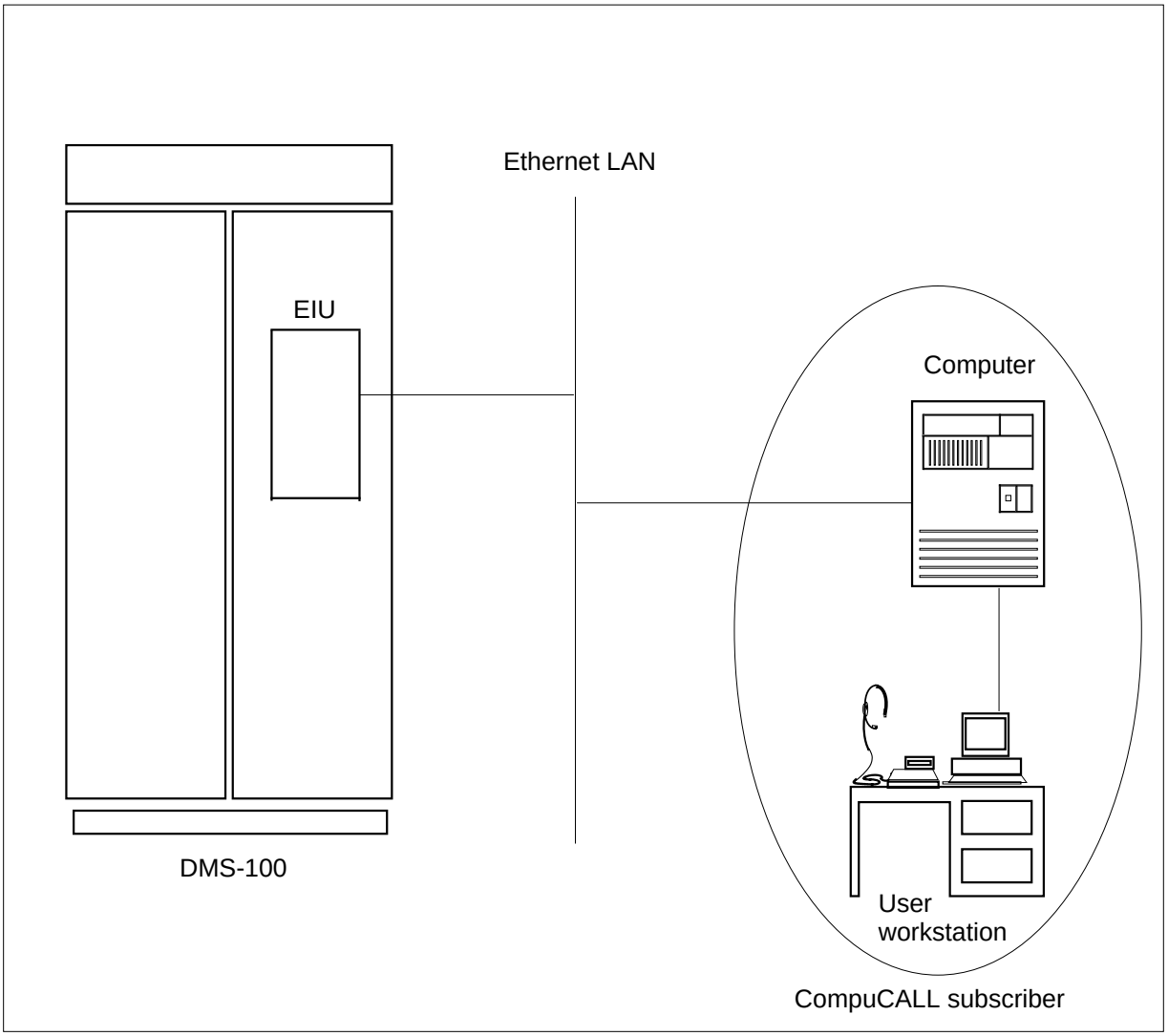
CompuCALL hardware configuration with routers



A possible hardware configuration that uses the Ethernet LAN appears in the following figure.

CompuCALL Transport Enhancements (continued)

CompuCALL hardware configuration using an Ethernet LAN



A possible hardware configuration that uses a dedicated link appears in the following figure.

CompuCALL Transport Enhancements (continued)

CompuCALL hardware configuration with a dedicated link

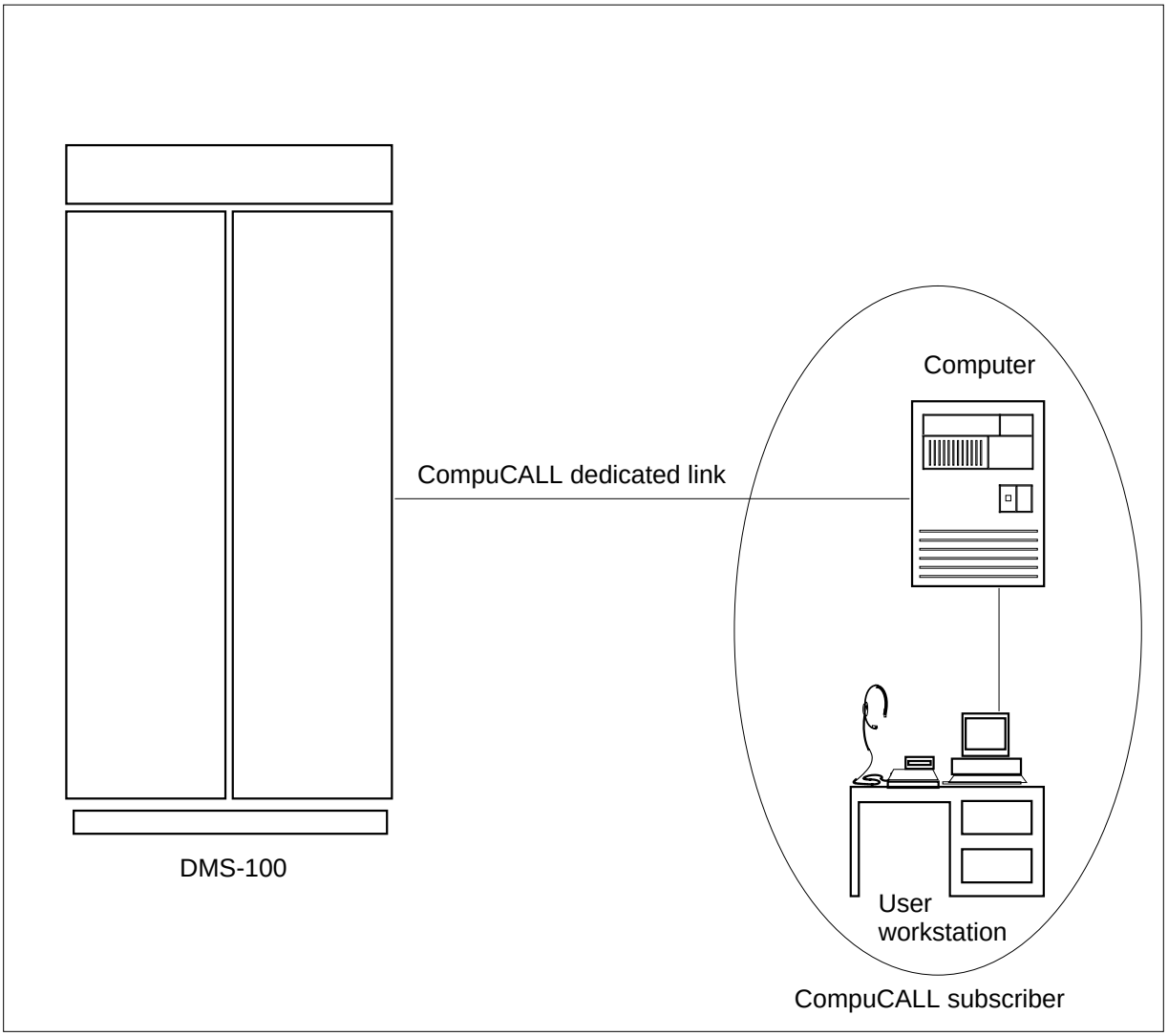


Table control

The CompuCALL Transport Enhancements feature uses table SCAICOMS to define a linkset. Each TCP connection corresponds to a linkset. The linkset name is unique. The transport protocol is TCP/IP, as in this feature, or X.25 does not affect the linkset.

For more information about table control, see “Translations table flow" in this feature description.

CompuCALL Transport Enhancements (continued)

Operational measurements and logs

The CompuCALL Transport Enhancement feature uses the operational measurements (OM) group SEIUTRAN to provide the following:

- total incoming or outgoing messages
- incoming or outgoing work queue attempts

For more information about OM group SEIUTRAN, refer to OM group SEIUTRAN in the *Operational Measurements Reference Manual*.

The CompuCALL Transport Enhancement feature generates the following SCAI logs:

- SCAI100
- SCAI101
- SCAI102
- SCAI200
- SCAI300
- SCAI301
- SCAI302
- SCAI311

For more information about CompuCALL Transport Enhancements logs, refer to the *Log Report Reference Manual*.

Translations table flow

The CompuCALL Transport Enhancements feature does not affect translations table flow.

Limits

The following limits apply to CompuCALL Transport Enhancements:

- The maximum number of TCP/IP connections is 96. A maximum of 96 service nodes and switches connect to a single switch. This condition applies when other applications do not use TCP/IP connections from the computing module (CM).
- The TCP throughout the EIU is low when processing short messages.
- Use of TCP stack on CM poses a real time impact to CM call processing, because of the nature of TCP processing. The TCP requires error

CompuCALL Transport Enhancements (continued)

checking, acknowledgments, and retransmissions of messages when the loss of messages occurs.

- In table SCAICOMS, a linkset can be X.25 or TCP/IP. A linkset cannot be both X.25 and TCP/IP.

Interactions

The following paragraphs describe the interactions between CompuCALL Transport Enhancements and other services that use TCP/IP.

- This feature interacts with SCAI-based applications that use TCP/IP transport protocol
- This feature interacts with SCAI X.25 transport through table control

Activation/deactivation by the end user

CompuCALL Transport Enhancements does not require activation or deactivation by the end user.

Billing

CompuCALL Transport Enhancements does not affect billing.

Station Message Detail Recording

CompuCALL Transport Enhancements does not affect Station Message Detail Recording.

Datafilling office parameters

CompuCALL Transport Enhancements does not affect office parameters.

Datafill sequence

The tables that require datafill to implement CompuCALL Transport Enhancements appear in the following table. The tables appear in the correct entry order.

Datafill table requirements for CompuCALL Transport Enhancements

Table	Purpose of table
SCAICOMS	Table Switch Computer Application Interface Communications defines a linkset. A linkset goes from one or more of the switch MPC/EMPC cards to the customer center computer. A linkset includes a maximum of eight links. A linkset uses a maximum of eight X.25 links or one TCP lin as a transport medium. Table SCAICOMS stores a maximum of 255 X.25 and 16 TCP/IP linksets.

CompuCALL Transport Enhancements (continued)

Datafilling table SCAICOMS

Datafill for CompuCALL Transport Enhancements for Table SCAICOMS appears in the following table. The fields that apply to CompuCALL Transport Enhancements appear in this table. See the data schema section of this document for a description of the other fields.

The operating company uses table SCAICOMS to define the CompuCALL links.

Note: New tuple and key types like IPADDR and scaicoms_tcp_refinement are added to the data dictionary.

Datafilling table SCAICOMS

Field	Subfield or refinement	Entry	Explanation and action
LINKSET			Link set. Enter the link set name.
	LNKSEL	TCP	Link set selector. For the CompuCALL Transport Enhancements feature, enter TCP and see subfield IPADDR.
	IPADDR	0 to 9	I/P address. If LNKSEL = TCP, enter the subscriber I/P address; for example, ### ### ### ###, where # is a digit that ranges from 0 to 9 and a space is entered after every 3 digits. Note that if you enter X25 as the link set selector (LNKSEL), then the datafill for the entry appears (DEVICE, MPCNO, LINK, REMDNA, PROTOCOL, LINKTYPE).

Datafill example for table SCAICOMS

Sample datafill for table SCAICOMS appears in the following example.

MAP example for table SCAICOMS

```
   LINKSET
                                   LNKSEL                IPADDR

---------------------------------------------------------------------

TCP_LINKSET1                        TCP            192 136 143 192
```

CompuCALL Transport Enhancements (end)

Tools for verifying translations

CompuCALL Transport Enhancements does not use tools for verifying translations.

SERVORD

CompuCALL Transport Enhancements does not use SERVORD.

ICM ACD DN Association Limit

Ordering codes

Functional group ordering code: ICM00001

Functionality ordering code: ICM00003

Release applicability

NA013 and up

NA013 introduced the ICM ACD DN Association Limit feature.

Requirements

The ICM ACD DN Association Limit feature has no functional group requirements.

Description

This feature provides an enhanced automatic call distribution directory number (ACD DN) association limit as a range of values from 1 to 100. This range allows the operating company to provision the number of ACD DNs in the user session by studying the set up of the customer call center. The increase in the ACD DN association limit allows the call center to control more ACD groups in a single session.

When the host associates more ACD DNs than the subscribed number, the host receives a return error message with error reason MAX_NO_OF_LINES_ASSOCIATED.

Operation

This feature increases the maximum number of ACD DNs for an Intelligent Call Management (ICM) session from 20 to 100.

An increase in the ACD DN association count for each session increases the number of agents associated with that session. The number of calls in the session change depending on the number of ICM calls arriving at the network operating switch. The number of calls increases the number of messages on the link. The increase in messages can exceed the link capacity and result in low performance.

The number of computer telephony integration (CTI) agents associated through ACD DN association, agent association, and Centrex DN association in a session must be within the capacity calculations limit. Call centers having a smaller number of agents for each ACD group can connect more ACD DNs for each session and be within the CTI agent limit.

ICM ACD DN Association Limit (continued)

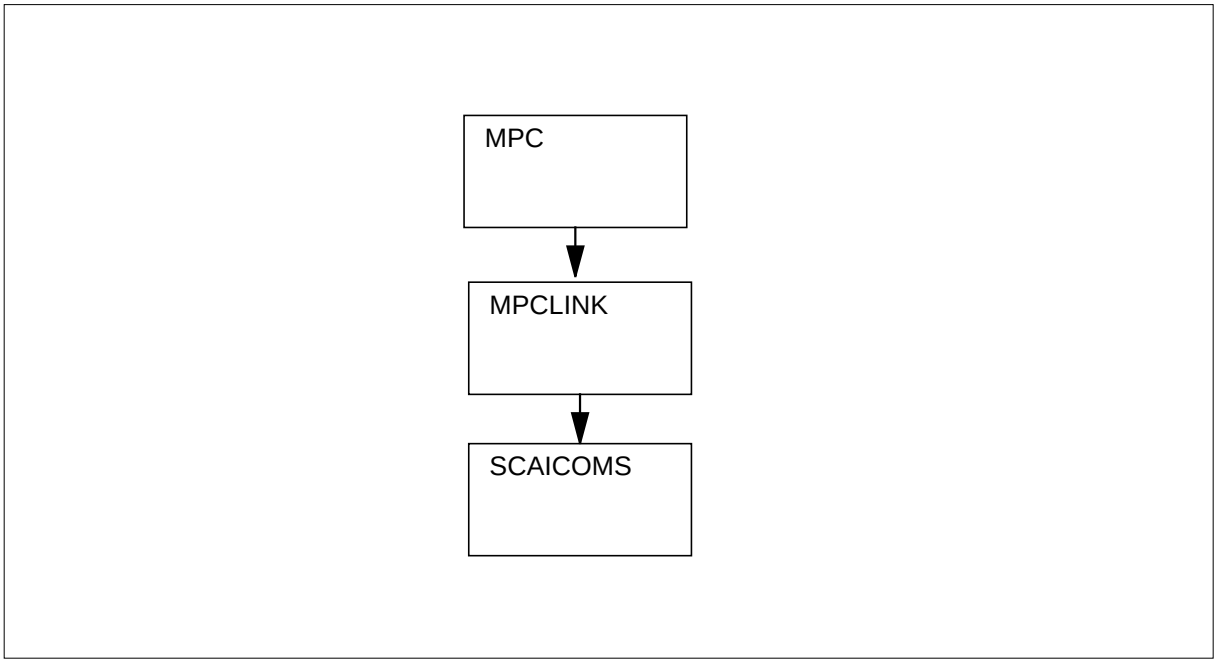
This feature requires subscription through the ENHASSOC (enhanced association) option in the SCAICOMS table. If the operating company adds the ENHASSOC option to a linkset, the system prompts the NUMACDDN (number of ACD DNs) parameter for a number value. The number value ranges from 1 to 100. If a user provisions the ENHASSOC option and the NUMACDDN parameter, the user can associate up to the maximum number of ACD DNs in the NUMACDDN parameter.

Translations table flow

The SCAICOMS table contains the linksets and options for each linkset. This feature adds the ENHASSOC parameter to the OPTIONS field of the SCAICOMS table. The ENHASSOC parameter contains the NUMACDDN subfield.

The flowchart that follows provides the ICM ACD DN Association Limit feature translations process for X.25 transport.

Table flow for ICM ACD DN Association Limit



The table that follows lists the datafill content used in the flowchart.

Datafill example for ICM ACD DN Association Limit

Datafill table	Example data
SCAICOMS	X251 X25 (MPC (0 3 000000000000000 9 9 9 9 SVC) $)$ MN CR (ENHASSOC 50) $

Limitations and restrictions

An increase in the number of ACD DNs associated with a session increases the number of agents associated with that session. The number of calls the session handles can change depending on the ICM calls arriving at the operating company switch. If the number of calls increase, then the number of messages the system sends to the link increases. The increase in messages can exceed the link capacity and result in low performance.

Interactions

The ICM ACD DN Association Limit feature does not interact with other functionalities.

Activation and deactivation by the user

The ICM ACD DN Association Limit feature does not require activation or deactivation by the user.

Station Message Detail Recording

The ICM ACD DN Association Limit feature does not require Station Message Detail Recording.

Office parameters used by ICM ACD DN Association Limit

The ICM ACD DN Association Limit feature does not generate office parameters.

Datafill sequence

The table that follows lists the table that requires datafill to put the ICM ACD DN Association Limit feature into operation.

Datafill requirements for ICM ACD DN Association Limit

Table	Purpose of table
SCAICOMS	Switch Computer Application Interface (SCAI) Communications (COMS). This table contains the linksets and options for each linkset.

ICM ACD DN Association Limit (continued)

Datafill related to ICM ACD DN Association Limit for table SCAICOMS

The table that follows provides the datafill related to the ICM ACD DN Association Limit feature for the SCAICOMS table. This table includes only those fields that apply directly to the ICM ACD DN Association Limit feature.

Datafill related to table SCAICOMS

Field	Subfield	Entry	Explanation and action
OPTIONS		selector	Options.
	ENHASSOC	see subfield	Enhanced association. This parameter allows subscription to the ICM ACD DN Association Limit feature.
	NUMACDDN	1–100	Number of automatic call distribution directory numbers. The operating company chooses a value for the NUMACDDN parameter. If the user provisions the ENHASSOC option and the NUMACDDN parameter, the user can associate up to the maximum value for the NUMACDDN parameter.

Datafill example for table SCAICOMS

The figures that follow show sample datafill for the SCAICOMS table.

MAP example for table SCAICOMS

```
LINKSET  SCAILNKS  OPTIONS

----------------------------------------------------------------------
TCP1 TCP 192 136 141 205 N (ENHASSOC 50) $
```

MAP example for table SCAICOMS with an X.25 tuple

```
LINKSET  SCAILNKS  OPTIONS

----------------------------------------------------------------------
X251 X25 (MPC ( 0 3 000000000000000 9 9 9 9 SVC) $)$ MN CR
(ENHASSOC 50) $
```

Translation verification tools

The ICM ACD DN Association Limit feature does not use translation verification tools.

ICM ACD DN Association Limit (end)

SERVORD

The ICM ACD DN Association Limit feature does not use the Service Order System (SERVORD).

6 Datafilling ICM Call Center

The following chapter describes the ICM Call Center, ICM00010, functionality.

ICM Logon Enhancements and Reengineering

Ordering codes

Functional group ordering code: ICM00001

Functionality ordering code: ICM00001

Release applicability

NA015 and up

The NA015 introduces the ICM Logon Enhancements and Reengineering.

Requirements

The ICM Logon Enhancements and Reengineering feature has no functional group requirements.

Description

The ICM Logon Enhancements and Reengineering creates a DV_APPL_LOGON message with an optional hard reset parameter to generate log report SCAI102. This feature also includes reengineering of the LOGON, LOGOFF, and ABORT messages for X.25 and transmission control protocol/Internet protocol (TCP/IP) links to a single process rather than a multiple process. This action minimizes corruption and race conditions. The modified RETURN_RESULT in the DV_APPL_LOGON message indicates that the session terminates when a RESTART/SWACT occurs.

Operation

DV_APPL_LOGON message enhancement

The DV_APPL_LOGON message enhancements for X.25 and TCP/IP links provide the following HARD_RESET parameters:

- If the switch detects a corrupt switched virtual circuit (SVC) in a session, the session ID and session resources release. A SCAI102 log generates with the reason HARDRESET_SESS_CLEAR.
- If the corrupt SVC detected is one of multiple SVCs in a session, the switch clears only the session data of the corrupt SVC from the session. The switch does not release the session id, and all session associations remain intact. The SCAI102 log report does not generate. These actions occur when the corruption is found in the session currently being logged onto or in another session other than the one being logged onto.

  Note: If the one corrupt SVC link is the only link in the session being logged onto, the session ID does not release, but session associations release.

ICM Logon Enhancements and Reengineering (continued)

When the host application sends a DV_APPL_LOGON message with the HARD_RESET parameter set to T for TCP links, the session ID and session associations release. Both the valid transport (if found) and the corrupt data session clears. The SCAI102 log report generates with the reason HARDRESET_SESS_CLEAR.

Note: If corrupt transports are detected in both an X.25 and TCP sessions, the SCAI102 log report generates with the reason HARDRESET_TRANS_CLEAR. In both scenarios, the transport data is cleared.

Reengineering of the Logon, Logoff, and Abort messages

The reengineering of the LOGON, LOGOFF and ABORT messages for the X.25 and the TCP/IP sessions move the processing of the DV_APPL_LOGON, DV_APPL_LOGOFF, and DEACTIVATED/DISCONNECT messages from multiple processes to a single process. A message does not process, until the previously sent LOGON, LOGOFF, or ABORT messages process and all data structures update. This action minimizes race conditions and corruption.

Return_Result of the DV_APPL_LOGON message

The RETURN_RESULT of the DV_APPL_LOGON message sent from the switch to the remote host application server has the additional parameter DNASSOC. This parameter indicates that DNs associated with a session need to be reestablished. The DNASSOC displays in the RETURN_RESULT of a DV_APPL_LOGON message if the following conditions apply:

- The session terminates due to a RESTART (whether WARM, COLD or RELOAD) or a SWACT that occurs on the switch.
- Option DNASSOC is set to 1 in Table SCAICOMS.
- The logon is the first logon to a session after a RESTART/SWACT occurrence.
- The DV_APPL_LOGON message has the HARD_RESET parameter set to T.

Note 1: If logging on to other links in a multilink session, the RETURN_RESULT message does not contain the parameter DNASSOC.

Note 2: The Switch/Computer Application Interface (SCAI) sends a DV_APPL_LOGON message with the DNASSOC parameter set to 1 to the DMS switch. The switch sends a RETURN-RESULT only if the host application sends a modified DV_APPL_LOGON message for the first link of a session taken down due to a RESTART/SWACT.

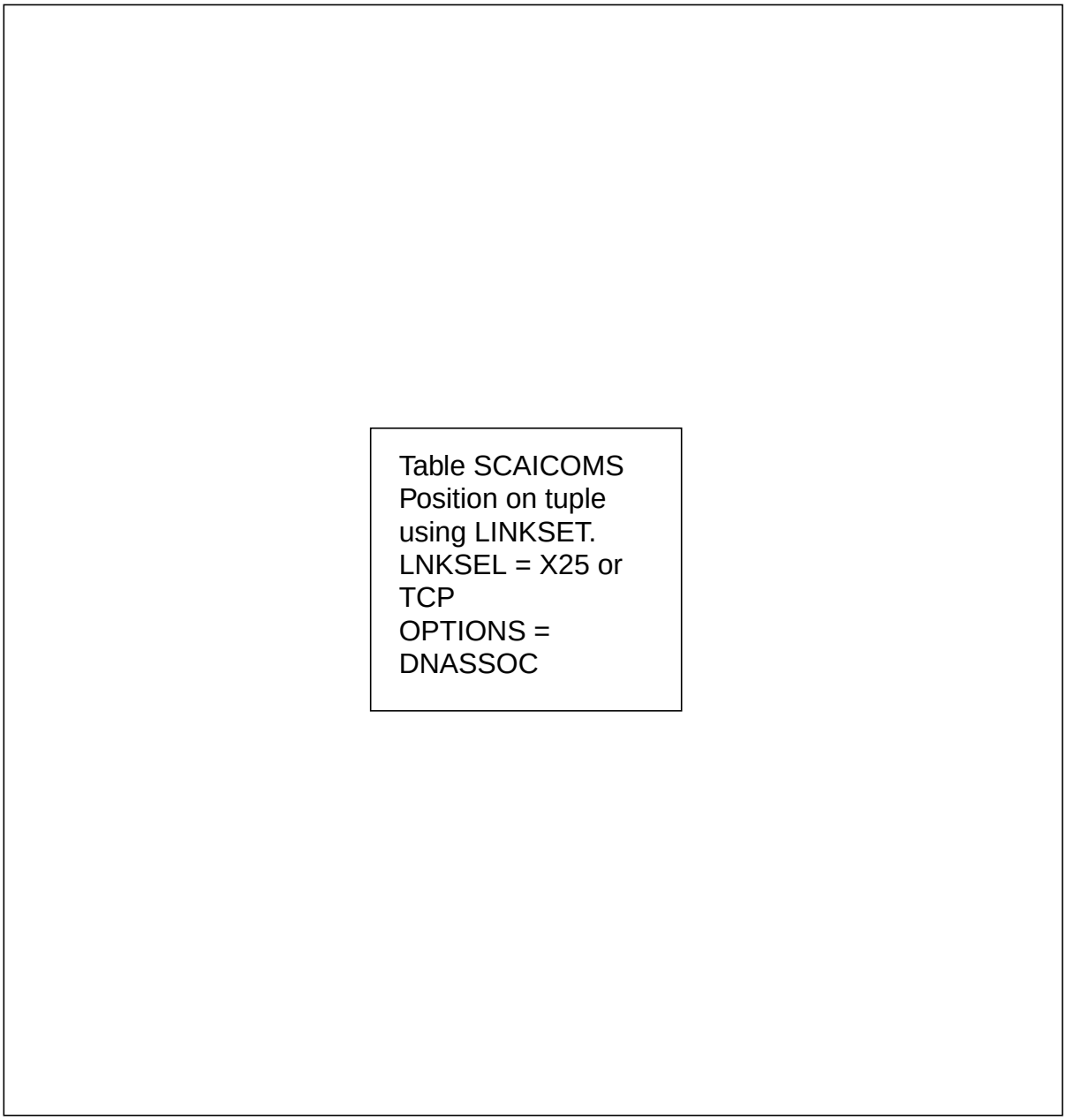
ICM Logon Enhancements and Reengineering (continued)

Translations table flow

The ICM Logon Enhancements and Reengineering translations tables includes Table SCAICOMS which defines the linkset.

The flowchart that follows provides the ICM Logon Enhancements and Reengineering translations process.

Table flow for ICM Logon Enhancements and Reengineering



ICM Logon Enhancements and Reengineering (continued)

The table that follows lists the datafill content used in the flowchart.

Datafill example for ICM Logon Enhancements and Reengineering

Datafill table	Example data
SCAICOMS	TCP1 TCP 192 136 141 205 N (DNASSOC) $

Limitations and restrictions

The following limitations and restrictions apply to the ICM Logon Enhancements and Reengineering feature:

- Use a modified DV_APPL_LOGON message with the HARD_RESET parameter when a normal DV_APPL_LOGON message without the HARD_RESET parameter fails. Do not use the HARD_RESET parameter for an initial logon.
- The SCAI102 log report only generates with the reason HARDRESET_SESS_CLEAR when a corrupt session takedown occurs because a DV_APPL_LOGON has been sent with the HARD_RESET parameter set to T.
- The SCAI102 log report only generates with the reason HARDRESET_TRANS_CLEAR when a corrupt transport occurs because a DV_APPL_LOGON has been sent with the HARD_RESET parameter set to T.
- Use a modified DV_APPL_LOGON message ONLY when the corruption of the SCAI data structures prevents a legitimate DV_APPL_LOGON from succeeding.
- Send a modified DV_APPL_LOGON message with the HARD_RESET parameter set to T in an X.25 session with multiple SVCs, over each SVC link separately.
- Send a DV_APPL_LOGON message with the HARD_RESET parameter set to T, so allocated session resources to the link clear. The session does not terminate and the DNs associated to a session remain unaffected.
- The modified DV_APPL_LOGON message sent over a healthy session uses the queue it has been sent as the ultimate reference. All messages are tossed. If the host application sends a DV_APPL_LOGON message over a healthy and established session, this action causes the loss of messages and the delay of processing subsequent messages for that link.
- The processing of the DV_APPL_LOGON message with the hard reset set to T takes a substantially longer period of time. Send all messages subsequent to the modified DV_APPL_LOGON message only after the host application receives the return result. The switch sends the

ICM Logon Enhancements and Reengineering (continued)

RETURN_RESULT parameter to indicate that the corrupt session has cleared and that a new session has established.

- The HARD_RESET parameter set to T in the DV_APPL_LOGON message causes a check to run on all active SCAI sessions on the DMS-100 switch. This action clears any corrupt session resources. The use of the modified DV_APPL_LOGON message can affect any of the sessions.

Interactions

The paragraphs that follow describe how ICM Logon Enhancements and Reengineering feature interacts with the hard reset functionality.

If the SCAI application sends a DV_APPL_LOGON message with the HARD_RESET parameter set to T to establish a session after the switch completes a RESTART/SWACT, the RETURN_RESULT sent in response contains the parameter DNASSOC set to 1.

If the SCAI application accidentally sends a DV_APPL_LOGON message with the HARD_RESET parameter set to T over the same link twice, the existing session clears and new resources are allocated. The RETURN_RESULT does not contain the parameter DNASSOC set to 1.

Activation and deactivation by the end user

The ICM Logon Enhancements and Reengineering feature does not require activation or deactivation by the end user.

Billing

The ICM Logon Enhancements and Reengineering feature does not generate billing records or changes.

Station Message Detail Recording

The ICM Logon Enhancements and Reengineering feature does not require Station Message Detail Recording.

Office parameters used by ICM Logon Enhancements and Reengineering

The ICM Logon Enhancements and Reengineering feature does not generate office parameters.

ICM Logon Enhancements and Reengineering (continued)

Datafill sequence

The table that follows lists the tables that require datafill to put ICM Logon Enhancements and Reengineering feature into operation. You must enter data into the table in this order.

Datafill requirements for ICM Logon Enhancements and Reengineering

Table	Purpose of table
SCAICOMS	Switch Computer Application Interface defines a linkset for use by a SCAI group. Set option DNASSOC to 1.

Datafill related to ICM Logon Enhancements and Reengineering for Table SCAICOMS

The table that follows provides the datafill related to the ICM Logon Enhancements and Reengineering feature for Table SCAICOMS. This table includes only those fields that apply directly to the ICM Logon Enhancements and Reengineering feature.

Datafill related to Table SCAICOMS

Field	Subfield	Entry	Explanation and action
LINKSET		alphanumeric up to 16 characters	Linkset name. Enter the name of the link set.
LNKSEL		X.25, TCP	Explanation and action
SCAILINKS		see subfield	SCAI links. This field contains subfield LINKSEL.
OPTIONS		see subfield	Options. This field identifies the option name.
	DNASSOC	DNASSOC	Directory number status. This option indicates that the directory number (DN) needs to be reassociated due to a RESTART/SWART occurring on the switch.

Datafill example for Table SCAICOMS

The figure that follows shows sample datafill for Table SCAICOMS.

ICM Logon Enhancements and Reengineering (end)

MAP example for Table SCAICOMS

```
LINKSET SCAILINKS OPTIONS
_____________________________________________
TCP1 TCP 192 136 141 205 N (DNASSOC) $
X251 X25 (MPC ( 0 3 00000000000000000 9 9 9 9 SVC) $)$ MN
CR (DNASSOC) $
```

Translations verification tools

The ICM Logon Enhancements and Reengineering feature does not use translations verification tools.

SERVORD

The ICM Logon Enhancements and Reengineering feature does not use the Service Order System (SERVORD).

7 Datafilling ICM Network ICM

The following chapter describes the ICM Network ICM, ICM00013, functionality.

CompuCALL Integration with ICCM

Ordering codes

Functional group ordering code: ICM00010

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

CompuCALL Integration with ICCM was introduced in NA008.

ICM CDN Display and Threshold Route Enhancements was introduced in NA015.

Requirements

This document includes all the datafill information for this functionality. Complete implementation can require software or hardware.

Description

The CompuCALL Integration with the Integrated Call Center Manager (ICCM) feature enhances CompuCALL services to automatic call distribution (ACD) customers through DMS integration with Integrated Call Center Manager (ICCM).

This feature provides

- CompuCALL messages to allow the host computer to specify treatments and announcements to calls in a queue
- CompuCALL messages to route calls held in a queue
- mechanisms to communicate with the ICCM applications using basic required principles of ICCM
- switch-host connectivity through Ethernet

Note: This feature allows the time necessary for the host computer to specify treatments and route calls held in a queue. The CompuCALL Basic ICCM Functionality-Call Treatments (AU2441) feature applies treatments and announcements to the calls. The CompuCALL Basic ICCM Functionality-Selective Queueing (AU2341) feature routes the calls.

CompuCALL Integration with ICCM (continued)

The ICM CDN Display and Threshold Route Enhancements remove restrictions and allows ACD agents to display the name and directory number (DN) of the calling party. This feature applies under the following conditions:

- The call routes from a controlled directory number (CDN) incoming call queue.
- The agent's ACD group sets the option ACDDISP (automatic call distribution display.)

This feature also includes a threshold route (THROUTE) enhancement. Option THROUTE activates under the following conditions:

- an ACD group with option CDN in a controlled state
- a full incoming queue
- Option CDN_THROUTE set to Y in Table ACDGRP

> ***Note:*** An ACD group with subfield option CDN activates option THROUTE by setting subfield CDN_THROUTE as Y.

Operation

For NA0015 and up, the ICM CDN Display and Threshold Route Enhancements feature affects the following areas:

- controlled directory numbers (CDN)
- Automatic Call Distribution (ACD) agent activities

The CompuCALL Integration with ICCM feature affects the following areas:

- session management
- controlled directory numbers (CDN)
- Automatic Call Distribution (ACD) agent activities
- session maintenance
- message subscription
- operational measurements

CompuCALL Integration with ICCM (continued)

Session management

CompuCALL uses the following remote operation (RO) messages to establish, initialize, and terminate the application-to-application level session between the host computer and the switch:

- dv-Appl-Logon

  The host computer sends the dv-Appl-Logon message to establish the application-to-application level session. In an established session, the host can send any other CompuCALL messages.

- dv-DN-Associate

  The host computer sends the dv-DN-Associate message to the switch to indicate the DNs to acquire, or associate, for the current session. The host uses the dv-DN-Associate message to specify from which line the host can receive the incoming call event messages. With the CompuCALL Integration with ICCM feature, the dv-DN-Associate message can identify an ACD position ID.

  Each DN can be associated with only one CompuCALL session at any time.

- dv-Appl-Logoff

  The host computer terminates the application-to-application level session with the switch using the dv-Appl-Logoff message.

DN association validations

In addition to validations provided by other CompuCALL features, this feature verifies that when an ACD agent is associated to a session, the ACD group agent is not already associated. This feature verifies that when an ACD group is associated to a session, an individual ACD agent is not already associated.

DN association parameters

This feature affects ACD agent and CDN association:

- ACD agent association

  An ACD agent position ID can be associated if option AGTASSN is assigned to the ACD group agent in table ACDGRP.

  If the ACD agent position ID is associated, call events for the ACD agent are sent to the host. The number of ACD agent positions that can associate with a single ACD group is 1024. The dv-DN-Associate message allows a maximum of 2048 agents to associate in a session.

  If the host computer sends a dv-DN-Associate message to the switch with an ACD agent position ID and DELETE in the operation parameter, the

following occurs. The switch no longer sends call events for the ACD agents to the host.

- CDN association

  To associate a CDN, option CDN is present in table ACDGRP. After the host computer sends a dv-DN-Associate message to add a CDN, the state of the CDN is DEFAULT.

  This feature uses the dv-Set-CDN-State message to change the state of the CDN to CONTROLLED, REVERT TO DEFAULT, or DEFAULT.

  After the host computer sends a dv-DN-Associate message to delete a CDN, the switch no longer sends call event messages concerning the CDN. The state of the CDN changes to REVERT TO DEFAULT.

Dv-Log-Off functionality

The host computer terminates the application-to-application level session with the switch using the dv-Appl-Logoff message.

After the host computer sends the dv-Appl-Logoff message, the DNs are no longer associated in the session. Call event messages are no longer sent to the switch. The session is terminated, and the state of the CDNs changes to REVERT TO DEFAULT.

The DNs are no longer associated with a session that is interrupted unexpectedly. The state of the CDNs change to REVERT TO DEFAULT and the application logs off.

Controlled directory numbers (CDN)

The CompuCALL Integration with ICCM feature uses the concept of CDNs to allow the host computer to specify treatments and announcements to calls in a CDN queue. CDNs are logical entities that hold calls waiting to be routed. A dialable number identifies the CDNs.

Using the base ACD as a model, view a CDN as an ACD DN with the following characteristics:

- Under normal conditions, the switch does not control the overflow or routing for a CDN ACDGRP. The host computer (or ICCM) handles calls in the CDN.
- No agents or supervisors associate with a CDN. Table KSETLINE and table IBNLINES can define agents for the ACDGRP of the CDN, but the datafill does not take affect.
- Subgroups are not assigned to a CDN. Table ACDGRP can define a subgroup, but the datafill does not take affect.

CompuCALL Integration with ICCM (continued)

- Table NACDGRP can designate A CDN ACDGRP as a networked ACD group, but the datafill does not take affect.
- The fields in table ACDGRP like ACD Ring Threshold, Priority Promotion, and Forced Night Service do not apply to an ACDGRP with option CDN.
- A CDN does not have the following call queues: Overflow in Queue, Overflow Out of Queue, or Call Transfer Queue.
- A CDN has a default ACD group, which is datafilled in the switch. Table ACDGRP contains the datafill for the default ACD DN.
- The CDN can have the following states, which the ICCM or the switch can set:
  - DEFAULT

    In the DEFAULT state, incoming calls are routed to the default ACD group.
  - CONTROLLED

    In the CONTROLLED state, the host computer handles incoming calls.
  - REVERT TO DEFAULT

    In the REVERT TO DEFAULT state, all incoming calls and the existing calls in the CDN queues route to the default ACD group.
- To apply RAN or MUSIC to a CDN through the ICCM, option AUDIO enter data in table ACDGRP.
- The current limit of the number of calls on a CDN queue is 512.

The host computer can route calls to any addressable local or external party, including agent positions, ACD DNs, and other CDNs.

Possible call treatments that the host computer can apply to calls in a queue include:

- music
- RAN
- silence
- ringback
- fast busy
- busy
- disconnect

CompuCALL Integration with ICCM (continued)

For each incoming call to a CDN, the switch sends the dv-Call-Queued-U message to the host computer. The message is to inform the host computer about the arrival of the call arrival. The CDN is now in the CONTROLLED state.

The switch allows a delay for the ICCM to respond to the new call message. The switch now starts a timer and waits for the routing instructions from the host computer.

The caller hears silence during this time.

If the time expires on the timer before the switch receives a response, the switch routes the call to a default ACD group. The switch defines the default ACD group for the CDN on the switch. If the host computer does not respond in the time allowed, the switch sends a dv-Call-Released message to the host computer. The default ACD group services the call.

Note: Enter the delay that the switch allows in table ACDGRP. Table ACDGRP defines the delay as RESPTM.

The switch handles the call according to the response of the host computer. Once the host computer routes the call and the terminating party answers, the host computer no longer controls the originating party.

Datafill for CDNs

Table ACDGRP defines the configuration and options associated with an ACD group. Enter option CDN in Table ACDGRP to indicate a controlled DN that holds incoming calls. The host computer routes the incoming calls. Enter the default ACD group as a subfield of option CDN.

When the CDN is in the CONTROLLED state, the switch does not control the audio, overflow, or routing for a CDN ACDGRP. The host computer (ICCM) handles calls in the CDN.

The ICM CDN Display and Threshold Route Enhancements feature allows ACD groups with option CDN to obtain threshold routing. The host computer activates threshold routing (THROUTE) when

- a client sets subfield option CDN_THROUTE to Y in Table ACDGRP
- the CDN is in a controlled state
- the CDN has a full incoming call queue

CompuCALL Integration with ICCM (continued)

The CDN must be in a controlled state and the call queue full before threshold routing (THROUTE) activates. Otherwise, the incoming call routes to the default ACD group in subfield DEFAULTGRP.

Also, the ICM CDN Display and Threshold Route Enhancements feature removes restrictions and allows ACD agents to display the name and dialing DN of the called party. This feature applies under the following conditions:

- the calls route from a CDN incoming call queue
- the agent's ACD group sets option ACDDISP

The following ACD fields are not functional in an ACDGRP with option CDN:

- Ring Threshold
- Priority Promotion
- Forced Night Service

The following table shows the fields in table ACDGRP and if they apply for a CDN. Enter the fields that are not allowed for a CDN ACDGRP in table ACDGRP. These fields are not used.

(Sheet 1 of 2)

ACDGRP field name	Description	Valid for a CDN ACDGRP?
CUSTGRP	the customer group of the ACDDN	Y
ACDRNGTH	any valid entry; for example, 0	N
THROUTE	any valid route; for example OFRT 1	Y
NSROUTE	any valid route; for example OFRT 1	N
PRIOPRO	0	N
DBG	N	N
MAXCQSIZ	0-511 CDN queue size	Y
MAXWAIT	0	N
ACDMIS	N	Y

CompuCALL Integration with ICCM (continued)

(Sheet 2 of 2)

ACDGRP field name	Description	Valid for a CDN ACDGRP?
MSQS	N	N
DISTRING	None	N
OBSWTONE	N	N
FRCNGTSV	N	N

The following table shows all the options in table ACDGRP and if the options are CDN compatible.

(Sheet 1 of 2)

ACDGRP option name	Compatible with CDN?
AUDIO	Y
AGTASSN	N
NARS	N
MAXCQLMT	N
ACDPSAP	N
SCAIRDIR	N
OVFLINQ	N
RMDELOFL	N
ACDDISP	Y
MGTRPT	N
ACDADMIN	N
QSL	N
NRONSDN	N
ACDCPD	N
ORGANN	N
FORCING	N

CompuCALL Integration with ICCM (continued)

(Sheet 2 of 2)

ACDGRP option name	Compatible with CDN?
VARWRAP	N
TIMECXR	N
NONIMCUT	N
ACDXFER	N
OBSREST	N
3OVNS	N
QTOMSB	N

Table ACDRTE defines the enhanced overflow routes that a group can take. Table ACDRTE defines the treatments that ACD groups use. The routes for an ACD group that table ACDRTE defines are not applied for calls in the CDN.

Set CDN state validations

The CompuCALL Integration with ICCM feature uses the dv-Set-CDN-State message. The message allows the host computer to change the state of a CDN.

All CDNs start in the DEFAULT state. The host computer must send a dv-Set-CDN-State message to change the state of a CDN to CONTROLLED.

> ***Note:*** Associating the CDN to the session is not required before the dv-Set-CDN-State message is sent.

ACD agent activities

The CompuCALL Integration with ICCM allows an ACD agent position or an entire ACD group to associate to a session. When the ACD agent position is associated, call event messages are reported for the ACD agent. When an ACD group is associated, call event messages are reported for all ACD agents in the ACD group.

This feature verifies that when an ACD agent is associated to a session, the following occurs. The ACD group of an agent is not already associated. This feature verifies that when an ACD group is associated to a session, an individual ACD agent is not already associated.

CompuCALL Integration with ICCM (continued)

The following call event messages can be sent to the host computer after associating an ACD agent or group:

- dv-Call-Offered-U

  The switch sends this message to the host computer when an incoming call is offered to an associated DN.

- dv-Call-Answered-U

  The switch sends this message to the host computer when the terminating party answers an incoming call.

- dv-Call-Released-U

  The switch sends this message to the host computer when either party involved in an outgoing or incoming call releases the call by either going on-hook or pressing the Release key.

- dv-Agent-Ready-U

  The switch sends this message to the host computer to inform the host computer that the ACD agent position is in a Ready state and is available to receive incoming ACD calls.

- dv-Agent-Not-Ready-U

  The switch sends this message to the host computer to inform the host computer that an ACD agent has gone into a Not Ready state and is not available to receive incoming ACD calls.

- dv-Agent-Logged-In-U

  The switch sends this message to the host computer when an ACD agent has correctly completed the log in procedure.

- dv-Agent-Logged-Out-U

  The switch sends this message to the host computer to notify the host that an ACD agent has logged out of the ACD agent position.

- dv-Call-Conferenced-U

  The switch sends this message to the host computer when a call controller conferences a consulted party with the call originator.

- dv-Call-Consult-Orig-U

  The switch sends this message to the host computer. The switch sends this message when a call controller activates a consult call to a third party and all digits have been collected.

- dv-Call-Transferred-U

CompuCALL Integration with ICCM (continued)

The switch sends this message to the host computer for the consult party when the call controller transfers an active call and if the controller is in the same switch.

- dv-Call-Unheld-U

  The switch sends this message to the host computer after the following occurs. The dv-Hold-Call message is successfully invoked and the user releases the call by pressing the DN key or flashing the 500/2500 set.

Session maintenance

Once a session is established between the host computer and the switch, the host computer can verify the logical connection. The host computer uses the the dv-Appl-Continuity-Test message. The frequency of this message is a customer-defined parameter in the host computer.

The switch operator can send this message from the switch to the host computer to verify the connection and re-sync the switch. The switch operator can initiate this message manually by a switch operator or initiated regularly on an automatic basis. The interval at which the automatic test is performed is entered on a per switch basis. The interval has a range of 0 to 720 min. A setting of 0 indicates that there is no test scheduled. The range is set in parameter SCAI_CONTINUITY_AUDIT_INTERVAL in table OFCVAR.

If the switch initiates the test automatically, the following procedure occurs when the switch sends the dv-Appl-Continuity-Test message to the host computer:

- If the switch receives a RETURN-RESULT positive acknowledgement within 10 s, the test is terminated and no further action occurs.
- If the switch receives a REJECT message or does not receive any response within 10 s, the following occurs. The switch sends another dv-Appl-Continuity-Test message to the host computer and the following occurs:
  - — If the switch receives a RETURN-RESULT positive acknowledgement in 10 s in response to the second dv-Appl-Continuity-Test message, the test is terminated and no further action occurs.
  - — If the switch receives a REJECT message or does not receive any response in 10 s to the second dv-Appl-Continuity-Test message, the switch sends a third dv-Appl-Continuity-Test message. If the switch sends five dv-Appl-Continuity-Test messages without receiving a RETURN-RESULT positive acknowledgement or a REJECT response, the test is terminated and a test failed indication is logged. At this point, no messages are sent on the link, and the state of the CDNs is set to REVERT TO DEFAULT. All of the DNs, including ACD agent

CompuCALL Integration with ICCM (continued)

position ID, ACD group, MDC, and Residential Enhanced Services (RES) are no longer associated to the session.

If the host computer initiates the dv-Appl-Continuity-Test message, use the following procedure:

1. Send the dv-Appl-Continuity-Test message to the switch as correct.
2. Wait at least 10 s for the RETURN-RESULT positive acknowledgement. If the RETURN-RESULT positive acknowledgement is not received within 10 s, send a second dv-Appl-Continuity-Test message. If an acknowledgement to the second message is not received in 10 s, take action.

System initialization and restarts

When the switch performs a restart, the switch logs out all agents and loses the connection. All CDNs and ACD agents associated to the switch are disassociated. When the switch completes the restart, the host computer needs to associate all the ACD agents and CDNs.

Message Subscription

The CompuCALL Integration with ICCM feature uses table SCAISSRV to provide the subscribed functions that includes categories and message parameters. Use Table SCAISSRV to allow users and operating companies to subscribe to CompuCALL messages.

Table SCAIPROF uses the linkset name in table SCAICOMS and the subservice name in table SCAISSRV to make up a service profile.

Table SCAISSRV includes the message category ICCM. The category ICCM allows the subscription to the message dv-Set-CDN-State message, which provides function SETCDNST. The tuple key for category ICCM is ICCM10$.

For additional information, see the data schema section of this document.

Pricing control

The CompuCALL Integration with ICCM feature uses the office parameter MAX_NUM_ECM_ICCM in table OFCOPT to control the maximum number of links to subscribe. This office parameter is set to the default value of 0.

Application logon service version

The application logon service version for the CompuCALL Integration with ICCM feature is SCAI10.

CompuCALL Integration with ICCM (continued)

The dv-Application-Logon message contains the Service Version parameter, which identifies the version of message sent during a session. The service version is upwardly compatible. Functionality that was enabled and provided with any CompuCALL service versions created before SCAI10 occurs with SCAI10.

Operational measurements

The CompuCALL Integration with ICCM feature uses the OM group SCAISRV3, which provides OM data on SCAI service usage. When the switch sends out a response message related to this feature on the SCAI interface, the associated register is pegged.

For more information, refer to *Operational Measurements Reference Manual*.

Translations table flow

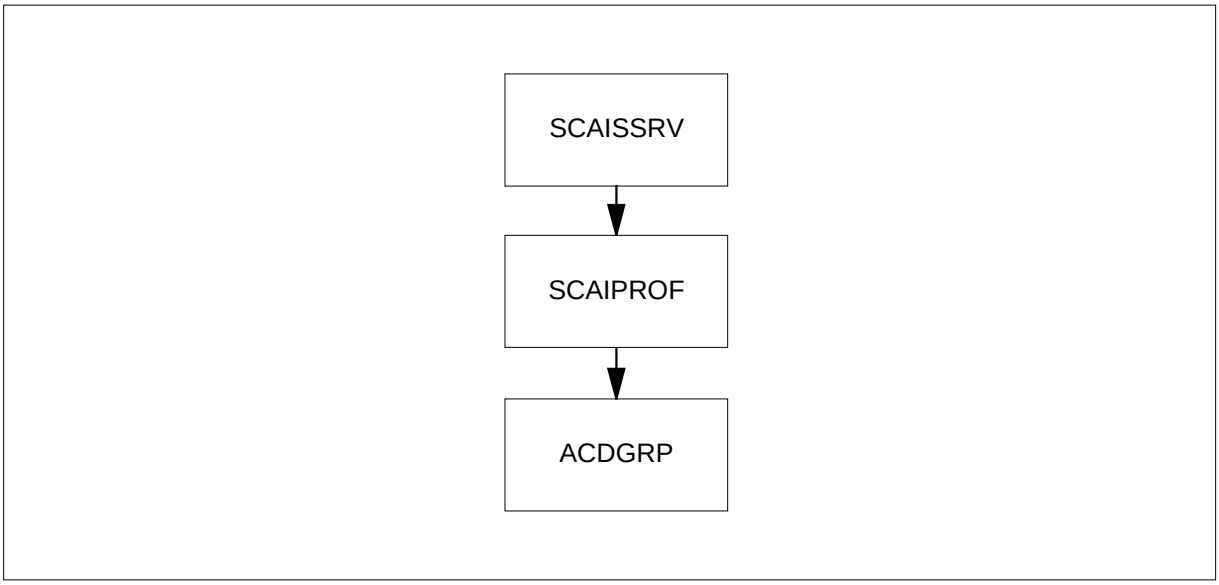
The CompuCALL Integration with ICCM translations tables appears in the following list:

- Table SCAISSRV acts as a reference table for CompuCALL service categories. CompuCALL uses the SCAI link to provide DMS-100 switch-based services to applications residing on the host computer of a subscriber. Table SCAISSRV consists of a series of boolean values that indicate the CompuCALL messages provided for each subservice category.
- Table SCAIPROF uses the subservice names that table SCAISSRV defines to build a service profile of the CompuCALL messages available to a subscriber linkset. A service profile is a set of CompuCALL messages available to a subscriber during a CompuCALL session.
- Table ACDGRP associates Automatic Call Distribution (ACD) features with specified customer groups. Assign all suboptions to the CDN option in the table ACDGRP.

The CompuCALL Integration with ICCM translation process appears in the flowchart that follows.

CompuCALL Integration with ICCM (continued)

Table flow for CompuCALL Integration with ICCM



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

Datafill example for CompuCALL Integration with ICCM

Datafill table	Example data
SCAISSRV	ICCM1 ICCM (SETCDNST) $
SCAIPROF	SET1 1 (EVENT1) (ROUTE1) (TPCC1) (ICCM1) $
ACDGRP	XYZ BNR 0 OFRT 1 0 N 500 12 N N NONE N N (CDN ABC 5) $ ABC BNR 0 OFRT 1 0 N 500 12 N N NONE N N (CDN AGTASSN 5) $ YMA BNR 0 OFRT 1 0 N 500 12 N N NONE N N (CDN AGTASSN 5) $

Limits

The following limits apply to CompuCALL Integration with ICCM:

- An ACD agent position ID can associate only if Table ACDGR assigns option AGTASSN to the ACD group of the agent in P.
- To associate a CDN, option CDN is present in Table ACDGRP.

CompuCALL Integration with ICCM (continued)

- The ACD position can have the following types of sets:
  - — 2500 set terminal type
  - — MBS terminal type, which includes the following:
    - – Aries
    - – Meridian Feature Transparency (MFT)
    - – IVD (Integrated Voice and Data)
- For an ACDGRP with option CDN, enter the ACD DN in Table DNROUTE. Define the default ACD group before the group is referenced along with option CDN.
- Option CDN is not compatible with other ACDGRP options except option AUDIO.
- Table ACDRTE does not need entries for a CDN ACDGRP. If tuples are entered in table ACDRTE for a CDN ACDGRP, this action generates warning messages. A CDN ACDGRP cannot be in Table NACDGRP.

Interactions

CompuCALL Integration with ICCM does not have functionality interactions.

Activation/deactivation by the end user

CompuCALL Integration with ICCM does not require activation or deactivation by the end user.

Billing

CompuCALL Integration with ICCM does not affect billing.

Station Message Detail Recording

CompuCALL Integration with ICCM does not affect Station Message Detail Recording.

CompuCALL Integration with ICCM (continued)

Datafilling office parameters

The office parameter that CompuCALL Integration with ICCM uses appears in the following table. For more information about office parameters, refer to *Office Parameters Reference Manual*.

Office parameters that are used by CompuCALL Integration with ICCM

Table name	Parameter name	Explanation and action
OFCOPT	MAX_NUM_ECM_ICCM	This parameter governs the maximum numbers of CompuCALL service category ICCM and CompuCALL links that can be provisioned in the DMS-100 switch. The default value is the minimum value, 0. If necessary, Nortel sets and modifies this office parameter. Restart is not required if the value of the parameter changes. Once CompuCALL services are provisioned, any given level can fall below the corresponding office parameter value. If any office parameter value is lowered below the corresponding use level, service maintains to existing SCAI groups. No new CompuCALL services can be provisioned until some CompuCALL services are cancelled.

CompuCALL Integration with ICCM (continued)

Datafill sequence

The list for CompuCALL Integration with ICCM appears in the following table. The tables appear in the correct entry order.

Datafill requirements CompuCALL Integration with ICCM

Table	Purpose of table
SCAISSRV	Table Switch Computer Application Interface Subservices acts as a reference table for CompuCALL service categories. CompuCALL uses the SCAI link to provide DMS-100 switch-based services to applications that reside on the host computer of a subscriber. Table SCAISSRV contains a series of boolean values indicating the CompuCALL messages provided for each subservice category. This table contains category ICCM, which allows subscription to the dv-Set-CDN-State message for function SETCDNST. This message allows ICCM to change the state of a CDN queue on the DMS-100 switch.
SCAIPROF	Table Switch Computer Application Interface Profile uses the subservice names that table SCAISSRV defines to build a service profile of the CompuCALL messages available to a subscriber linkset. A service profile is a set of CompuCALL messages available to a subscriber during a CompuCALL session. If a host-to-switch session is active and the operating company changes the services profile for the host connection, the host must log out and log in again to enable the changes in the service profile. This table contains category ICCM in the list of valid subservice names.
ACDGRP	Table Automatic Call Distribution Group associates Automatic Call Distribution (ACD) features with specified customer groups. This table contains options CDN and AGTASSN. Option CDN provides the CompuCALL Integration with ICCM feature. Option CDN identifies an ACDGRP by holding the incoming calls in the queue to wait for routing instructions or treatments from ICCM. Option CDN is prohibited if other ACDGRP options, except option AUDIO, are currently assigned. Option AUDIO in table ACDGRP is the only other option to add if option CDN is assigned. An attempt to add option CDN to an ACDGRP with other options results in failure and an error message. Option AGTASSN is required to associate an ACD agent.

Datafilling table SCAISSRV

Datafill for CompuCALL Integration with ICCM for table SCAISSRV appears in the following table. The fields that apply to CompuCALL Integration with

CompuCALL Integration with ICCM (continued)

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

Datafilling table SCAISSRV

Field	Subfield or refinement	Entry	Explanation and action
SUBSERV		alphanumeric (1 to 16 characters)	Subservice profile name. The subservice profile name is the key to table SCAISSRV and consists of a string of a maximum of 16 alphanumeric characters. Enter these subservice names in table SCAIPROF when a SCAI group requires the following. Enter when the SCAI group requires all the possible functions and all the associated parameters in a given CompuCALL service category.
SPROFILE			Subservice profile contents. This field consists of subfield CATEGORY.
	CATEGORY	ICCM	CompuCALL service category. Enter ICCM for the CompuCALL Integration with ICCM feature and datafill refinement SETCDNST as follows.
	SETCDNST	SETCDNST	Set CDN state. Allows subscription to dv-Set-CDN-State message. This message allows ICCM to change the state of a CDN query on the DMS-100 switch.

Datafill example for table SCAISSRV

Sample datafill for table SCAISSRV appears in the following example.

MAP example for table SCAISSRV

```
SUBSERV SPROFILE

----------------------------------------------------------------------

ICCM1 ICCM (SETCDNST) $
```

Datafilling table SCAIPROF

Datafill for CompuCALL Integration with ICCM for table SCAIPROF appears in the following table. The fields that apply to CompuCALL

CompuCALL Integration with ICCM (continued)

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

Datafilling table SCAIPROF

Field	Subfield or refinement	Entry	Explanation and action
PROFKEY		see subfields	Profile key. This field is a trooper key that identifies linkset and service profile combinations. Field PROFKEY consists of subfields LINKSET and SRVCID.
	LINKSET	alphanumeric (1 to 16 characters)	Linkset name. Enter one of the linkset names from table SCAICOMS.
	SRVCID	0 to 255	Service identity. Enter a service identity (ID) number. Enter a maximum of eight service IDs for each linkset. Only one service profile is used at any time. The service ID is unique for each linkset and profile combination.
PROFKEY		alphanumeric (1 to 16 characters)	Profile. Enter the ICCM subservice name from table SCAISSRV. This field represents the CompuCALL service profile. A maximum of 13 service profiles can be configured for each linkset. A service profile cannot be entered with two subservice names from the same CompuCALL service category. An example of this condition is AEVENT1 and AEVENT2 that are from category ACDEVENT in table SCAISSRV. End the list with a $ (dollar sign) if a maximum of 13 profiles are required.

Datafill example for table SCAIPROF

Sample datafill for table SCAIPROF appears in the following example.

MAP example for table SCAIPROF

```
PROFKEY PROFILE

----------------------------------------------------------------------
SET1 1 (EVENT1) (ROUTE1) (TPCC1) (ICCM1)$
```

CompuCALL Integration with ICCM (continued)

Datafilling table ACDGRP

Datafill for CompuCALL Integration with ICCM for table ACDGRP appears in the following table. The fields that apply to CompuCALL Integration with ICCM appear in this table. See the data schema section of this document for a description of the other fields.

If an ACD group has option CDN assigned, tuples cannot be added for that group.

Datafilling table ACDGRP (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CUSTGRP		alphanumeric (1 to 16 characters)	Customer group name. Enter the customer group to which the ACD group belongs. This field is compatible with a CDN ACDGRP.
MAXCQSIZ		0 to 511	Maximum call queue size. Enter the maximum number of calls that can be queued in the incoming call queue at the same time. After this threshold is reached, the following calls are deflected to the route that field THROUTE specifies. This field is compatible with a CDN ACDGRP.

CompuCALL Integration with ICCM (continued)

Datafilling table ACDGRP (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		see subfield	Options. This field consists of subfield OPTION.
	OPTION	CDN, AGTASSN, AUDIO,	Option. This subfield contains the list of options and associated refinements assigned to the ACD group. Enter CDN, controlled DN, for the CompuCALL Integration with ICCM feature and refer to refinements DEFAULTGRP, RESPTM, and CDN_THROUTE. Refer to “OPTION = CDN.” Enter AGTASSN, agent association, for the CompuCALL Integration with ICCM feature. Add this option to an ACD group that has the agents ICCM uses. This option allows the host application to associate on an individual agent basis to identify an ACD group. This option has no refinements. This option is not compatible with option CDN. Enter AUDIO, recorded announcements and music, or both, and datafill refinements RANTH, RINGING, and AUDIOGRP. This option is compatible with option CDN. See “OPTION = AUDIO.”

CompuCALL Integration with ICCM (continued)

OPTION = CDN

If the entry in subfield OPTION is CDN, enter data in refinements DEFAULTGRP, RESPTM, and CDN_THROUTE as follows.

Refinements for option CDN

Field	Subfield or refinement	Entry	Explanation and action
	OPTION	CDN	Enter CDN, controlled DN, for the CompuCALL Integration with ICCM feature. Refer to refinements DEFAULTGRP, RESPTM, and CDN_THROUTE.
	DEFAULTGRP	ACD group name	Default ACD group. Enter this refinement for option CDN. A call in the CDN queue is routed to the default ACD group when no routing instructions or treatment response is received from ICCM in the ICCM response time. To set the ICCM response time, see refinement RESPTM.
	RESPTM	1-60 seconds	ICCM response time. Enter this refinement along with refinement DEFAULTGRP to set the ICCM response time.
	CDN_THROUTE	Y or N	CDN threshold route. Enter Y to route incoming calls to a CDN threshold route (THROUTE). Or enter N to route incoming calls to the default ACD group.

CompuCALL Integration with ICCM (continued)

OPTION = AUDIO

If the entry in subfield OPTION is AUDIO, enter data in refinements RANTH, RINGING, and AUDIOGRP as follows:

Refinements for option AUDIO

Field	Subfield or refinement	Entry	Explanation and action
	OPTION	AUDIO	Enter AUDIO, recorded announcements and music, or both, and datafill refinements RANTH, RINGING, and AUDIOGRP. This option is compatible with option CDN.
	RANTH	0 or 6 to 60	Enter 0 or 6 to 60 if field RINGING contains a value of N. A value of 0 in this field and a value of N in field RINGING means that callers receive an announcement immediately. Enter 0 or 6 to 60 if field RINGING contains a value of N. A value of 0 in this field and a value of N in field RINGING means that callers receive an announcement immediately. Zero is not a valid entry if field RINGING is set to Y.
	RINGING	Y or N	Ringing. Enter Y to indicate that ringing is given to calls that are not answered before the time specified in field RANTH expires and an announcement occurs. Enter N to indicate that queued calls receive an announcement or music either immediately (0 in field RANTH) or after the time specified in field RANTH expires.
	AUDIOGRP	AUDIO1 to AUDIO512	Audio group. Enter the audio group that enter in table AUDIO where option ACDQ specifies the announcement or music applied to calls.

Datafill example for table ACDGRP

Sample datafill for table ACDGRP appears in the following example.

CompuCALL Integration with ICCM (end)

MAP example for table ACDGRP

```
ACDNAME CUSTGRP ACDRNGTH THROUTE NSROUTE PRIOPRO
DBG MAXCQSIZ MAXWAIT ACDMIS

MSQS DISTRING OBSWTONE FRCNGTSV OPTIONS
-----------------------------------------------------------------------

XYZ BNR 0 OFRT 1 OFRT 1 0 N 500 12 N N NONE N N (CDN ACDGRP1 5) (AUDIO
6 Y AUDIO5)

ABC BNR 0 OFRT 1 OFRT 1 0 N 500 12 N N NONE N N (CDN AGTASSN 5) (AUDIO
6 Y AUDIO5) $
```

Tools for verifying translations

CompuCALL Integration with ICCM does not use tools for verifying translations.

SERVORD

The CompuCALL Integration with ICCM feature does not use service orders (SERVORD).

Network Intelligent Call Management

Ordering codes

Functional group ordering code: ICM00013

Functionality ordering code: not applicable

Release applicability

NA010 and up

Network Intelligent Call Management (NICM) was introduced in NA010.

Prerequisites

This document includes all the data table information for this functionality. Complete use of this functionality can require software or hardware not described in this document.

Description

This feature extends the coordinated voice and data capabilities of Intelligent Call Management (ICM) to a multiple switch environment. The feature provides the following:

- Identifies an extended call.
- Reserves an Automatic Call Distribution (ACD) agent for a specified duration and unreserves an ACD agent at the target DMS-100 switch.
- Notifies the host computer if the previously reserved agent is unreserved by the DMS-100 switch. The DMS-100 switch unreserves an agent with the reservation timer time-out.

Operation

Identifying an extended call end-to-end

This feature identifies the call end-to-end if the call extends because of the following:

- transfers
- forwards
- routes
- redirects
- ACD overflow

Network Intelligent Call Management (continued)

This feature contains the following:

- Enhances the existing NetworkCallId assignment for all ICM calls to identify an ICM call and prevent two switches from having the same NetworkCallId.
- Transports the NICM information from the source switch across the CCS7 network. This transportation occurs if the option exists for the office and the end user subscribes to this feature.

Activation/deactivation of the NICM feature

Office level subscription activates/deactivates this feature. This feature provides the following:

- Ensures that only subscribers that purchase the NICM feature have the right to use it.
- Preserves real time for offices that do not have the NICM feature. Real time avoids invocation of the optional parameter builder for calls routed over ISUP trunks.

Enhanced dv-Set-Feature message

The host computer sends a dv-Set-Feature message to the target switch to reserve the agent. The agent at the target switch reserves from the idle queue only. The switch reserves the agent and sends a return-result to the host. The timer starts when the agent is reserved.

The switch performs a series of checks before processing the dv-Set-Feature message. The switch verifies

- The Service Version is at least SCAI12. The dv-Application-Logon message contains parameter Service Version. Service Version identifies the protocol version stream of messages sent during the application session log on.
- The ICM session subscribes to the TPAC category and the RESERVEAGT or UNRESERVEAGT functions.
- The origAddress and Set Feature Information parameters are in the RO.
- The origAddress is a valid agent position.

If the validations pass, the switch sends a return-result. Otherwise, the switch sends a return-error with one of the following error codes:

- agent_presently_reserved
- agent_presently_unreserved

dv-Agent-SetAction-U

The switch uses the dv-Agent-SetAction-U message to notify the host computer about unreserving the agent. The following validations are done before sending the message:

- The Service Version is at least SCAI12.
- The CompuCALL session subscribes to the ACDEVENT category and the AGTSETACT function.

NICM operational measurements

This feature creates the following registers:

- AGTSTACT
- RSRVAGRR
- RSRVAGRE
- UNRSAGRR
- UNRSAGRE

Translations table flow

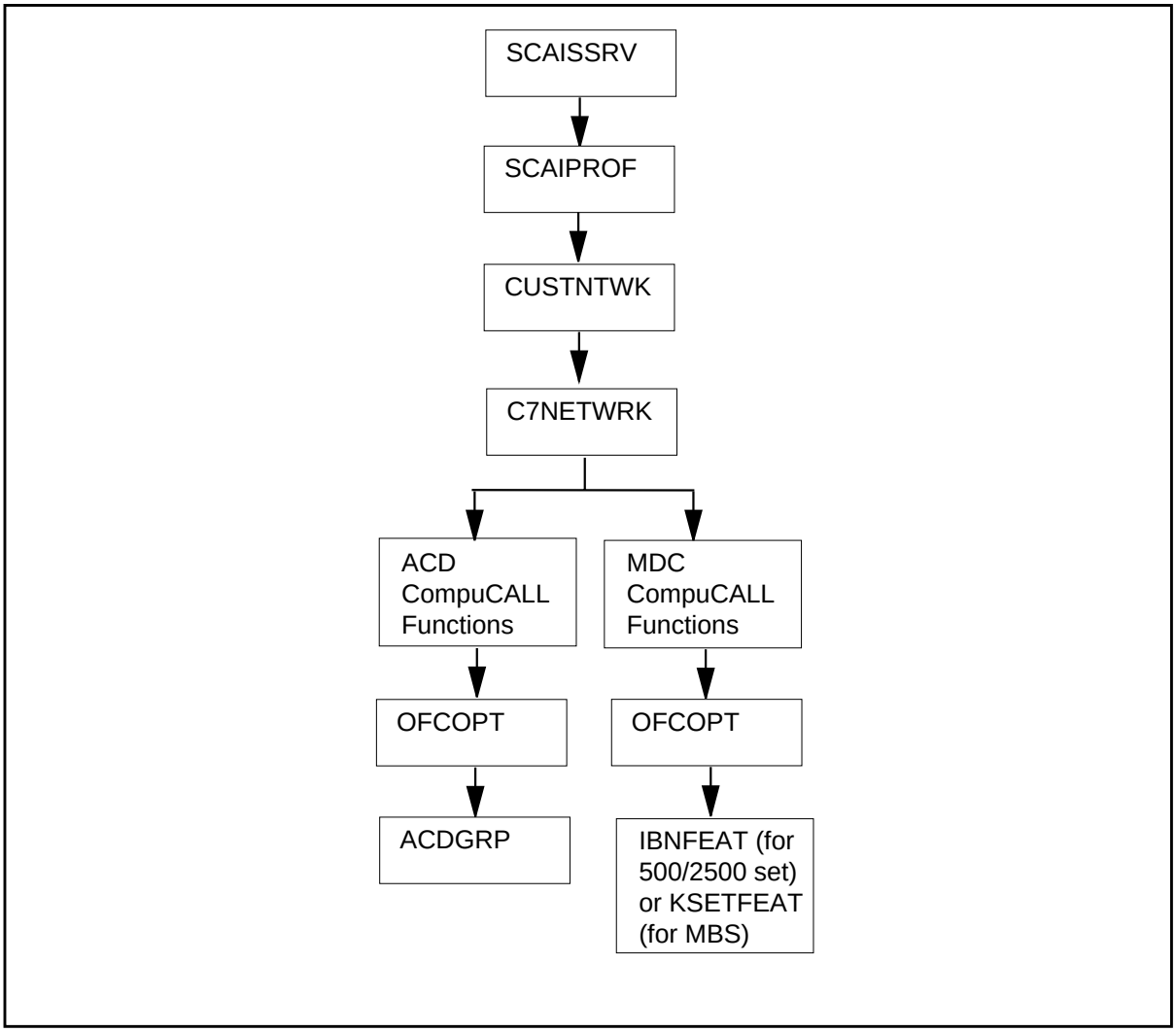
The NICM translations tables are described in the following list:

- Table SCAISSRV acts as a reference table for ICM service categories. The ACDEVENT category adds dv-Agent-SetAction-U, which subscribes through the AGTSETACT subservice having optional parameter NTWSETACT. The TPAC category, which subscribes through RESERVEAGT and UNRESERVEAGT subservices, has the optional parameters ORIGADDR and RESERVE_TIMER.
- Table OFCOPT contains data on engineering options for the office. Parameter NETWORK_ICM_ACTIVE adds the NICM functionality.
- Table ACDGRP defines Automatic Call Distribution groups. This feature adds option NETICM to the table.
- Table IBNFEAT lists line features assigned to the IBN lines. This feature adds option NETICM to the table.
- Table KSETFEAT lists line features assigned to business sets and data units. This feature adds option NETICM to the table.

The Network Intelligent Call Management translations process is shown in the flowchart that follows.

Network Intelligent Call Management (continued)

Table flow for Network Intelligent Call Management



Network Intelligent Call Management (continued)

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

Datafill example for Network Intelligent Call Management

Datafill table	Example data
SCAISSRV	ACDEVENT12$ ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y) (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y) (CALLREL Y Y Y Y Y) (AGTLGDIN Y Y Y) (AGTLGOUT Y Y) (AGTREADY Y Y) (AGTNREADY Y Y N) (LOBEVENT Y Y Y) (EMKEVENT Y Y Y Y Y Y) (AGTSETACT Y) $TPAC12$ TPAC (LOGINAGT Y Y N) (LOGOUTAGT Y) (READYAGT Y) (NREADYAGT Y N) (RESERVEAGT Y Y) (UNRESERVEAGT Y) $
OFCOPT	NETWORK_ICM_ACTIVE Y
ACDGRP	ACDGRP1 BNR 12 OFRT 99 IBNRTE 99 2 N 20 20 Y MIS1 MIS1SUB N $ N NONE N N NETICM $
IBNFEAT (Note)	HOST 06 1 05 29 0 ECM ECM Y Y Y Y Y Y Y $
KSETFEAT (Note)	HOST 06 1 05 30 1 ECM ECM Y Y Y Y Y Y Y $
Note: This table is datafilled through SERVORD; therefore, no datafill procedure or example is provided. Refer to “SERVORD" for an example of using SERVORD to datafill this table.	

Limitations and restrictions

The following limitations and restrictions apply to Network Intelligent Call Management:

- Network Intelligent Call Management does not transfer when re-routed calls terminate on an SL-100 (PBX) switch connected to the network by primary rate interface (PRI) trunks.
- RESERVEAGT request does not update the display of the reserved agent when using NICM.
- Set-Feature reserves or unreserves an agent whether or not it is associated with extended call management (ECM).
- NetworkNodeID subparameter in NCALLID in ICM messages can differ from the NetworkNodeID message at the time of logon. The message differs when the SCAI version is equal to or greater than SCAI12, whether or not the message subscribes to NICM.

Network Intelligent Call Management (continued)

Interactions

The following list describes the interactions between Network Intelligent Call Management and other functionalities:

- Network Automatic Call Distribution and Set-Feature (RESERVEAGT) can not reserve an agent at the same time.
- When Set-Feature reserves an agent, timer expiration results in the switch informing the host computer of the dereservation. The dv-Agent-SetAction-U message is sent when the agent is unreserved.
- For all sessions associated with SCAI12 and above, all messages including dv-Call-Redirect, dv-Route-Call, and dv-Give-trtmnt use the unique NetworkNodeID generated by the first tuple in C7NETWRK. SCAI versions equal to or greater than SCAI11 use 4 bytes instead of 2 bytes with this unique NetworkNodeID. The host modifies the application to accommodate the unique NetworkNodeID to establish SCAI versions equal to or greater than SCAI12. DMS-100 switch sends the unique NetworkNodeID whether or not the user subscribes to NICM.
- NICM information also delivers to the target switch for calls using a tandem switch.

Activation/deactivation by the end user

Network Intelligent Call Management requires no activation or deactivation by the end user.

Billing

Network Intelligent Call Management does not affect billing.

Station Message Detail Recording

Network Intelligent Call Management does not affect Station Message Detail Recording.

Network Intelligent Call Management (continued)

Datafilling office parameters

The following table shows the office parameters used by Network Intelligent Call Management. For more information about office parameters, refer to *Office Parameters Reference Manual.*

Office parameters used by Network Intelligent Call Management

Table name	Parameter name	Explanation and action
OFCOPT	NETWORK_ICM_ACTIVE	The tuple with Network_icm_active set to N means the office does not subscribe to the NICM functionality. The tuple with Network_icm_active set to Y means the office subscribes to the NICM functionality.

Datafill sequence

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

Datafill tables required for Network Intelligent Call Management

Table	Purpose of table
SCAISSRV	Switch-Computer Application Interface (SCAI) Subservices (SCAISSRV). This table acts as a reference table for ICM service categories and the messages that go into the categories.
IBNFEAT (Note)	IBN Line Feature. This table lists the line features that are assigned to the IBN lines listed in table IBNLINES.
KSETFEAT (Note)	Business Set and Data Unit Feature. This table lists the line features that are assigned to the business sets and data units (DU) listed in table KSETLINE, and also the Meridian digital telephone sets and DUs listed in table IVDINV.
ACDGRP	Automatic Call Distribution Group. This table defines Automatic Call Distribution groups.
OFCOPT	Office Option. This table contains data on engineering options for the office. Refer to “Datafilling office parameters" for how Network Intelligent Call Management affects office parameters.
Note: This table is datafilled through SERVORD; therefore, no datafill procedure or example is provided. Refer to “SERVORD" for an example of using SERVORD to datafill this table.	

Network Intelligent Call Management (continued)

Datafilling table SCAISSRV

This feature adds function AGTSETACT and parameter NTWSETACT to ACDEVENT category. This feature also adds functions RESERVEAGT and UNRESERVEAGT with parameters ORIGADDR and RESERVE_TIMER to category TPAC.

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

Datafilling table SCAISSRV (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SPROFILE		see subfield	Subservice profile contents. This field consists of subfield CATEGORY.
	CATEGORY	ACDEVENT, TPAC	ICM (formerly CompuCALL) service category. This subfield specifies the ICM service category. Enter ACDEVENT (Automatic Call Distribution line call event) and TPAC (third party agent control) and datafill the following refinements.
FUNCTIONS		see subfield	Functions. This field consists of subfield FUNCTION. You can select up to eight functions. If you select less than eight functions, end the list with a $ (dollar sign).
	FUNCTION	CALLREL, AGTSETACT, RESERVEAGT, UNRESERVEAGT	Function. Enter CALLREL (call released) or AGTSETACT (agent set action). For CALLREL, select refinements NCALLID, RELTYPE, ACDDN, ACDGROUP, DEVICEID, and POSTCALL. For AGTSETACT, select refinements NTWSETA and INTSTAT. For RESERVEAGT, select parameters ORIGADDR and RESERV_TIMER. For UNRESERVEAGT, select parameter ORIGADDR.
	NCALLID	Y or N	Network call ID. Enter Y.

Network Intelligent Call Management (continued)

Datafilling table SCAISSRV (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	RELTYPE	Y or N	Release type. Enter Y or N depending on whether or not you want the release type option.
	ACDDN	Y or N	ACD directory number. Enter Y or N depending on whether or not you want the ACDDN option.
	ACDGROUP	Y or N	ACD group. Enter Y or N depending on whether or not you want the ACD group option.
	DEVICEID	Y or N	Device ID. Enter Y or N depending on whether or not you want the device ID option.
	POSTCALL	Y or N	Postcall status. Enter Y or N depending on whether or not you want the postcall status option.
	NTWSETACT	Y or N	Network set action. Enter Y or N depending on whether or not you want the network set action option.
	INTSTAT	Y or N	Interval status. Enter Y or N depending on whether or not you want the interval status option.
	ORIGADDR	Y or N	Originating address. Enter Y for the originating address option.
	RESERV_TIMER	Y or N	Reserve timer. Enter Y or N depending on whether or not you want the reserve timer option.

Datafill example for table SCAISSRV

The following example shows sample datafill for table SCAISSRV.

Network Intelligent Call Management (continued)

MAP display example for table SCAISSRV

```
SUBSERV
                                                          SPROFILE
----------------------------------------------------------------------
ACDEVENT12$
ACDEVENT(CALLQUED Y Y Y Y Y Y Y Y Y Y)(CALLOFFR Y Y Y Y Y Y Y Y Y Y Y)
(CALLANSWR Y Y Y Y Y Y Y Y Y Y Y)(CALLREL Y Y Y Y Y)(AGTLGDIN Y Y Y)
(AGTLGDOUT Y Y) (AGTREADY Y Y) (AGTNREADY Y Y N) (LOBEVENT Y Y Y)
(EMKEVENT Y Y Y Y Y Y) (AGTSETACT Y)$

TPAC12$
TPAC (LOGINAGT Y Y N) (LOGOUT Y) (READYAGT Y) (NREADYAGT Y N)
(RESERVEAGT Y Y) (UNRESERVEAGT Y) $
```

Datafilling table ACDGRP

This feature adds option NETICM. This option allows NICM functionality for the ACDGRP if office-wide NICM subscription is available.

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

Datafilling table ACDGRP

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		see subfield	Options. This field consists of subfield OPTION.
	OPTION	NETICM	OPTION. This subfield contains option NETICM, which allows NICM functionality for the ACDGRP, if office-wide NICM subscription is available. Enter NETICM for NICM functionality.

Datafill example for table ACDGRP

The following example shows sample datafill for table ACDGRP.

MAP display example for table ACDGRP

```
ACDNAME CUSTGRP ACDRNGTH THROUTE NSROUTE PRIOPRO DBG MAXCQSIZ MAXWAIT
ACDMIS MSQS DISTRING OBSWTONE FRCNGTSV OPTIONS
----------------------------------------------------------------------
ACDGRP1 BNR 12 OFRT 99 IBNRTE 99 2 N 20 20 Y MIS1 MIS1SUB N $ N NONE N
N NETICM $
```

Translation verification tools

Network Intelligent Call Management does not use translation verification tools.

SERVORD

This feature introduces NETICM for the ECM option.

SERVORD limitations and restrictions

Network Intelligent Call Management has the following SERVORD limitations and restrictions:

- Option NETICM in table OFCOPT is set to Y to turn on option NETICM office-wide.
- The operating company turns on option NETICM at both the source line and the target line. The source line activation ensures real time is not wasted by transporting Network ICM information for calls networked to a different switch. Target line group optionality ensures that only subscribers receive the functionality.

Network Intelligent Call Management (continued)

SERVORD prompts

The following table shows the SERVORD prompts used to activate Network Intelligent Call Management.

SERVORD prompts for Network Intelligent Call Management (Sheet 1 of 3)

Prompt	Valid input	Explanation
DN_OR_LEN	For DN: 7 or 10 digits entered with no spaces or hyphens. When used as a prompt with the SUPPRESS option, valid input is Y to suppress delivery of the originating DN, or N to allow delivery of the originating DN. For LEN: An entry in the format: <site> ff u dd cc where: <site>=site name; defaults to HOST (four alphanumeric characters) ff = frame number (0 to 511) u = unit (0 to 19) dd = drawer number of line spread group (0 to 19) cc = line circuit number (0 to 31)	Enter the DN or LEN for the line. For a MDN line or MLH/ DLH members, if the user specifies a DN, the system prompts for the LEN. If the user enters the LEN, the system does not prompt for the DN.
OPTKEY	1-69	Identifies the key on a business set to which the user assigns an option. This option appears if the user assigns the ECM option to an MBS. The system will assign the feature to the DN key that the user selects.
OPTION	ECM	Options for a service to be established, modified, or deleted. Enter ECM.

Network Intelligent Call Management (continued)

SERVORD prompts for Network Intelligent Call Management (Sheet 2 of 3)

Prompt	Valid input	Explanation
CALL_EVENTS	Y or N	The user enters Y to allow the CompuCALL host computer to receive call events reported from events that occur on the line. If the user does not want the CompuCALL host computer to receive call events, enter N. To enable this option, the CompuCALL host session must be subscribed to CTXEVENT or RESEVENT in table SCAIPROF.
MAKECALL	Y or N	The user enters Y to allow a CompuCALL host computer to originate calls from the line through the dv-Make-Call message. If the user does not want a CompuCALL host computer to originate calls from the line, enter N. To enable this option, the CompuCALL host session must be subscribed to CALLINIT service in table SCAIPROF.
CONF_XFER	Y or N	The user enters Y to enable a CompuCALL host computer to set up three-way calling services on the line through the following messages: dv-Add-Party, dv-Transfer-Party, dv-Drop-Party, and dv-Conference-Party. If the user does not want to set up three-way calling services, the user enters N. Three-way calling services include conference call, consult call, and call transfer. To enable three-way calling services, the CompuCALL host session must be subscribed to the SCAI3WC service in table SCAIPROF.
MSG_WAIT	Y or N	The user enters Y to enable a CompuCALL host computer to receive Message Waiting (MWT) or Executive Message Waiting (EMW) notification activation or deactivation messages. To receive message waiting events, the line must be subscribed to the SCAIMWT service in table SCAIPROF. The user can select Y in this field even if the line has not subscribed to MWT or EMW options. A warning message appears if the line is not subscribed. The CompuCALL host does not receive message waiting events until the line subscribes to MWT or EMW.

Network Intelligent Call Management (continued)

SERVORD prompts for Network Intelligent Call Management (Sheet 3 of 3)

Prompt	Valid input	Explanation
SCAICC	Y or N	The user enters Y to enable a CompuCALL host computer to request an answer, hold, unhold, or release of a call on an MDC or RES line. The CompuCALL host computer uses SCAI signaling to make these requests.
CHKLOPT	Y or N	The user enters Y to enable this option. This option verifies that the CompuCALL host computer can receive the caller name or number. The system must validate the line or feature group options before the CompuCALL host computer can receive the name or number. If the user enters N, the system cannot validate the line or feature group options before the system sends the name or number. (The CompuCALL Enhancements for Screen-Assisted Telephony feature, AR2255, introduced this option in NA008.)
NETICM	Y or N	The user selects Y to pass the Network ICM information to the target switch for a networked call. The Network ICM information passes to the target switch provided the line connected to a particular office has this functionality turned on. If the line resides on a target switch, all CompuCALL messages pertaining to the networked call contain the Network ICM information.

SERVORD example for adding Network Intelligent Call Management

The following SERVORD example shows the ADO command used to add option ECM to a line. The user enters Y at the NETICM prompt, which results in office subscription to the NICM functionality.

Network Intelligent Call Management (end)

SERVORD example for Network Intelligent Call Management in prompt mode

```
> ADO
SONUMBER:   NOW 95 8 7 PM
>
DN_OR_LEN:
> 6212300
OPTKEY:
> 1
OPTION:
> ECM
CALL_EVENTS:
> Y
MAKECALL:
> Y
CONF_XFER:
> Y
MSG_WAIT:
> Y
SCAICC:
> Y
CHKLOPT:
> Y
NETICM:
> Y
OPTKEY:
> $
```

SERVORD example for Network Intelligent Call Management in no-prompt mode

```
> ADO $ 6212300 1 ECM Y Y Y Y Y Y Y $
```

8 Datafilling ICCM Call Queue Management

The following chapter describes the ICCM Call Queue Management, ICM00020, functionality.

CompuCALL Basic ICCM-Call Treatments

Ordering codes

Functional group order code: ICM00020

Functionality order code: does not apply

Release applicability

The NA008 and later versions

CompuCALL Basic ICCM-Call Treatments was introduced in NA008.

Requirements

This document contains the datafill information for this functionality. Complete installation can require software or hardware.

Description

The CompuCALL Basic ICCM-Call Treatments feature provides Treatment Request and Response Messaging capabilities to call centers. Call treatment is another name for this feature, which appears in this document. Call centers can apply specific treatments on a call that is in an ACD incoming or overflow call queue.

The following are correct call treatments:

- Recorded Announcement (RAN)
- Music
- Busy
- Fastbusy
- Disconnect
- Ringback
- Silence

Busy, Fastbusy, and Disconnect treatment requests remove the call from the incoming or overflow call queue. This action occurs before the application of the treatment. The RAN, Music, Ringback, and Silence allow the call to remain in the queue to receive treatment.

This feature improves the ACD CompuCALL interface. This feature is available to a call center that subscribes to the set or subset of capabilities. The capabilities must be under the ACD CompuCALL Options that include this feature. This feature adds to the ACD CompuCALL application service

CompuCALL Basic ICCM-Call Treatments (continued)

capabilities with the addition of Treatment Request and Response Messaging capabilities.

CompuCALL background information

CompuCALL provides data communications between a computer and a switch. The switch allows an operating company to provide coordinated switch-based services to applications on a host computer of the customer. The coordination provided through the messaging over the link allows you to implement solutions that improve end-user productivity.

The protocol for CompuCALL is the ANSI Switch-Computer Applications Interface (SCAI) protocol. The CompuCALL SCAI specifies an architecture and Open Systems Interconnection (OSI) application layer protocol suite for data communication between peers. The communication occurs between host computer applications and switch applications. The procedure allows the functional integration of computer systems and telephony switching systems.

The Remote Operation Service Element (ROSE) supports the interactive communication between the switch and host application. The ROSE provides the following Remote Operation (RO) services:

- RO-INVOKE

  This service allows an invoking host computer to request the switch to perform an operation.

- RO-RESULT

  This service allows the switch to return a positive reply of a successful operation.

- RO-ERROR

  This service allows the switch to return a negative reply of an operation that is not successful.

- RO-REJECT-U

  This service allows the host computer or switch to reject the request of reply of the other.

- RO-REJECT-P

  This service informs the ROSE user of a problem. The ROSE provider detects the problem.

CompuCALL messages

Control the activation and deactivation of the messages that this feature uses through CompuCALL tables.

CompuCALL Basic ICCM-Call Treatments (continued)

Call centers

This feature provides treatment capabilities for customers with one or more call centers on a single switch. Each call center must contain one or more ACD groups on the same switch.

CompuCALL customers

The ACD CompuCALL customer is an operating company that subscribes to one or more ACD CompuCALL Options. To receive the Call Treatments feature, the ACD CompuCALL customer subscribes to the ACD CompuCALL Options that contain this feature.

CompuCALL provides an open standard interface that allows application vendors to build appropriate user solutions. CompuCALL services are for the use of the following three types of customers:

- DMS-100/SL-100 ACD
- DMS-100/SL-100 Meridian Digital Centrex (MDC)
- Residential Enhanced Services (RES)

Operation

CompuCALL Basic ICCM-Call Treatments uses CompuCALL messages sent between a host computer and DMS-100 switch to operate.

CompuCALL Basic ICCM-Call Treatments uses the following messages:

- dv-Give-Treatment call control message

  The host sends this message to apply a treatment to a call. These treatments are: RAN, Music, Ringback, Silence, Busy, Fastbusy, or Disconnect.

The switch sends a dv-Call-Queued-U message to the host computer. This event occurs before the host sends a dv-Call-Treatment call control message. The system sends the message when the following event occurs:

- a call terminates at an ACD DN
- the ACD associated to a call center. Agents are not available to answer the call
- the customer does not subscribe to the CompuCALL ACD Redirection Capability

  Note: When the customer subscribes to the CompuCALL Redirection Capability, the switch sends a dv-Call-Received-C message to the host. The switch accepts treatment messages the host computer sends. The

CompuCALL Basic ICCM-Call Treatments (continued)

host computer sends these messages when the host computer does not respond to the dv-Call-Received-C message.

The call center uses the information in the dv-Call-Queued-U message. The call center sends the dv-Give-Treatment call control message to request a treatment application for the call. The system applies the treatment before the system removes the call from the queue. The system applies the treatments in the following conditions:

- before the system removes the call from the queue
- before the system routes the call to an agent
- before the system routes the call to another ACD DN
- when the system receives entered treatment
- dv-Treatment-Complete-U call event message

  The switch sends this message to the host computer to indicate that a request of AUDIO route is complete.

  The switch sends a dv-Treatment-Complete-U message when the RAN or Music treatment request causes an AUDIO route that completes.

In the CompuCALL environment, the system sends a dv-Call-Queued-U message to a host computer when the following conditions apply:

- a call terminates in an ACD DN incoming call queue
- the host application uses the dv-DN-associate message to associate to that ACD DN
- agents are not available
- the user does not subscribe to the CompuCaLL ACD Redirection

When the user subscribes to the CompuCALL ACD Redirection Capability, the switch sends a dv-Call-Received-C message to the host.

The dv-Call-Queued-U message provides the host computer with the information the host needs to send a dv-Give-Treatment message to the DN. This provision allows the caller to receive the RAN, Music, Ringback, Silence, Busy, Fastbusy, or Disconnect treatment.

Note: The host sends dv-Give-Treatment message after the host receives dv-Call-Queued-U message. The RAN and Music request results in an AUDIO route. Enter the AUDIO route in table AUDIO.

Busy, Fastbusy, and Disconnect requests remove the call from the incoming or overflow call queue. The system removes calls before the application of the

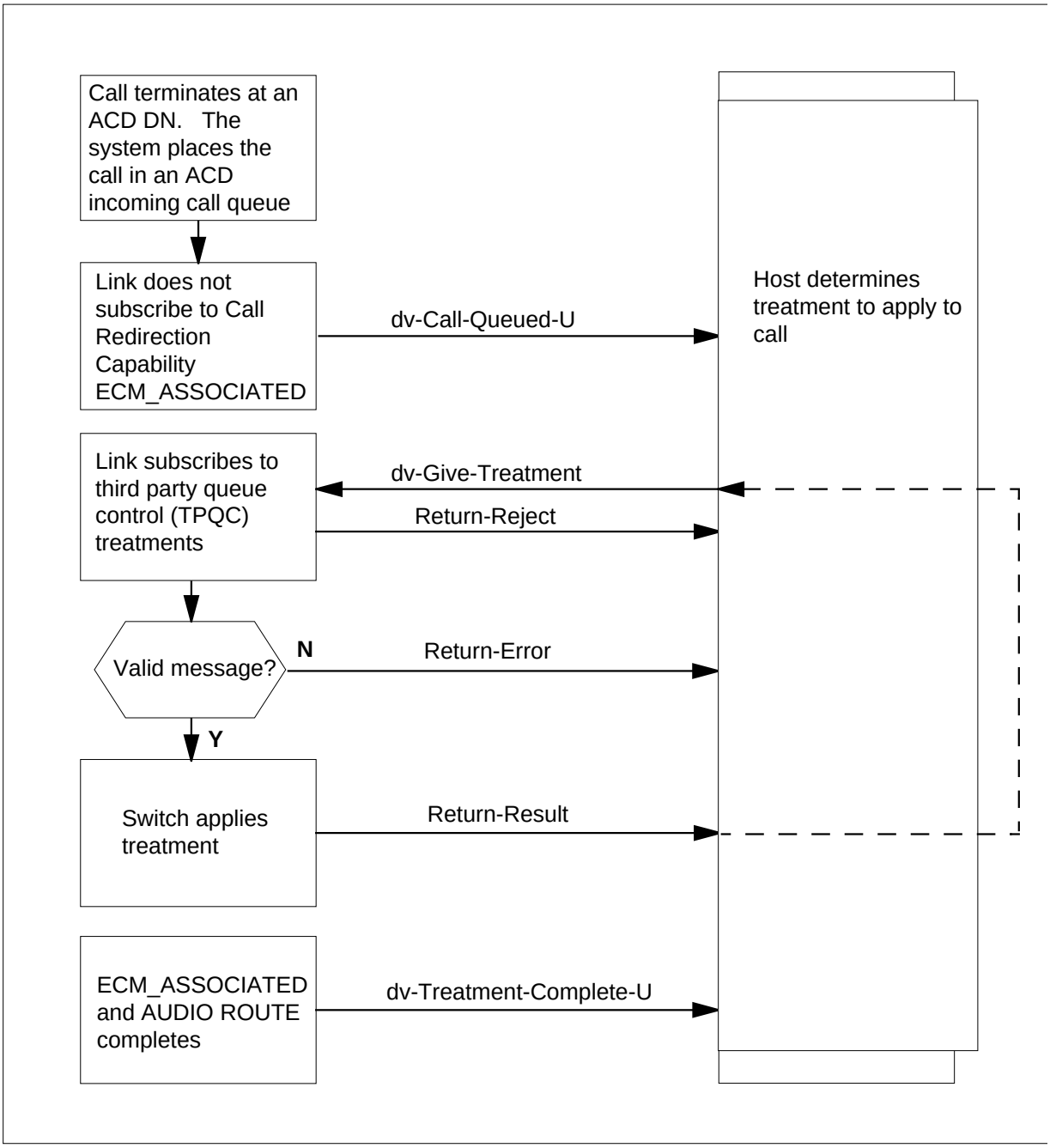
CompuCALL Basic ICCM-Call Treatments (continued)

treatment. The RAN, Music, Ringback, and Silence allow the call to remain in the queue when the call receives the treatment. The call can receive additional treatments when the call is in the call queue.

The host application can associate to the ACD DN. When this event occurs, the switch sends a dv-Treatment-Complete-U or a dv-Call-Released-U message. The switch sends a dv-Treatment-Complete-U when the RAN or Music treatment request causes an AUDIO route that completes. The switch sends a dv-Call-Released-U message when the system removes the call from the incoming or overflow call queue. This action occurs for Busy, Fastbusy, or Disconnect treatments.

The user can subscribe to the CompuCALL ACD Redirection Capability. When this event occurs, the switch does not accept treatment messages from the host computer. The switch accepts the treatment messages when the host computer does not respond to the dv-Call-Received-C message. When this condition occurs, the system sends the dv-Call-Queued-U message.

CompuCALL Basic ICCM-Call Treatments (continued)



Subscription to CompuCALL messages

Each active CompuCALL session corresponds to a SCAI group. Table SCAIGRP contains the SCIGRP. Each SCAI group in table SCAIGRP corresponds to one customer group. You can enter a maximum of eight

CompuCALL Basic ICCM-Call Treatments (continued)

separate SCAI application sessions that correspond to a linkset against a customer SCAI group.

Each SCAI group can have a maximum of eight different linksets in table SCAIGRP. A linkset in table SCAIGRP corresponds to a tuple in table SCAICOMS. A linkset can have one to eight links. The eight links can be one to eight separate links. For example, a customer can have a maximum of eight linksets defined on one link. A customer can have a maximum of eight linksets defined on eight separate links. The system provides multiple links on the same linkset. The multiple lines provide reliability and increased band width.

Table SCAISSRV allows users and the operating company to set up customized subscriptions to different CompuCALL messages. The optional parameters of CompuCALL messages are available for customized subscriptions. The system groups messages in categories. The categories contain default types for subscription to the messages and optional parameters.

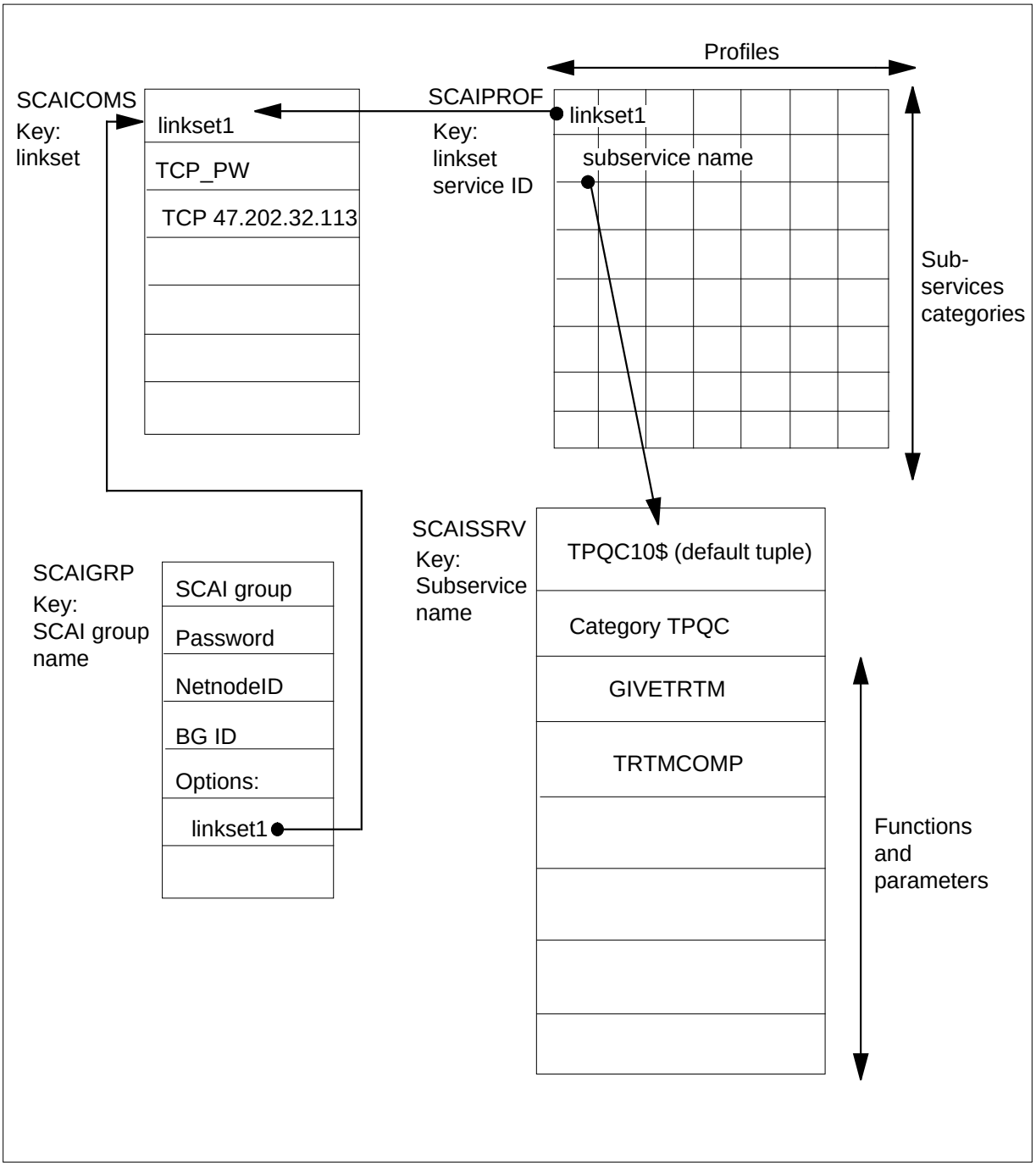
Table SCAIPROF allows users and the operating company to set up customized subscriptions to a profile of CompuCALL messages. The subservice names entered in table SCAISSRV select CompuCALL messages.

CompuCALL SCAI services

The tables that define the CompuCALL functionalities appear in the following figure. The following tables are available during a host-switch session. A tuple in table SCAICOMS defines the SCAI linkset in a host-switch session. This tuple points to a series of a maximum of the maximum number of linkset services in table SCAIPROF. Each service in table SCAIPROF indexes up to the maximum number of SCAI category subservices. A tuple in table SCAISSRV identifies each subservice. The tuple in table SCAISSRV contains the name of the category where the subservices belong. The table contains a series of functionalities to which the category subscribes to. For each subscribed functionality, the tuple identifies the supported parameters.

CompuCALL Basic ICCM-Call Treatments (continued)

CompuCALL SCAI services table control



CompuCALL Basic ICCM-Call Treatments (continued)

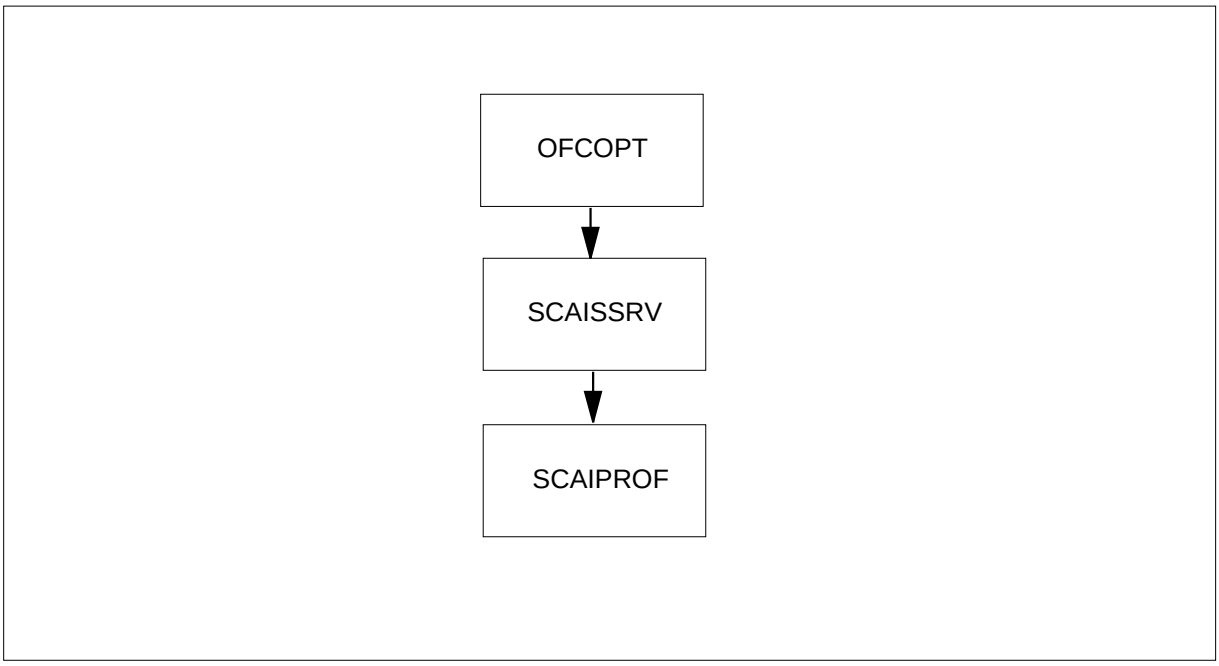
Translations table flow

The Call Treatments translations tables appear in the following list:

- Table OFCOPT contains data on engineering options for the office. See “Datafilling office parameters" in this feature description for how the Call Treatments feature affects office parameters.
- Table SCAISSRV is a look-up table for CompuCALL service categories. Table SCAISSRV acts as a look-up table for the messages that go in that table. For the Call Treatments feature, this table contains category TPQC.
- Table SCAIPROF defines the service profile a service ID can use. A service profile includes a set of subservices a customer center computer can use. This table contains the service profile for category TPQC in table SCAISSRV.

The Call Treatments translation process appears in the following flowchart.

Table flow for Call Treatments



CompuCALL Basic ICCM-Call Treatments (continued)

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

Datafill example for Call Treatments

Datafill table	Example data
SCAISSRV	TPQC$ TPQC (ROUTECALL) (GIVETRMT) (TRMTCOMP)
SCAIPROF	SET1 1 (TPQC1) (ICCM1) $

Limits

The following limits apply to Call Treatments:

- This feature does not support network ACD (NACD) groups in the same call center spread in different switches.
- Enter option AUDIO in table ACDGRP to enable the RAN and Music audio treatment requests.

Interactions

Call Treatments does not have functionality interactions.

Activation/deactivation by the end user

Call Treatments activation or deactivation does not require end user input.

Billing

Call Treatments does not affect billing.

Station Message Detail Recording

Call Treatments does not affect Station Message Detail Recording.

Datafilling office parameters

The office parameters that the Call Treatments feature uses appear in the following table. For more information about office parameters, refer to *Office Parameters Reference Manual*.

Office parameters that are used by Call Treatments

Table name	Parameter name	Explanation and action
OFCOPT	MAX_NUM_ECM_TPQC	This parameter controls the maximum number of message set categories from table SCAISSRV. These message set categories can be provisioned in a DMS-100 switch. The link in-use levels determines the level of the provision.

CompuCALL Basic ICCM-Call Treatments (continued)

Datafill sequence

The tables that require datafill to implement the Call Treatments feature appear in the following table. The tables appear in the correct entry order..

Datafill requirements for Call Treatments

Table	Purpose of table
OFCOPT	Table Office Option contains data on engineering options for the office. Refer to *Office Parameters Reference Manual* for how the Call Treatments feature affects office parameters.
SCAISSRV	Table Switch Computer Application Interface Subservices is a look-up table. This table is a look-up table for CompuCALL service categories and the messages that go into that table.
SCAIPROF	Table Switch Computer Application Interface Profile defines the service profile a service ID can use. A service profile includes a set of subservices a customer center computer can use. For the Call Treatments feature, this table contains subservice TPQC.

Datafilling table SCAISSRV

Datafill for the Call Treatments feature for table SCAISSRV appear in the following table. The fields that apply to Call Treatments appear in this table.

CompuCALL Basic ICCM-Call Treatments (continued)

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

Datafilling table SCAISSRV

Field	Subfield or refinement	Entry	Explanation and action
SUBSERV		alphanumeric (1 to 16 characters)	Subservice profile name Enter the subservice profile name. This field is the key to table SCAISSRV. You can enter these subservice names in table SCAIPROF. You can enter names when a SCAI group requires all the possible functions and all the associated parameters. The functions and parameters are in a specified CompuCALL service category. ***Note:*** Each fixed subservice name combines of the category name, the batch change supplement (BCS) number or PCL, and the $ (dollar sign). For example, ACDEVENT34$ is the subservice name. This name includes the functions and the corresponding parameters in category ACDEVENT, as supported in BCS34. ***Note:*** You cannot use the $ character in subservice names. The $ is only for use in current and future fixed subservice names.
SPROFILE		see subfield	Subservice profile contents. This field contains subfield CATEGORY.
	CATEGORY	TPQC	CompuCALL service category. Enter TPQC (third-party queue control) and datafill refinements as in the field descriptions table in CATEGORY = TPQC.

Datafill example for table SCAISSRV

Sample datafill for table SCAISSRV appears in the following example.

CompuCALL Basic ICCM-Call Treatments (end)

MAP example for table SCAISSRV

```
      SUBSERV

                                                                SPROFILE
-----------------------------------------------------------------------

     TPQC10$
TPQC   (GIVETRMT  Y Y Y)   (TRMTCOMP   Y Y Y)  $

     DNQUERY07$
DNQUERY  (DNQUERY)  $

     CALLINIT07$
CALLINIT (MAKECALL N N) $
```

Tools for verifying translations

Call Treatments does not use tools for verifying translations.

SERVORD

Call Treatments does not use SERVORD.

CompuCALL Basic ICCM-Selective Queuing

Ordering codes

Functional group ordering code: ICM00020

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

The CompuCALL Basic ICCM-Selective Queuing was introduced in NA008.

Requirements

The datafill information for this functionality appears in the document. To implement this functionality you can require other software or hardware.

Description

The rest of this feature uses Selective Queuing to describe the CompuCALL Basic ICCM-Selective Queuing feature. The feature provides the capability to route a call that comes from the queue to a destination the host computer specifies. The feature affects subscription to CompuCALL messages, pricing control, and CompuCALL operational measurements.

The service version value for the stream of CompuCALL messages that relates to this feature is SCAI10. The service version has upward compatibilities. Upward compatibility means that SCAI10 has functionality with earlier versions of CompuCALL service versions.

Operation

The Selective Queuing feature derives from the DMS-100 CompuCALL application. The CompuCALL application provides a data communication channel between a host computer and the DMS-100 switch. This data communication channel allows an operating company to provide coordinated switch services to applications. The applications are on a host computer.

The Selective Queuing feature uses the following feature to operate. The CompuCALL message between the following:

- the host computer and the switch
- The office parameters that follow the pricing control model
- operational measurements

CompuCALL Basic ICCM-Selective Queuing (continued)

Subscription to CompuCALL messages

The Selective Queuing feature uses CompuCALL messages to perform the following services:

- Route Call
- Return to Queue

Route Call

This service uses the dv-Route-Call call control message to route a call in the Automatic Call Distribution (ACD) call center queue. The host sends the dv-Route-Call message to an ACD directory number (DN) in the switch. The DN does not have to associate before reception of the dv-Route-Call message. The dv-Route-Call message is a call control message. The dv-Route-Call message allows reception before association. The host computer does not need to send an association message to the ACD group before the dv-Route-Call message.

Return to Queue

The dv-Call-Queued-U call event message indicates that the call returns to the incoming ACD DN call queue, from the same call routes. The switch sends this message to the host computer to indicate that a call enters the ACD call queue again.

The switch can return a call to the ACD queue if the ACD agent is not ready.

When the call returns to the queue, the call is at the head of the queue.

Routing a call

The following figure shows the process that the Selective Queuing feature uses to switch a queued call to a DN. The ACD DC is 613 621 2300. In this figure, the ACD DN (613 621 2300) queue has two calls:

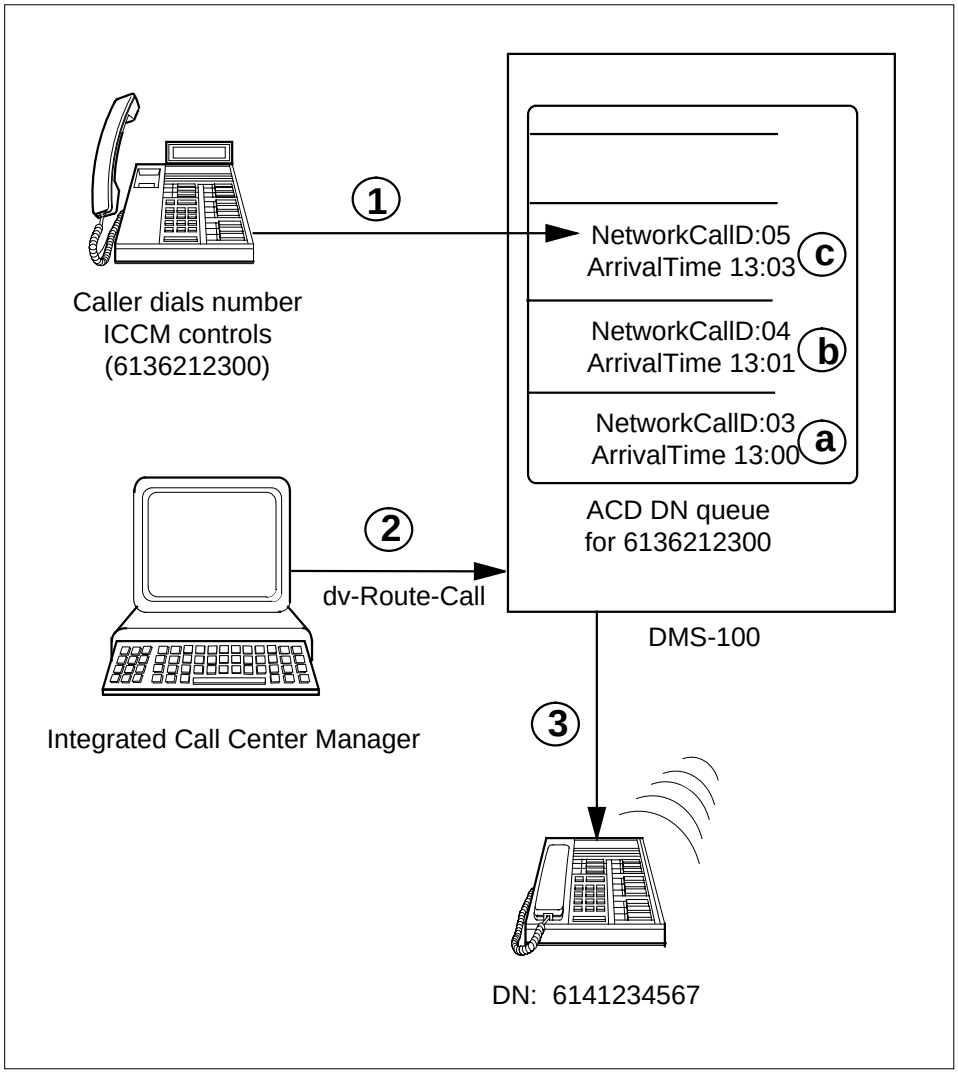
- NetworkCallID = 03 with ArrivalTime = 13:00
- NetworkCallID = 04 with ArrivalTime = 13:01

CompuCALL Basic ICCM-Selective Queuing (continued)

The following occurs:

1. A caller dials 613 621 2300.
   a. The system puts the call in the ACD DN queue. The call and becomes NetworkCallID 05 with ArrivalTime 13:03. The ACD DN is 613 621 2300
   b. The switch sends a dv-Call-Queued message to the host computer ICCM.
2. The ICCM sends a dv-Route-Call message to the switch. The Route-Call message contains information on the call.
3. The switch routes the call to DN 614 123 4567.

ACD DN queue in DMS-100 switch



CompuCALL Basic ICCM-Selective Queuing (continued)

The ICCM ring threshold

The ICCM ring threshold limits the time that an agent can use to not answer the call. To set the ICCM timer control of the ring threshold, you must deactivate the timer in the switch. To deactivate the timer in the switch, enter data for option ACDRNGTH in table ACDGRP. This data has a value of zero.

When the system presents an incoming call to an available agent, the ring threshold timer in the ICCM starts. The ICCM indicates the time limit for the threshold timer.

If the agent answers the call before the timer expires, ICCM cancels the timer. If the agent does not answer the call and the caller remains on the line and the timer expires. As a result the agent is logged out or the ICCM places the agent in the state of not ready. If the ICCM makes the agent not ready, the switch removes the call from the agent position. The switch returns the call to the original queue. The switch generates a dv-Call-Queued-U call event message. The system sends the message to the ICCM with a call history reason of “returned to queue."

Translations table flow

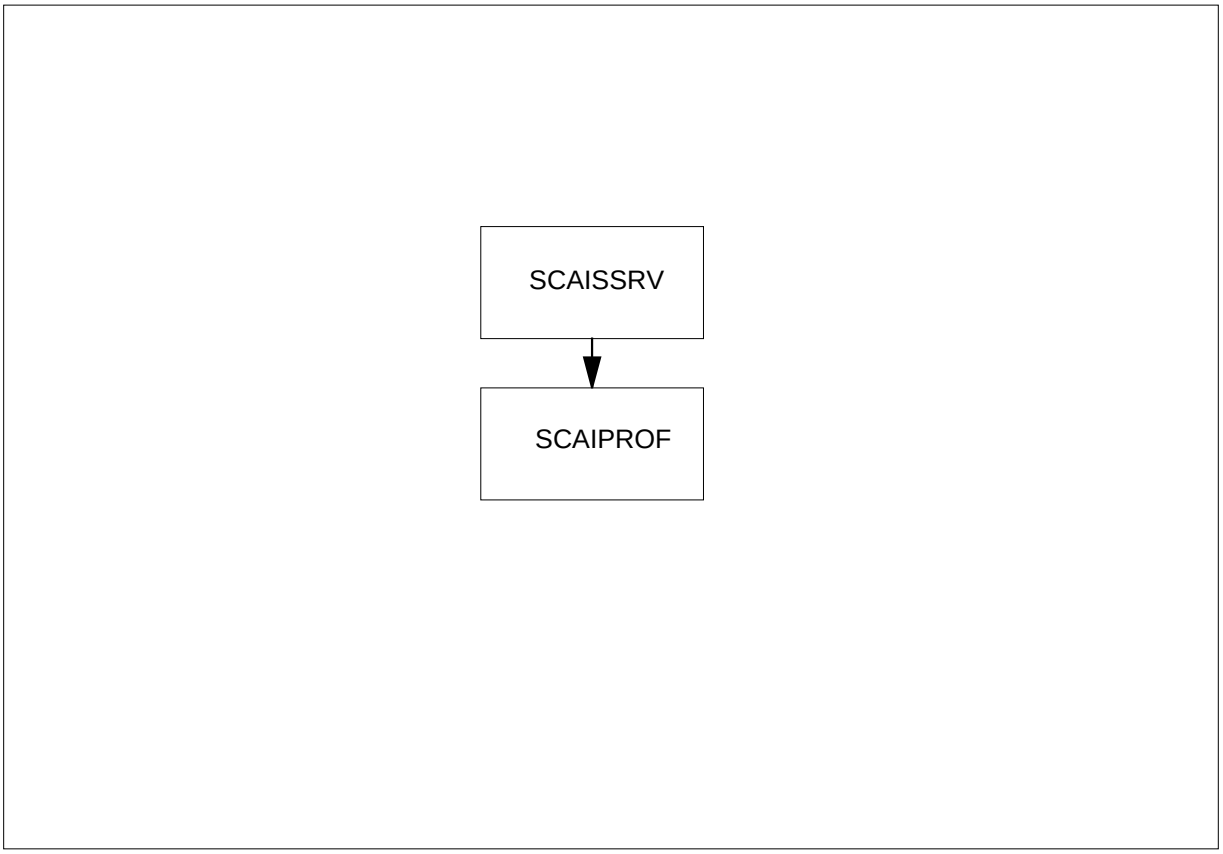
The following list contains a description of the CompuCALL Basic ICCM-Selective Queuing translations tables:

- Table SCAISSRV locates CompuCALL service categories messages.
- Table SCAIPROF defines the CompuCALL service profile.

The CompuCALL Basic ICCM-Selective Queuing translation process appears in the following flowchart:

CompuCALL Basic ICCM-Selective Queuing (continued)

Table flow for CompuCALL Basic ICCM-Selective Queuing



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

Datafill example for CompuCALL Basic ICCM-Selective Queuing

Datafill table	Example data
SCAISSRV	TPQC (ROUTECALL))$
SCAIPROF	SET1 1 (TPQC10$) (ICCM10$) $

Limits

The CompuCALL Basic ICCM-Selective Queuing has the following limits:

- If you subscribe to the CompuCALL SCAI Redirection functionality, only some of the incoming calls to an ACDGRP enter the ACD queue. The

CompuCALL Basic ICCM-Selective Queuing (continued)

CompuCALL Routing functionality routes a call from an ACD queue. This route allows the SCAI Redirection and the feature to be exclusive.

- The dv-Route-Call message does not interfere with the other CompuCALL messages.
- The dv-Call-Queued message does not interfere with the other CompuCALL messages.

Interactions

The Selective Queuing feature is available for ACD groups. Residential Enhanced Services (RES) and MDC customers cannot use the feature.

Activation/deactivation by the end user

The CompuCALL Basic ICCM-Selective Queuing does not require activation or deactivation by the end user.

Billing

The CompuCALL Basic ICCM-Selective Queuing does not affect billing.

Station Message Detail Recording

The CompuCALL Basic ICCM-Selective Queuing does not affect Station Message Detail Recording.

Datafilling office parameters

The following table indicates the office parameters for CompuCALL Basic ICCM-Selective Queuing. For additional information about office parameters, refer to *Office Parameters Reference Manual*.

Office parameters that are used by CompuCALL Basic ICCM-Selective Queuing

Table name	Parameter name	Explanation and action
OFCOPT	MAX_NUM_ECM_TPQC	If a CompuCALL application uses the dv-Route-Call message, you require this parameter. You must set this parameter must be set before you enter subservice TPQC in table SCAISSRV.

CompuCALL Basic ICCM-Selective Queuing (continued)

Datafill sequence

The tables that require datafill to implement CompuCALL Basic ICCM-Selective Queuing appear in the following table. The tables appear in the correct entry order.

Datafill requirements for CompuCALL Basic ICCM-Selective Queuing

Table	Purpose of table
SCAISSRV	The SCAI Subservice is a look-up table for CompuCALL service categories and the associated messages.
SCAIPROF	The SCAI Profile uses the subservice names in table SCAISSRV to build a service profile. The service profile is for the CompuCALL messages available to a subscriber linkset. A service profile is a set of CompuCALL messages available to a subscriber during a CompuCALL session. The host must log out. The host must log in again to enable the changes in the service profile. The host must perform these actions if the following two conditions apply: • a host-to-switch session is active • the operating company changes the services file for the host connection

Datafilling table SCAISSRV

Datafill for CompuCALL Basic ICCM-Selective Queuing for table SCAISSRV appears in the following table. The fields that apply to CompuCALL Basic ICCM-Selective Queuing appear in this table. See the data design section of this document for a description of the other fields.

Datafilling table SCAISSRV (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SUBSERV		alphanumeric (1 to 16 characters)	Subservice profile name. Enter the subservice profile name. This field is the key to table SCAISSRV. You can enter the subservice names in table SCAIPROF when a SCAI group requires all the possible functions. A SCAI group also requires all the associated parameters in a specified CompuCALL service category.

CompuCALL Basic ICCM-Selective Queuing (continued)

Datafilling table SCAISSRV (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SPROFILE		refer to subfield	Subservice profile contents. This field includes of subfield CATEGORY.
	CATEGORY	TPQC	CompuCALL service category. Enter third-party queue control (TPQC) and datafill refinements. These requirements appear in the field descriptions table in CATEGORY = TPQC.

CATEGORY = TPQC

If the entry in subfield CATEGORY is TPQC, enter data in refinement FUNCTIONS as follows.

Field descriptions for category TPQC

Field	Subfield or refinement	Entry	Explanation and action
FUNCTIONS		refer to subfield	Functions. This field includes subfield FUNCTION.
	FUNCTION	ROUTECALL	Function. You can enter data for a maximum of seven functions. If the system requires less than seven function, end the list with a $ (dollar sign). Enter ROUTECALL (route call) to subscribe to the dv-Route-Call. The host computer uses the message to route a call in an ACD queue. In CompuCALL, the DN does not require an association message before the message is sent to the DN. Because dv-Route-Call is a call control message, do not send an association message to the ACD group before you send the message.

Datafill example for table SCAISSRV

Sample datafill for table SCAISSRV appears in the following table.

CompuCALL Basic ICCM-Selective Queuing (end)

MAP example for table SCAISSRV

```
   SUBSERV
                                                                SPROFILE
-----------------------------------------------------------------------

   SCAI3WC1
SCAI3WC  (ADDPTY Y N Y) (CONFPTY Y) (DROPPTY Y N) (TRANPTY Y) $

    MYEVENT
RESEVENT (SETOFFHK Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y Y Y)
(CALLANSWER Y Y Y Y Y Y Y Y Y Y Y Y Y) (CALLRELL Y Y Y) $

    3WC1
SCAI3WC (ADDPTY Y Y Y) (CONFPTY Y) (DROPPTY Y Y) (TRANPtY Y) $

   MWTI1
SCAIMWTI (MSGWAIT Y Y Y) $

   DNQRY1
DNQUERY (DNQUERY) $

   TPQC10$
TPQC (ROUTECALL) (GIVETRMT) (TRMTCOMP)  $

   DNQUERY2
DNQUERY (DNQUERY) $

   MAKECALL1
CALLINIT (MAKECALL N N)$
```

Tools for verifying translations

The CompuCALL Basic ICCM-Selective Queuing does not use tools for verifying translations.

SERVORD

The CompuCALL Basic ICCM-Selective Queuing does not use SERVORD.

9 Datafilling ICM Enhanced ICCM Functionality

The following chapter describes the ICM Enhanced ICCM Functionality, ICM00050..

CompuCALL Emergency Key Reporting

Ordering codes

Functional group ordering code: ICM00050

Functionality ordering code: not applicable

Release applicability

NA009 and up

CompuCALL Emergency Key Reporting was introduced in NA009.

Prerequisites

This document includes all the data table information for this functionality. However, complete implementation of this functionality can require software or hardware not mentioned in this document.

Description

The CompuCALL Emergency Key Reporting (EMK) feature provides the ability to report ACD EMK feature activity. The EMK feature is an existing ACD feature that is available on the DMS-100 switch. The CompuCALL EMK Reporting feature reports the activation and the status of the EMK call to the host computer.

The EMK feature provides an ACD customer with the ability to monitor and record threatening or abusive calls. The EMK feature enables an ACD agent, in the event of threatening or abusive calls, to immediately conference in a supervisor and an auxiliary device, such as a recording device.

When the ACD agent presses the EMK key, while active on an ACD call, the designated Answer EMK (AEMK) on the supervisor's set rings, and its associated lamp flashes. If an auxiliary device is attached, the auxiliary device also rings.

The switch sends a CompuCALL EMK event message when the supervisor set or auxiliary device rings. The message states that the EMK is activated. If the supervisor or auxiliary device does not answer within the allotted timeout interval, the EMK is terminated. The switch sends an EMK event message to the host computer. The message states that the EMK is terminated.

Otherwise, if the supervisor or auxiliary device answers, an EMK conference call establishes. Once an EMK conference call establishes, any party (the caller, agent, supervisor or auxiliary device) can exit the EMK call. If the agent exits, the EMK call is terminated. The switch sends an EMK event message the the host computer that states that the EMK call is terminated.

CompuCALL Emergency Key Reporting (continued)

If the caller, supervisor or auxiliary device exits the call, the switch sends an EMK event message that states which party exited the call.

If only two parties remain on the EMK call, the switch sends an EMK event message that states the EMK call is terminated. The EMK call is inactive when only two parties remain on the call.

The service version for this feature is SCAI11. If you specify an earlier service version, the DMS-100 switch will not provide this feature.

Operation

The CompuCALL EMK Reporting feature sends the EMK event call message on activation and completion of the EMK feature. The EMK feature conferences in a supervisor and auxiliary device (if attached) whenever an ACD agent presses the EMK. For the activation of EMK feature, the supervisor set or auxiliary device must ring. For the successful completion of this feature, the supervisor or auxiliary device must answer the call.

EMK call activation

When the EMK feature activates, the CompuCALL EMK Reporting feature sends the dv-EMK-U message from the DMS-100 to the host. The following table shows:

- combinations of supervisor and auxiliary device states
- EMK feature activation states
- EMK event call message activity

Feature states with associated message activity (Sheet 1 of 2)

Supervisor state	Auxiliary device state	Feature activation	EMK event message sent
ringing	ringing	successful	yes
ringing	not ringing	successful	yes
not ringing	ringing	successful	yes
not ringing	not ringing	not successful	no
ringing	auxiliary device does not exist	successful	yes

CompuCALL Emergency Key Reporting (continued)

Feature states with associated message activity (Sheet 2 of 2)

Supervisor state	Auxiliary device state	Feature activation	EMK event message sent
supervisor set does not exist	ringing	successful	yes
supervisor set does not exist	auxiliary device does not exist	not successful	no

EMK call completion

The CompuCALL EMK Reporting feature sends the EMK event message that states the EMK feature terminated, under the following conditions:

- 30 seconds pass before the supervisor or auxiliary device answers the call.
- The ACD agent does one of the following:
  - — cancels the EMK feature
  - — activates the Not Ready key
  - — releases the call
- The caller releases the call.
- The supervisor or auxiliary device exits.

30 seconds pass

After the ACD agent presses the EMK, the supervisor set and auxiliary set ring for 30 seconds. If the AEMK or auxiliary device does not answer within the 30 seconds, the call terminates. At this time, the CompuCALL EMK Reporting feature sends the sends the dv-EMK-U message from the DMS-100 switch to the host computer. The message states that the EMK event terminated.

ACD agent cancels the EMK feature

ACD agents can cancel the EMK event after they activate it. To cancel the event, the agent presses the EMK a second time before the AEMK or auxiliary device answers the call. The event must be active on the call when the agent presses the EMK again. Or, the switch ignores the attempt to cancel the event. If the agent cancels the call, the CompuCALL EMK Reporting feature sends the dv-EMK-U message from the switch to the host computer. The message states that the agent canceled the EMK event.

ACD agent activates the Not Ready key

ACD agents can press the ACD Not Ready key to cancel the EMK event. The ACD Not Ready key cancels the event as long as the ACD Non-Immediate Cutoff feature is not in effect. The ACD Not Ready key releases the call

CompuCALL Emergency Key Reporting (continued)

immediately and turns off the EMK lamp. At this time, the CompuCALL EMK Reporting feature sends the dv-EMK-U message from the switch to the host computer. This message states that the agent canceled the EMK event.

If the ACD Non-Immediate Cutoff feature is active, the call releases when the agent finishes the call. The CompuCALL EMK Reporting feature sends the dv-EMK-U message from the switch to the host computer when the agent finishes the call and the call releases.

ACD agent releases the call

The activating ACD agent must remain on the call for the successful completion of the EMK event. If the agent releases, the agent cancels the event, and all other parties on the call release. At this time, the CompuCALL EMK Reporting feature sends the dv-EMK-U message from the switch to the host computer. This message states that the EMK event terminated.

Caller releases the call

If the caller exits the call while the supervisor and auxiliary device is ringing, the ringing party exits from the call. The other parties can remain on the call. If only the agent remains on the call, the call releases completely. At this time, the CompuCALL EMK Reporting features sends the dv-EMK-U message from the switch to the host computer. The message states that the EMK event terminated.

If the ACD agent and either the AEMK or auxiliary device remains on the call, the call remains active. However, the EMK event terminates. At this time, the CompuCALL EMK Reporting feature sends the dv-EMK-U message from the switch to the host computer. This message states that the EMK event terminated.

If the agent, the AEMK, and auxiliary device remain on the call, the EMK event does not terminate. The CompuCALL EMK feature does not send a dv-EMK-U message from the switch to the host computer until one of the parties exits. When one of the parties exits, the CompuCALL EMK Reporting feature sends a message from the switch to the host computer. This message states that the EMK event terminated.

Supervisor or auxiliary device exits

If the supervisor or auxiliary device exits from the call, the EMK event can terminate. The result depends on the number of parties left on the call. If three parties remain on the call, the EMK event remains active. The switch does not send the dv-EMK-U message until only two parties remain on the call. If one of the three parties exits, the EMK event terminates. At this time, the CompuCALL EMK Reporting feature sends the dv-EMK-U message from the

CompuCALL Emergency Key Reporting (continued)

switch to the host computer. This message states that the EMK event terminated.

Translations table flow

The CompuCALL Emergency Key Reporting feature does not affect table flow.

Limitations and restrictions

The following limitations and restrictions apply to CompuCALL Emergency Key Reporting:

- The EMK feature is a subset feature that is compatible only with a set that has an Incalls key. Therefore, the CompuCALL EMK Reporting feature is compatible only with a set that has an Incalls key.
- Only ACD agent sets can have the EMK feature assigned. Therefore, only ACD agent sets can have the CompuCALL EMK feature.
- The ACD supervisor set must have option SUPR and the EMK feature assigned to key 1.

Interactions

The following paragraphs describe the interactions between CompuCALL Emergency Key Reporting and other functionalities.

This feature interacts with the following features:

- Make-Set Busy (MSB) feature

  This feature ignores the MSB feature on the agent or supervisor set. This feature allows the agent to activate the MSB feature while on an emergency call. The MSB feature places the agent in the MSB state, while the emergency call remains active. If the MSB feature is active on the supervisor set, the emergency call presents to the supervisor set.

- ACD Not Ready (ACDNR) feature

  If the agent activates the ACD ACDNR feature and the Non-immediate Cutoff feature is not datafilled, the following happens:

  — The EMK event terminates.

  — The EMK lamp turns off.

  — The call releases.

  If the Non-immediate Cutoff feature is active, the call releases when the agent finishes the call.

CompuCALL Emergency Key Reporting (continued)

Activation and deactivation by the end user

CompuCALL Emergency Key Reporting requires no activation or deactivation by the end user.

Billing

CompuCALL Emergency Key Reporting does not affect billing.

Station Message Detail Recording

CompuCALL Emergency Key Reporting does not affect Station Message Detail Recording.

Datafilling office parameters

CompuCALL Emergency Key Reporting does not affect office parameters.

Datafill sequence

The following table list the table that requires datafill to implement CompuCALL Emergency Key Reporting.

Datafill table required for CompuCALL Emergency Key Reporting

Table	Purpose of table
SCAISSRV	Switch-Computer Application Interface Subservices. This table acts as a reference table for CompuCALL service categories. Table SCAIPROF uses the subservice names in table SCAISSRV to build service profiles available to a subscriber linkset.

Datafilling table SCAISSRV

The following table shows the datafill specific to CompuCALL Emergency Key Reporting for table SCAISSRV. Only those fields that apply directly to

CompuCALL Emergency Key Reporting (continued)

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

Datafilling table SCAISSRV (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SUBSERV		alphanumeric(1 to 16 characters)	Subservice profile name. Enter the subservice profile name. This field is the key to table SCAISSRV. The fixed subservice name is a concatenation of the category name, the batch change supplement (BCS) number or product , and the $ (dollar sign). For example, ACDEVENT11$ is a subservice name. It includes all functions and corresponding parameters in category ACDEVENT as supported in NA009. Subservice names do not use the $ (dollar sign); current and future fixed subservice names use the $. The fixed subservice name that includes this feature is ACDEVENT11$.
SPROFILE		see subfield	Subservice profile contents. This field consists of subfield CATEGORY.
	CATEGORY	ACDEVENT	CompuCALL service category. Enter the CompuCALL service category ACDEVENT (Automatic Call Distribution [ACD] line call event) for this feature, and select refinements as follows.
FUNCTIONS		see subfield	Functions. This field consists of subfield FUNCTION. You can select up to ten functions. If you select less than eight functions, end the list with a $ (dollar sign).
	FUNCTION	EMKEVENT	Function. Enter EMKEVENT for this feature. Select refinements NCALLID, AGTPOSID, and AGTDN, SUPRVID, SUPRVDN, and AUXDN as follows.

CompuCALL Emergency Key Reporting (continued)

Datafilling table SCAISSRV (Sheet 2 of 2)

NCALLID	Y or N	Network call ID. This parameter identifies the call in a network. The default is Y. If you select N, the switch cannot track CompuCALL messages.
AGTPOSID	Y or N	Agent position ID. The default is Y.
AGTDN	Y or N	Agent DN. Enter Y to select this option. Otherwise, enter N.
SUPRVPID	Y or N	Supervisor position directory number (DN). Enter y to select this option. Otherwise, enter N.
SUPRVDN	Y or N	Supervisor Answer Emergency key DN. Enter Y to select this option. Otherwise, enter N.
AUXDN	Y or N	Auxiliary device DN. Enter Y to select this option. Otherwise, enter N.

MAP display example for table SCAISSRV

```
        SUBSERV
                                                                SPROFILE

----------------------------------------------------------------------

    ACDEVENT11$
ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y
Y) (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y) (CALLREL Y Y Y Y Y) (AGTLGDIN Y Y
Y)AGTLGDOUT Y Y) (AGTREADY Y Y) (AGTNREADY Y Y Y) (LOBEVENT Y)
(EMKEVENT Y Y Y Y Y)$

    MYTUPLE
ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y
Y) (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y) (CALLREL Y Y Y Y Y) (EMKEVENT Y Y
N Y N N)$
```

Translation verification tools

CompuCALL Emergency Key Reporting does not use translation verification tools.

CompuCALL Emergency Key Reporting (end)

SERVORD

CompuCALL Emergency Key Reporting does not use SERVORD.

CompuCALL LOB Event Report

Ordering codes

Functional group ordering code: ICM00050

Functionality ordering code: not applicable

Release applicability

NA009 and up

CompuCALL LOB Event Report was introduced in NA009.

Prerequisites

This document includes all the data table information for this functionality. However, complete implementation of this functionality can require software or hardware not mentioned in this document.

Description

This feature reports LOB feature activity. This feature uses the dv-LOB-Event-U LOB event report message to report LOB feature activity. The DMS-100 switch sends this message to the host computer when an ACD agent enters an LOB code. The host computer extracts the code and the associated time-stamp from the message to generate management reports. This feature does not restrict the number of these event messages that the switch can send during one call.

The LOB feature is an existing feature that allows an ACD agent to enter any number of LOB codes during an active, incoming call. The LOB code is a three-digit code that signifies the type of the call. The agent can also enter LOB codes during the call wrap-up time, if the the caller releases the call. To enter an LOB code, the agent presses the LOB feature key on the EBS telephone set and dials the LOB code.

The LOB feature provides a record of LOB codes, which can provide information regarding the impact of products and services to subscribers. For example, the LOB records can show the time and duration of exact LOB-coded calls.

Category ACDEVENT in table SCAISSRV contains function LOBEVENT, which provides this feature.

Operation

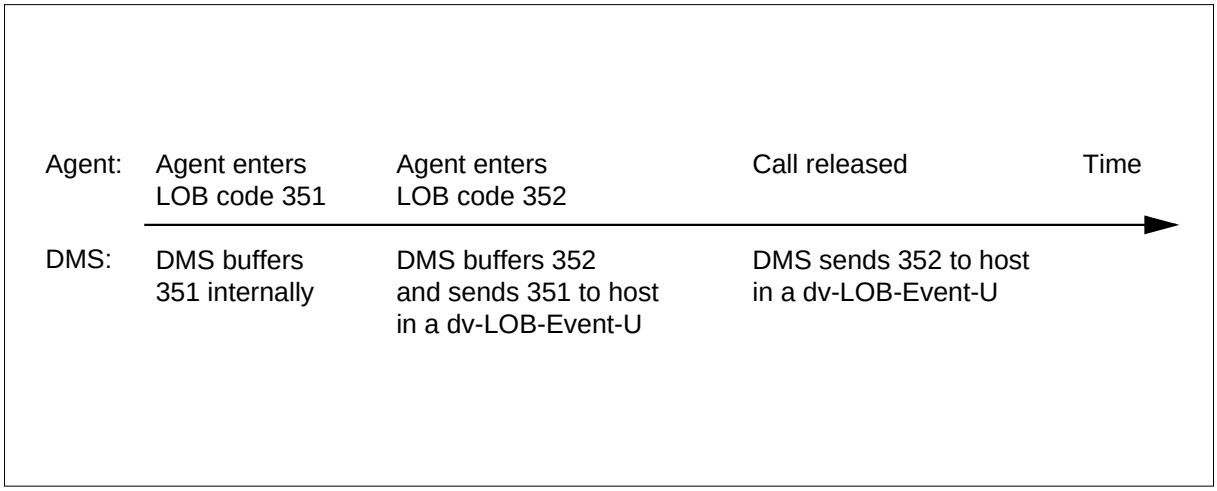
This feature uses the dv-LOB-Event-U message to report an LOB code that an agent enters during an active call. The DMS-100 switch sends this message to

CompuCALL LOB Event Report (continued)

the host computer. This message contains a time-stamp to indicate the time the agent entered the LOB code. (The recorded time is the local time at the switch location, not the host site.) The host can extract the LOB code and the associated time-stamp from the message to produce management reports.

An ACD agent can enter LOB codes while on an active incoming call. If the caller releases the call, the agent can enter the LOB code after the end of the call. To erase the last LOB code entered, the agent enters three asterisks (***).

The DMS-100 switch sends the dv-LOB-Event-U message when the agent enters the next LOB code. The following diagram illustrates how the switch generates messages.



The following table gives scenarios of agent actions and their effects on message generation.

dv-LOB-Event-U message generation examples (Sheet 1 of 2)

Agent action	DMS-100 switch effects
If the agent enters the first LOB code for the call	The DMS-100 switch buffers the LOB code.
If the agent enters another LOB code during the same call	The DMS-100 sends the first LOB code to the host and buffers the new one.
If the agent or caller releases the call	The DMS-100 sends the buffered LOB code in a dv-LOB-Event-U message. If no buffered LOB code exists, the switch does not send a message. Note that the switch does not send a message for a default LOB code assigned to the ACD group.

CompuCALL LOB Event Report (continued)

dv-LOB-Event-U message generation examples (Sheet 2 of 2)

Agent action	DMS-100 switch effects
If the agent cancels the last LOB code entered	The DMS-100 switch erases the LOB code in the buffer. The agent can erase only the last LOB code. The agent cannot erase any LOB code entered prior to the last LOB code.
If the agent does not enter any LOB code during the call	The DMS-100 switch does not send the dv-LOB-Event-U message. This action is different from the ACD MIS that reports the default LOB code.
If the agent enters more than three LOB codes	The DMS-100 switch sends all entered LOB codes to the host. This action is different from the ACD MIS, which reports only the first three LOB codes.
If the agent enters an LOB code after the caller hangs up	The DMS-100 switch waits for a 2.5 seconds. After 2.5 seconds, the switch tears the call. If the agent presses the LOB key during this interval, the switch increases the call wrap-up time. The switch waits for the agent to complete the LOB code. After the agent completes the LOB code, the switch sends the dv-LOB-Event-U message.
If the agent enters a LOB code that is not correct	The DMS-100 switch sends the dv-LOB-Event-U message for correct LOB codes only. The switch validates all LOB codes and accepts LOB codes from 000 to 999 and the special LOB code ***.
If the agent presses the LOB key twice quickly	The DMS-100 switch restarts the LOB feature on the second key press. This action is different from the Nortel PBX offering. The PBX agent presses the LOB key twice quickly to enter the default LOB code.

LOB message positioning

The switch sends the messages in an exact order. When an agent answers a call, the switch sends a dv-Call-Answered-U message to the host. When the agent releases the call, the switch sends a dv-Call-Released-U message. If an agent enters and LOB code, the switch sends the dv-LOB-Event-U message before the dv-Call-Released-U message. However, the order that the host receives the messages can vary because of variable delays in transport.

LOB message subscription

This feature enhances the message category ACDEVENT in table SCAISSRV. The category ACDEVENT contains the function LOBEVENT, which provides this feature.

Application logon SCAI service version

The service version for this CompuCALL feature is SCAI11. The service version identifies the messages required for this feature and all other features

CompuCALL LOB Event Report (continued)

from earlier software releases of CompuCALL. The dv-Application-Logon message in table SCAISSRV contains the service version parameter.

Translations table flow

The CompuCALL LOB Event Report translations tables are described in the following list:

- Table SCAISSRV acts as a look-up table for CompuCALL service categories and the messages that go into them. For this feature, table SCAISSRV contains the message category ACDEVENT, which includes the dv-LOB-Event-U message.

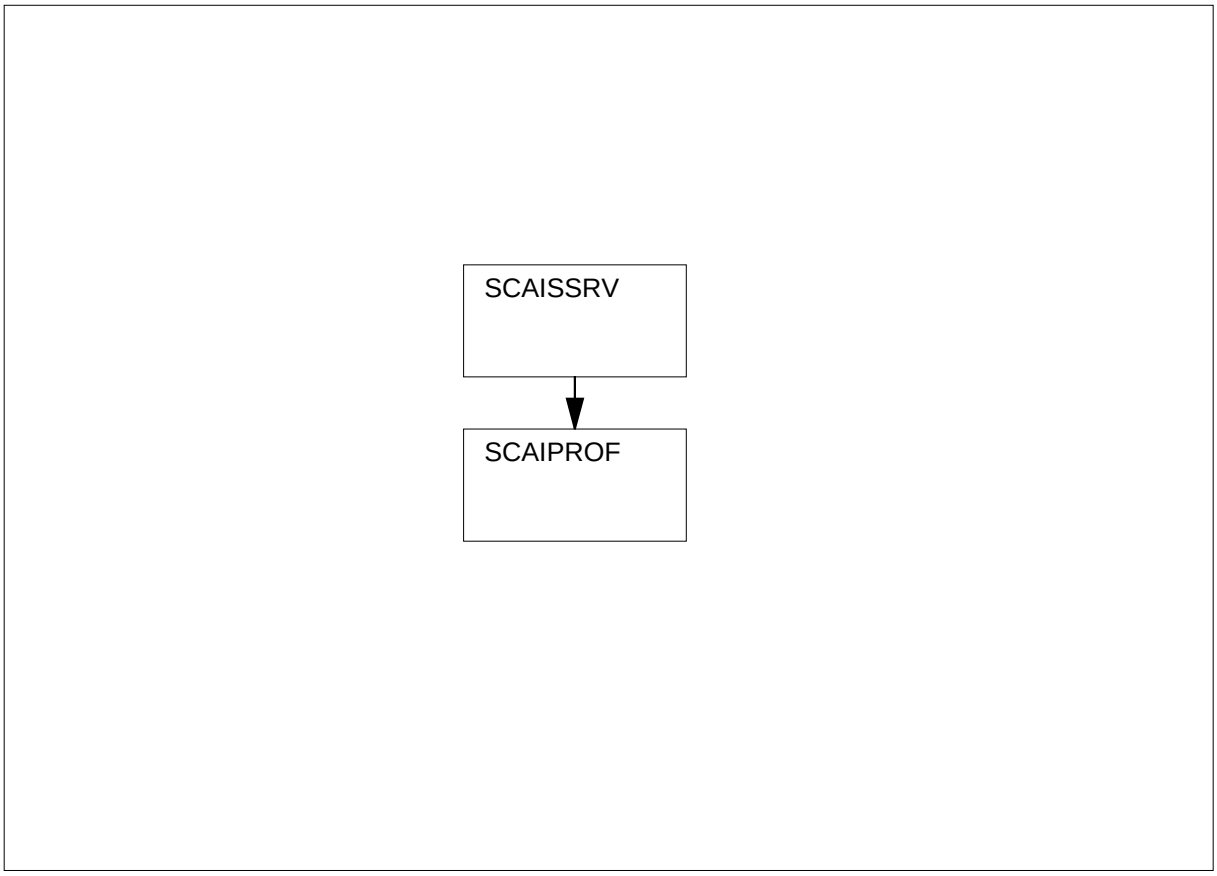
  CompuCALL (LOB) Event Reporting adds function LOBEVENT to category ACDEVENT. Function LOBEVENT includes parameters NCALLID, AGTPOSID, and LOBTIME. This feature also adds default tuple ACDEVENT11$ with all parameters selected Y.

- Table SCAIPROF defines the service profile that a service ID can use. The service profile consists of a set of subservices a customer center computer can use. For this feature, table SCAIPROF contains the service profile for category ACDEVENT in table SCAISSRV. The default category for this feature is ACDEVENT11$.

The CompuCALL LOB Event Report translation process is shown in the flowchart that follows.

CompuCALL LOB Event Report (continued)

Table flow for CompuCALL LOB Event Report



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

Datafill example for CompuCALL LOB Event Report

Datafill table	Example data
SCAISSRV	ACDEVENT11$ ACDEVENT (CALLQUED Y Y Y Y N N Y Y Y Y) (CALLOFFR Y Y Y Y Y N N N Y Y Y) (CALLANSWR Y Y Y Y Y Y Y N Y N) (CALLREL Y Y N Y Y) (LOBEVENT N Y N) (EMKEVENT Y N Y N Y)

CompuCALL LOB Event Report (continued)

Limitations and restrictions

The following limitations and restrictions apply to CompuCALL LOB Event Report. This feature does not support feature interactions not mentioned in this section:

- All hardware configurations that support the LOB feature support the dv-LOB-Event-U message.
- This feature does not change the core LOB features. The restrictions that apply to the dv-LOB-Event-U message will apply after its integration with CompuCALL. The following restrictions apply:
  - — If the agent enters more than three LOB codes and presses the asterisk three times (***) to erase the last entered LOB code, the switch erases the third LOB code entered. The switch stores a maximum of three LOB codes in the ACD Management Information System (MIS) software. For example, if the agent enters five LOB codes and presses *** to erase the last LOB code entered, the switch erases the third LOB code entered.
  - — If the agent does not enter an LOB code, the ACD MIS reports the default LOB code for that group. However, CompuCALL does not report a code.
- This feature supports the following MDC and ACD business sets:
  - — M5009 Meridian Business
  - — M5112 Meridian Business
  - — M5209 Meridian Business
  - — M5312 Meridian Business
  - — M5212 Meridian Business
  - — EBS
  - — PSET with Display
  - — MBS II series, including
    - – M5008 Meridian Business
    - – M5208 Meridian Business
    - – M5216 Meridian Business
    - – M5316 Meridian Business
  - — The 500/2500 sets do not support the LOB feature. Therefore, these sets cannot generate the dv-LOB-Event-U message.
  - — This feature does not introduce new MFT set restrictions. However, this feature does not alter restrictions from other features.

CompuCALL LOB Event Report (continued)

Interactions

The following paragraphs describe the interactions between CompuCALL LOB Event Report and other functionalities.

- The agent can start another feature after the LOB feature starts.
- The agent presses the LOB key twice to restart the LOB feature.
- The agent presses the Release key to end the digit collection and end the call.
- The agent presses the ACDNR key to end the digit collection, end the call, and activate the Not Ready state.
- The agent presses the MSB key to make the agent set busy but continue digit collection
- The agent presses the EMK key to end the LOB feature and start the EMK feature.
- The agent presses another DN or starts another DN feature to end the LOB digit collection. This action also puts the INCALLS key on hold, and connects to the other line to answer or receive a dial tone.

Activation/deactivation by the end user

CompuCALL LOB Event Report requires no activation or deactivation by the end user.

Station Message Detail Recording

CompuCALL LOB Event Report does not affect Station Message Detail Recording.

Datafilling office parameters

CompuCALL LOB Event Report does not affect office parameters. CompuCALL LOB Event Report uses the office parameter MAX_NUM_ECM_ACDEVENT.

The following table shows the office parameters used by CompuCALL LOB Event Report. For more information about office parameters, refer to *Office Parameters Reference Manual.*

Office parameters used by CompuCALL LOB Event Report

Table name	Parameter name	Explanation and action
OFCOPT	MAX_NUM_ECM_ACDEVENT	This ACD line call event includes features that provide coordinated voice and data and some of the agent control capabilities.

CompuCALL LOB Event Report (continued)

Datafill sequence

The following table lists the tables that require datafill to implement CompuCALL LOB Event Report. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for CompuCALL LOB Event Report

Table	Purpose of table
SCAISSRV	Table Switch-Computer Application Interface (SCAI) Subservices (SCAISSRV) acts as a look-up table for CompuCALL service categories and the messages that go into the categories.
SCAIPROF	Table SCAI Profile (SCAIPROF) defines the service profile that a service ID can use. A service profile consists of a set of subservices a customer center computer can use.

Datafilling table SCAISSRV

The following table shows the datafill specific to CompuCALL LOB Event Report for table SCAISSRV. Only those fields that apply directly to CompuCALL LOB Event Report are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table SCAISSRV (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SUBSERV		alpha numeric (1-16 characters)	Subservice profile name. Enter the service profile name. This field is the key to table SCAISSRV. The fixed subservice profile name for this feature is ACDEVENT11$. This profile name contains the dv-LOB-Event-U (function LOBEVENT) message.
SPROFILE		see subfields	Subservice profile contents. This field consists of subfield CATEGORY.
	CATEGORY		Category. The CompuCALL service category for this feature is ACDEVENT.
ACDEVENT			ACD line call event. This category contains the LOB event message (dv-LOB-Event-U) for function LOBEVENT.

CompuCALL LOB Event Report (continued)

Datafilling table SCAISSRV (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	LOBEVENT	LOBEVENT	LOB event. Enter LOBEVENT to select the LOB event message (dv-LOB-Event-U) for function LOBEVENT.
	NCALLID	Y or N	Network call identification. This parameter identifies the call in a network. Enter Y to include the parameter. If you select N, the host computer cannot track CompuCALL messages.
	POSID	Y or N	Agent position identification. Enter Y to include this parameter.
	LOBTIME	Y or N	LOB time. This parameter provides a time stamp to each LOB message sent from the DMS-100 switch. (The recorded time is the local time at the switch location, not the host site.)

Datafill example for table SCAISSRV

The following examples show sample datafill for table SCAISSRV.

Example for default tuple ACDEVENT11$

The following example shows the datafill in the DMS-100 switch. The tuple ACDEVENT11$ is a fixed tuple, which this feature introduces.

MAP display example for table SCAISSRV

```
ACDEVENT11$

------------------------------------------------------------------------
ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y
Y) (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y) (CALLREL Y Y Y Y Y) (AGTLGDIN Y Y
Y) (AGTLGDOUT Y Y) (AGTREADY Y Y) (AGTNREADY Y Y) (LOBEVENT Y Y Y)
(EMKEVENT Y Y Y Y Y)
```

Example for event called CUSTOMEREVENT

The following example shows the datafill in the DMS-100 switch.

CompuCALL LOB Event Report (end)

An event called CUSTOMEREVENT represents a user who subscribes to the following ACDEVENT messages:

- dv-Call-Queued-U
- dv-Call-Offered-U
- dv-Call-Answered-U
- dv-Call-Released-U
- dv-LOB-Event-U
- dv-EMK-Event-U

MAP display example for table SCAISSRV

```
CUSTOMEREVENT

----------------------------------------------------------------------
ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y Y) (CALLOFFR Y Y Y Y Y N N N Y Y
Y) (CALLANSWR Y Y Y Y Y Y Y Y N Y N) (CALLREL Y Y N Y Y) (LOBEVENT N Y
N) (EMKEVENT Y N Y N Y)
```

Translation verification tools

CompuCALL LOB Event Report does not use translation verification tools.

SERVORD

CompuCALL LOB Event Report does not use SERVORD.

CompuCALL Multiple Recorded Announcement

Ordering codes

Functional group ordering code: ICM00050

Functionality ordering code: ICM00021

Release applicability

NA009 and up

CompuCALL Multiple Recorded Announcement was introduced in NA009.

Prerequisites

This document includes all the data table information for this functionality. However, complete implementation of this functionality can require software or hardware not mentioned in this document.

Description

This feature applies specific audio treatments to calls in an ACD incoming call queue. The CompuCALL host computer sends the dv-give-treatment message to request audio treatment from a set of defined treatments in the the DMS-100 switch. The switch applies the treatment after the request successfully passes validation tests.

This feature is available in service version SCAI10 and higher.

Operation

This feature enhances the dv-give-treatment message in the following ways:

- adds option AUDIO treatment type
- changes the ROUTE parameter to a number from 0 through 512, where 0 uses the audio sequence defined in table ACDGRP within option AUDIO and 1 through 512 uses an audio sequence
- applies the recorded announcement (RAN) and music audio treatment types only if the ROUTE parameter specifies an audio sequence consistent with the audio treatment type specified in the request
- adds an optional restriction capability to the set of audio sequences that the switch can restrict for a customer

Audio treatment type

This feature ensures the route requested is consistent with the audio treatment type for RAN or music. The user requests an audio sequence defined in table AUDIO with a sequence that ends in ANN for the recorded announcement

CompuCALL Multiple Recorded Announcement (continued)

option or MUSIC for the music option. The user can send option AUDIO treatment type without checking for sequence for keywords.

When the dv-give-treatment message contains the keyword AUDIO, the switch also expects the ROUTE parameter in the message; for example, dv-Give-Treatment(ACDDN, NetworkCallID, Audio, <0-512>).

If the message contains the keyword AUDIO without the ROUTE parameter, the switch sends a return-reject message to the host computer.

The switch sends a dv-treatment-complete-U message to the host computer if the audio sequence completes and the user subscribes to the function TRMTCOMP in category TPQC.

This feature uses the OM register TRTAUDRR to peg a successful dv-give-treatment audio request and the OM register TRTAUDRE to peg an unsuccessful dv-give-treatment audio request. Similiar to other dv-give-treatment requests, if the request results in a return-error before the switch validates the treatment type, the switch pegs OM register TRTMSGRE. The switch does not peg the return-error register for the specific treatment request.

Route expansion with multiple route availability

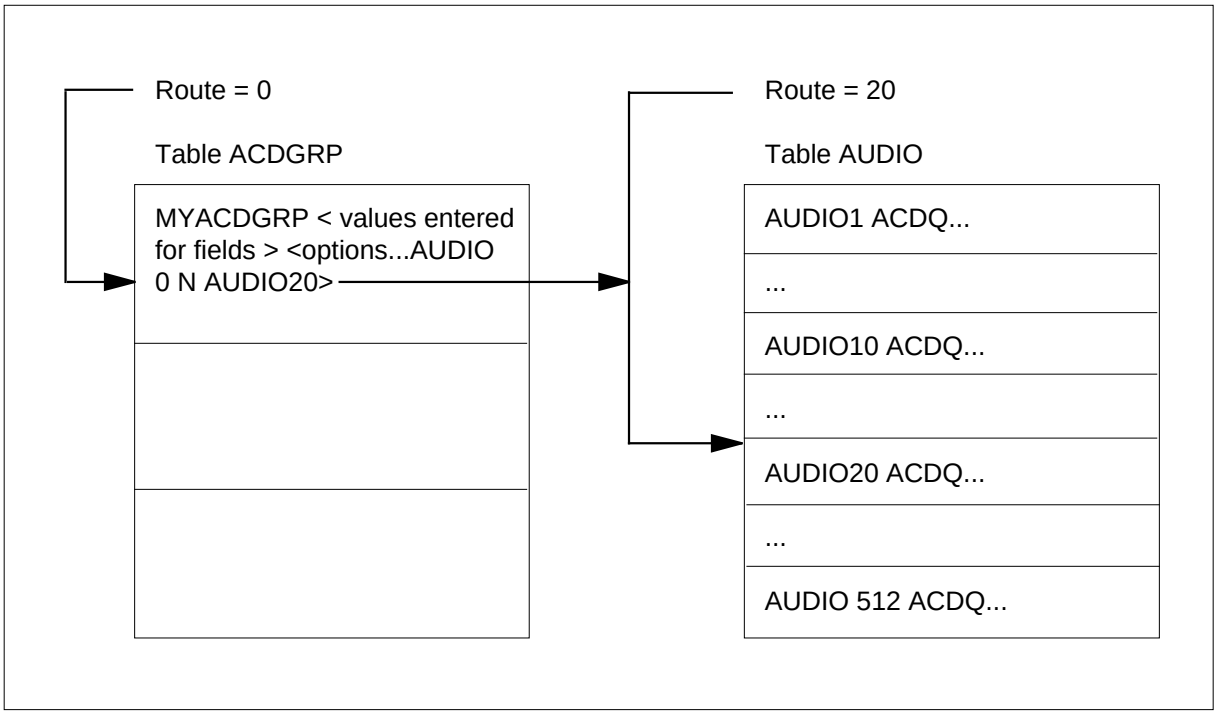
The set of usable audio sequences for this feature includes all the sequences defined in table AUDIO that have the ACDQ audio feature associated with the sequence.

The ROUTE parameter is an integer with a valid range from 0 through 512. A value of 0 defines the default route. A value of 1 defines the AUDIO1 ACDQ tuple in table AUDIO. The value of 20 defines the AUDIO20 ACDQ tuple in table AUDIO.

The following figure illustrates ROUTE parameter mapping to table AUDIO.

CompuCALL Multiple Recorded Announcement (continued)

Route parameter mapping to table AUDIO



Handling for inconsistent RAN and music ROUTE parameters

The switch returns the dv-Treatment-Complete-U message, after the host computer sends a valid RAN audio treatment, provided a dv-Give-Treatment or dv-Route-Call message has not interrupted the audio sequence. A predefined audio sequence that ends in the keyword ANN results in a dv-Treatment-Complete-U.

The call hears music until a dv-Give-Treatment or dv-Route-Call message interrupts the music after the host computer sends a valid Music audio request.

The valid keywords in table AUDIO are ANN, MUSIC, SILENCE, RINGBACK, and REPEAT. To repeat the keyword ANN, fill in the CYCLE parameter. You can enter the keyword ANN multiple times in the sequence as long as you insert one of the keywords MUSIC, SILENCE, or RINGBACK. You can define MUSIC as finite if it is between two ANN keywords. You can define MUSIC as infinite if it is the last keyword in the sequence. Insert the keywords MUSIC, SILENCE, and RINGBACK to create breaks between between announcements.

To play music only, enter the keyword MUSIC with 0 in the TIME prompt. 0 is the only valid entry when the keyword MUSIC is the last keyword in the

CompuCALL Multiple Recorded Announcement (continued)

sequence. Use the keyword REPEAT at the end of the sequence to repeat the entire sequence.

The host computer dv-Give-Treatment messages that contain a request for RAN or music are not able to play a sequence with the keyword REPEAT at the end of the sequence. Messages that contain a request for AUDIO allow any sequence to play.

AUDIO examples

Predefined audio sequence in table AUDIO	Valid for RAN?	Valid for music?	Valid for audio?
AUDIO10 ACDQ (ANN N VCA) $	Yes	No	Yes
AUDIO11 ACDQ (MUSIC PND 0) $	No	Yes	Yes
AUDIO12 ACDQ (ANN Y 1 VCA) (MUSIC PND 10) (ANN N 1 VCA) (REPEAT 2) $	No	No	Yes
AUDIO13 ACDQ (ANN Y 2 VCA) (SILENCE 0) $	No	No	Yes
AUDIO14 ACDQ (RINGING 0) $	No	No	Yes

When the switch receives the music audio treatment type in the dv-Give-Treatment request, audio sequences play that contain any or all of the possible keywords and end in the keyword MUSIC.

When the switch receives the RAN treatment type in the dv-Give-Treatment request, audio sequences play that contain any or all of the possible keywords and end in the keyword ANN.

When the switch receives the audio treatment type in the dv-Give-Treatment request, audio sequences play that contain any or all of the possible keywords.

The switch returns an error message that indicates an inconsistent route if the requested sequence does not end in the correct keyword.

Restricted set of audio sequences for RAN, music, and audio treatment types

It is possible to limit the set of predefined audio options from which the user can choose. Use table ACDRTE and the ACD route AUDIO option to assocate up to eight audio sequences from table AUDIO. A validation checks to see if the ACD group has an entry in table ACDRTE. If an entry exists, the route information in the dv-Give-Treatment message must match the index of one of

CompuCALL Multiple Recorded Announcement (continued)

these audio sequences. If an entry does not exist, all valid audio sequences appear to the caller.

An entry in table ACDRTE is necessary to prevent the playing of an unknown predefined audio sequence.

This feature removes a warning message that says, “This tuple will not table affect because the ACDGRP has option CDN assigned." This warning message displays from table ACDRTE. It displays when table ACDRTE contains an ACD group that has option CDN assigned in table ACDGRP. This feature removes the warning message when the ACD group has the AUDIO feature assigned.

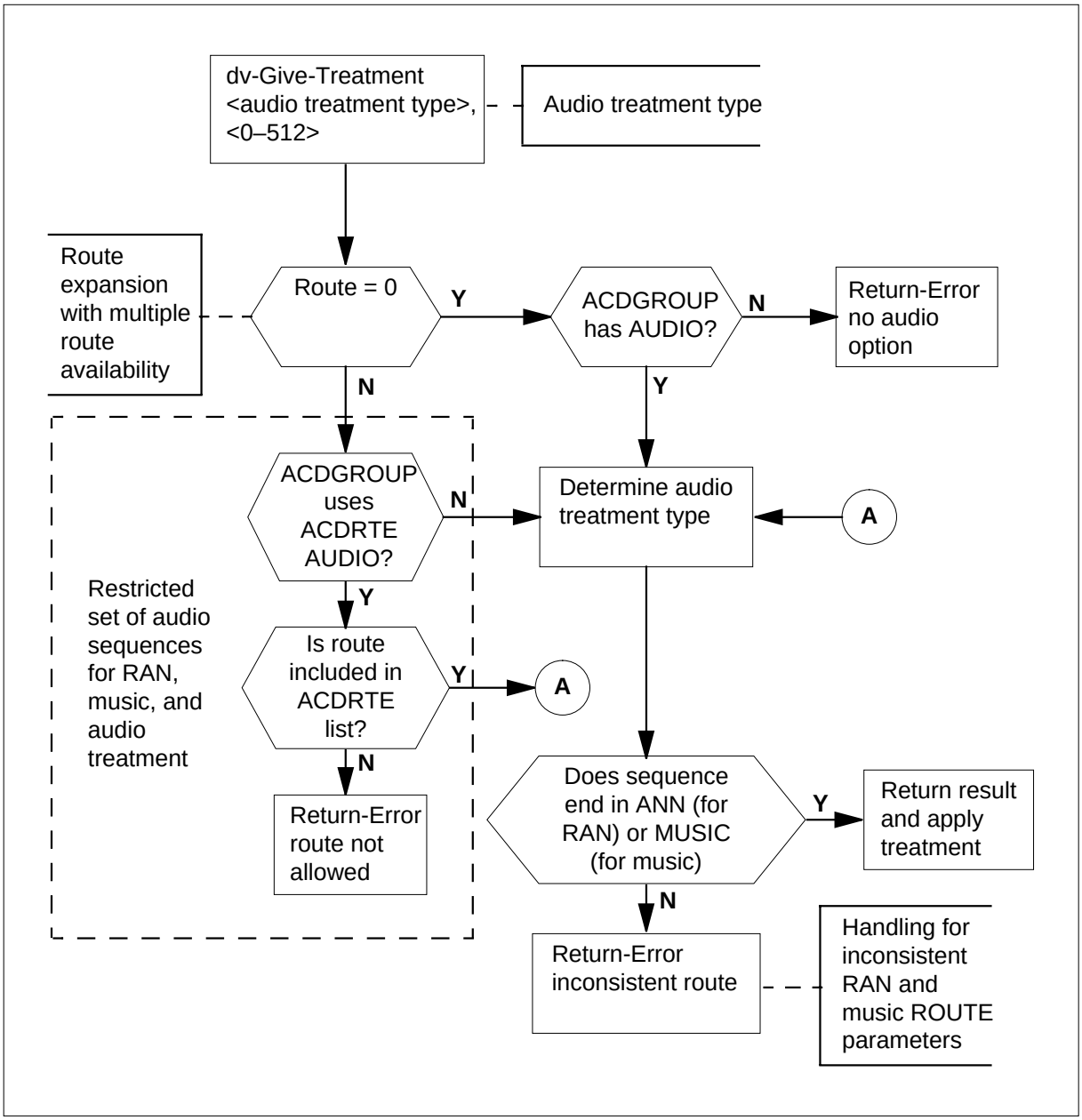
This feature returns an error message if the switch requests a sequence in an ACD group whose entry in table ACDRTE does not include the requested predefined audio sequence. The error message indicates that the route is not allowed.

Functionality flowchart

The following chart shows the dv-Give-Treatment message enhancements from this feature.

CompuCALL Multiple Recorded Announcement (continued)

Table flow for CompuCALL Multiple Recorded Announcement



CompuCALL Multiple Recorded Announcement (continued)

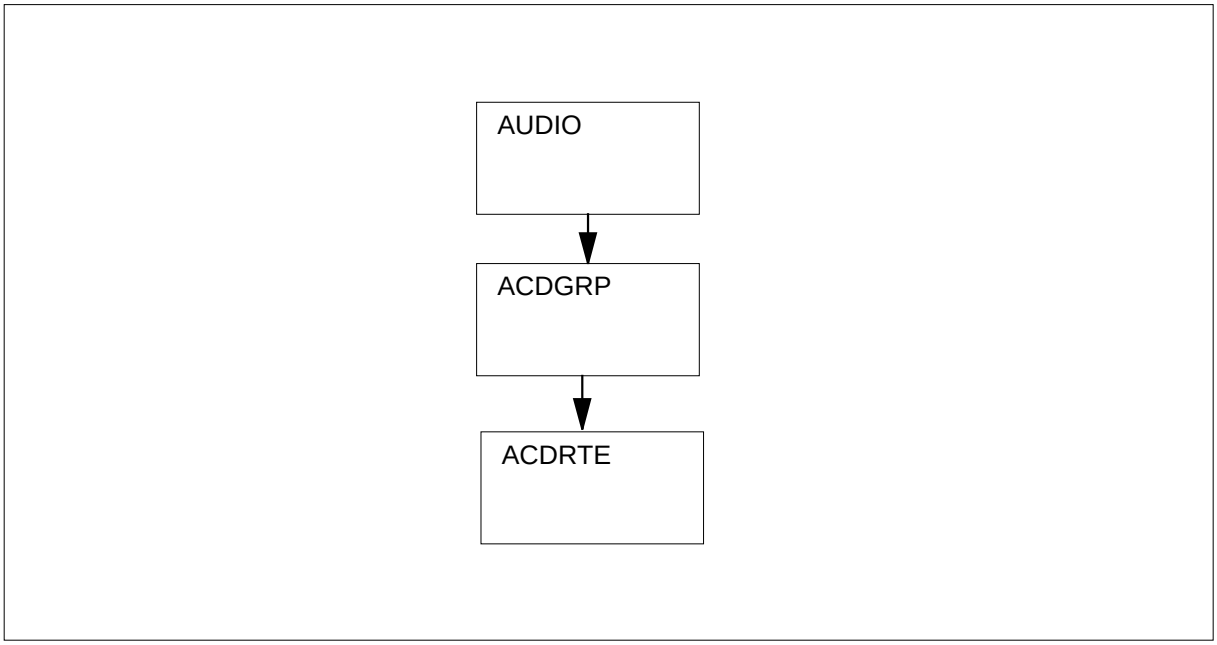
Translations table flow

The CompuCALL Multiple Recorded Announcement translations tables are described in the following list:

- Table AUDIO contains the Audio sequence.
- Table ACDGRP creates the ACD group.
- Table ACDRTE contains the ACD group with option AUDIO, feature AUDIO, and Audio sequences defined in table AUDIO.

The CompuCALL Multiple Recorded Announcement translation process is shown in the flowchart that follows.

Table flow for CompuCALL Multiple Recorded Announcement



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

Datafill example for CompuCALL Multiple Recorded Announcement (Sheet 1 of 2)

Datafill table	Example data
AUDIO	AUDIO10 ACDQ (ANN N 1 VCA) $AUDIO11 ACDQ (ANN N 1 VCA) (MUSIC SOFTMUS 0)

CompuCALL Multiple Recorded Announcement (continued)

Datafill example for CompuCALL Multiple Recorded Announcement (Sheet 2 of 2)

Datafill table	Example data
ACDGRP	TESTGRP CGA 0 OFR3 1 OFR3 1 0 N 1 0 N N NONE N N (AUDIO 0 N AUDIO10) (CDN ACD1CGA 60) $
ACDRTE	TESTGRP AUDIO AUDIO (AUDIO10) (AUDIO11) $

Limitations and restrictions

CompuCALL Multiple Recorded Announcement has no limitations or restrictions.

Interactions

CompuCALL Multiple Recorded Announcement has no functionality interactions.

Activation/deactivation by the end user

CompuCALL Multiple Recorded Announcement requires no activation or deactivation by the end user.

Station Message Detail Recording

CompuCALL Multiple Recorded Announcement does not affect Station Message Detail Recording.

Datafilling office parameters

CompuCALL Multiple Recorded Announcement does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement CompuCALL Multiple Recorded Announcement. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for CompuCALL Multiple Recorded Announcement (Sheet 1 of 2)

Table	Purpose of table
AUDIO	Audio Interlude. This table defines the audio interlude that this feature provides. The audio interlude can include any of the following elements: announcement, music, silence, or ringing. For a description of the fields in this table, see the data schema section of this document.

CompuCALL Multiple Recorded Announcement (end)

Datafill tables required for CompuCALL Multiple Recorded Announcement (Sheet 2 of 2)

Table	Purpose of table
ACDGRP	ACD Group. This table associates ACD features with specific customer groups.
ACDRTE	ACD Routing. This table contains a list of valid audio groups that can be datafilled in option AUDIO of table ACDGRP or that can be played using the dv-Give-Treatment message.

Translation verification tools

CompuCALL Multiple Recorded Announcement does not use translation verification tools.

SERVORD

CompuCALL Multiple Recorded Announcement does not use SERVORD.

ICM Configuration Management

Ordering codes

Functional group ordering code: ICM00050

Functionality ordering code: does not apply

Release applicability

NA011 and up

ICM Configuration Management was introduced in NA011.

Prerequisites

This document includes all the data table information for this functionality. Complete use of this functionality can require software or hardware not described in this document.

Description

Intelligent Call Management (ICM) Configuration Management improves ICM services to allow an application to change Automatic Call Distribution (ACD) information. ICM Configuration Management improves the integration between the application and the switch. Also, ICM Configuration Management reduces the need for the customer to keep the application and switch datafill manually synchronized.

ICM Configuration Management allows an application to change ACD information for the following options:

- Variable wrap-up
- Call forcing
- Reassign agent supervisor

Operation

The following sections describe the operation of ICM Configuration Management.

Variable wrap-up

ICM Configuration Management provides an ICM message to modify only the ACD Variable Wrap (VARWRAP) feature options. ICM Configuration Management modifies the dv-Set-Feature message to allow the operating company personnel to change the variable wrap timer on an ACD group basis or agent basis. For more information on variable wrap, refer to “ICM Variable Wrap Reporting" in the ACD translations section of this document.

ICM Configuration Management (continued)

Call forcing

ICM Configuration Management provides an ICM message to modify only the ACD Forcing feature options. ICM Configuration Management modifies the dv-Set-Feature message to allow the operating company personnel to change the FORCING option on an ACD group basis or agent basis. For more information on the Forcing feature, refer to “Call Forcing Tone Optionality" in the ACD translations section of this document.

Reassign agent supervisor

ICM Configuration Management provides an ICM message to reassign an agent to a different supervisor. ICM Configuration Management provides the dv-Reassign-Agent message, which allows the operating company personnel to change the subgroup of an agent by identifying a new supervisor position identification (posid).

The effected keys as a result of reassigning the agent supervisor are

- Call supervisor (CLSUP) key on the agent set and Answer Agent Key (AAK) on the supervisor's set
- Emergency Key (EMK) on the agent set and Answer Emergency Key (AEMK) on the supervisor set
- Agent Status Lamp (ASL) feature

The CLSUP key allows an ACD agent to call the supervisor. To make a call to a supervisor, the agent presses the CLSUP key and the call rings on the AAK on the supervisor's set.

The EMK allows an agent to conference the supervisor. When the agent presses the EMK, the lamp flashes on the agent set if the supervisor is available. The supervisor set rings, and AEMK lamp flashes. When the supervisor answers the AEMK, the switch conferences the supervisor into the call.

The ASL feature allows supervisors to have a visual indication of the status of each agent positions. Each agent position is associated with one ASL.

ICM Configuration Management (continued)

When reassigning an agent to a new supervisor, in each of the above occurrences, the following can happen:

- The agent presses the CLSUP key, and the new or old supervisor rings depending on the DIFFINC (different incalls) field. See table “DIFFINC for CLSUP."
- The agent presses the EMK, and the new or old supervisor rings depending on the DIFFINC field. See table “DIFFINC for EMK."
- When the reassigned agent position has agent status lamps associated to them, the agent position's original supervisor can continue to monitor the agent although the agent is not in the same group.

DIFFINC for CLSUP

DIFFINC	Supervisor
Y	Old Supervisor
N	New Supervisor

DIFFINC for EMK

DIFFINC	Supervisor
Y	Old Supervisor
N	New Supervisor

Translations table flow

ICM Configuration Management does not change translations table flow.

Limitations and restrictions

The dv-Set-Feature and the dv-Reassign-Agent messages can modify options variable wrap-up, call forcing, and reassign agent supervisor. The messages can not add or delete options in an ACD group.

Interactions

The following paragraph describes the interaction between ICM Configuration Management and ACD MIS Load Management Request.

Feature assigned keys and dv-Reassign-Agent message

The ICM Configuration Management message uses the ACD MIS Load Management Request messages as a model. The interaction between dv-Reassign-Agent message and feature assigned keys is identical to

reassigning an agent using the ACD MIS Load Management Request messages.

Activation/deactivation by the end user

ICM Configuration Management does not require activation or deactivation by the end user.

Billing

ICM Configuration Management does not generate billing records or changes.

Station Message Detail Recording

ICM Configuration Management does not require Station Message Detail Recording.

Datafilling office parameters

ICM Configuration Management does not generate office parameters.

Datafill sequence

The following table lists the table that requires datafill to put ICM Configuration Management into operation.

Datafill table required for ICM Configuration Management

Table	Purpose of table
SCAISSRV	Switch-Computer Application Interface Subservices contains ICM service categories and the messages that go into the catgories.

Datafill for table SCAISSRV with category ICCM

The following table shows the datafill related to ICM Configuration Management for table SCAISSRV with category Integrated Call Center Manager (ICCM). Only those fields that apply directly to ICM Configuration Management are shown. For a description of the other fields, refer to the data schema section of this document.

Datafill for table SCAISSRV with category ICCM (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
SRPROFILE		see subfields	Subservice profile contents. This field consists of subfield CATEGORY.
	CATEGORY	ICCM	ICM (formerly CompuCALL) service category. This subfield specifies the ICM service category. Enter ICCM (Integrated Call Center Manager).

ICM Configuration Management (continued)

Datafill for table SCAISSRV with category ICCM (Sheet 2 of 2)

Field	Subfield	Entry	Explanation and action
FUNCTIONS		see subfields	Functions. This field consists of subfield FUNCTION.
	FUNCTION	REASNAGT	Function. Enter REASNAGT (reassign agent) to change the supervisor for the indicated ACD agent. For REASNAGT select subfields AgentPosid and NewSupervisorPosid.
	AgentPosid	Y or N	Agent position identification. This subfield indicates the posid of the agent position. The agent position is reassigned to another supervisor.
	NewSupervis-orPosid	Y or N	New supervisor position identification. This subfield contains the posid of the supervisor. The agent posid is reassigned to the supervisor posid.

Datafill example for table SCAISSRV with category ICCM

The following example shows sample datafill for table SCAISSRV with category ICCM.

MAP display example for table SCAISSRV with category ICCM

```
SUBSERV                                                  SPROFILE
---------------------------------------------------------------
ICCM13$
                          ICCM (SETCDNST ) (REASNAGT Y Y) $
```

Datafill for table SCAISSRV with category TPAC

The following table shows the datafill related to ICM Configuration Management for table SCAISSRV with category TPAC (Third Party Agent Control). Only those fields that apply directly to ICM Configuration

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

Datafilling table SCAISSRV with category TPAC

Field	Subfield	Entry	Explanation and action
SRPROFILE		see subfields	Subservice profile contents. This field consists of subfield CATEGORY.
	CATEGORY	TPAC	ICM (formerly CompuCALL) service category. This subfield specifies the ICM service category. Enter TPAC.
FUNCTIONS		see subfields	Functions. This field consists of subfield FUNCTION.
	FUNCTION	CHGVWRAP	Function. Enter CHGVWRAP (change variable wrap) to change option VarWrap (variable wrap) for an ACD agent or ACD group. For CHGVWRAP select subfields ORIGADDR and WRAPTIMER.
	ORIGADDR	Y or N	Original address. This subfield contains the changed wraptimer for the agent posid or the primary ACDDN of the ACD group.
	WRAPTIMER	Y or N	Wrap timer. This subfield has a range of 0 to 600 seconds.
		CHGFORCE	Enter CHGFORCE (change force) to change option forcing for an ACD agent or ACD group. For CHGFORCE select subfields ORIGADDR and FRCETYPE.
	ORIGADDR	Y or N	Original address. This subfield contains the changed forcing for the primary ACDDN of the ACD group.
	FRCETYPE	Y or N	Force type. This subfield contains the values 0,1, and 2. The values represent HSET, BASE, and NONE.

Datafill example for table SCAISSRV with category TPAC

The following example shows sample datafill for table SCAISSRV with category ICCM.

ICM Configuration Management (end)

MAP display example for table SCAISSRV with category ICCM

```
SUBSERV                                                SPROFILE
---------------------------------------------------------------
TPAC13$
        TPAC (LOGINAGT Y Y N) (LOGOUTAGT Y) (READYAGT Y)
(NREADYAGT Y N) (RESERVEAGT Y Y) (UNRESERVEAGT Y)
(CHGVWRAP Y Y) (CHGFORCE Y Y) $
```

Translation verification tools

ICM Configuration Management does not use translation verification tools.

SERVORD

ICM Configuration Management does not use SERVORD.

ICM Interworking with MADN

Ordering codes

Functional group ordering code: ICM00050

Functionality ordering code: not applicable

Release applicability

NA011 and up

NA011 introduced ICM Interworking with MADN.

Requirements

This document includes all the data table information for this functionality. Complete use of this functionality can require software or hardware not described in this document.

Description

The Intelligent Call Manager (ICM) Call Event Message Support for Multiple Appearance Directory Number (MADN) Single Call Arrangement (SCA) feature allows Extended Call Management (ECM) and MADN to exist on the same line. Also the feature provides ICM Centrex call event message support for MADN SCA groups.

Operation

The host computer uses the dv-DN-Associate message to specify which MADN SCA group the host computer can receive the incoming call event messages. The MADN SCA groups provide Switch Computer Application Interface (SCAI) call event messages for originating and terminating calls.

The host computer associates the directory number (DN) of the primary member of the MADN SCA group. Once the host computer sends the dv-DN-Associate message to associate a primary MADN member, the message associates the secondary members. The host computer receives confirmation that the events of primary and secondary members are associated. Only the primary MADN SCA DN is in the same customer group as the associated session. The non-primary members are in the same customer group or different customer groups.

The switch sends a return-error message if there are not enough resources to associate a primary MADN SCA DN and all the secondary DNs. Also if the service version is earlier than SCAI13 then the switch sends a return-error message.

ICM Interworking with MADN (continued)

Secondary members lose association when the host computer sends a dv-DN-Associate message to remove association from the primary MADN SCA member. When a DN associated Centrex (CTX)/Residential (RES) line converts to a MADN line, the CTX/RES line loses its association. When a DN associated MADN line converts to CTX/RES line, the MADN line loses its association. All secondary members lose their associations after deleting a primary member.

A new member is associated to a MADN group if there are enough resources and the MADN group is associated. The Service Order System (SERVORD) displays a message to indicate that the new member is not ECM associated if there are not enough resources to associate a line.

Translations table flow

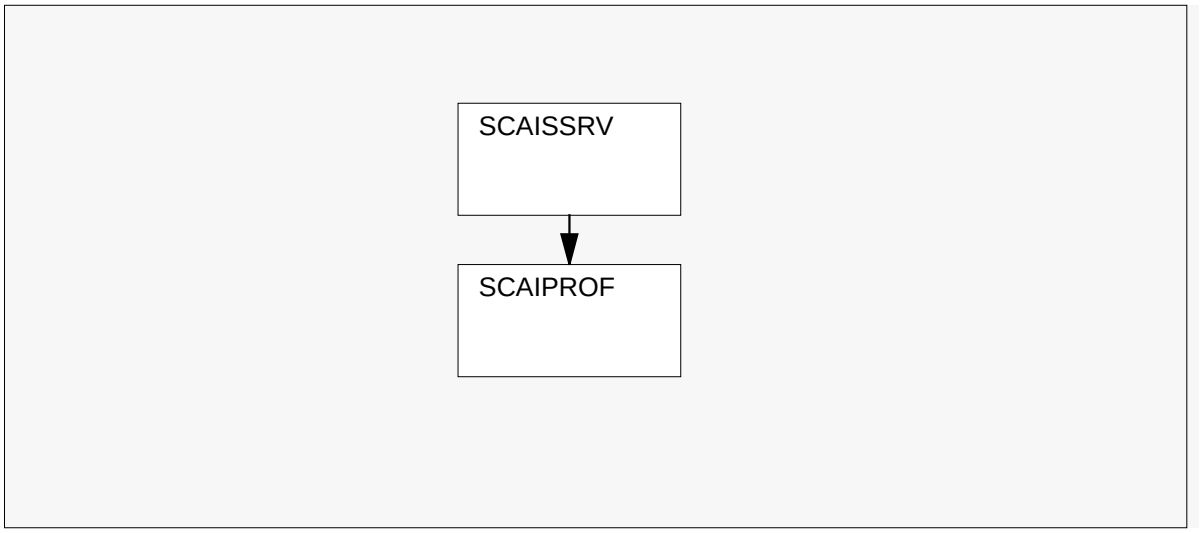
The list that follows includes the ICM Interworking with MADN translations tables:

- Table SCAISSRV (Switch Computer Application Interface Service) acts as a reference table for CompuCALL service categories. CompuCALL uses the SCAI link to provide DMS-100 switch-based services to applications residing on the host computer of a subscriber. Table SCAISSRV consists of a series of boolean values that indicate the CompuCALL messages provided for each subservice category.
- Table SCAIPROF (Switch Computer Application Interface Profile) uses the subservice names that table SCAISSRV defines to build a service profile of the CompuCALL messages available to a subscriber linkset. A service profile is a set of CompuCALL messages available to a subscriber during a CompuCALL session.

The flowchart that follows provides the ICM Interworking with MADN translations process.

ICM Interworking with MADN (continued)

Table flow for ICM Interworking with MADN



The table that follows lists the datafill content used in the flowchart.

Datafill example for ICM Interworking with MADN

Datafill table	Example data
SCAISSRV	CTXEVENT13$ CTXEVENT (SETOFFHOOK YYY) (CALLOFFR YYYYYYYYYYYYY) (CALLANSWR YYYYYYYYYYYYY) (CALLREL YYYY) (CALLNAME YYYYY)$
SCAIPROF	SET1 1 (CTXEVENT13) $

Limitations and restrictions

The limitations and restrictions that follow apply to ICM Interworking with MADN:

- The feature only supports MADN SCA groups.
- The feature provides support for ICM Centrex call event messages; dv-Set-Offhook-U, dv-Call-Offered-U, dv-Call-Answered-U, and dv-Call-Released-U messages.
- The host computer sends the MEMBERID parameter in the dv-Set-Offhook-U, dv-Call-Answered-U, and dv-Call-Released-U messages only when the parameter is available, and the end user subscribes to the parameter.
- If the end user subscribes to the MemberID parameter and the phone associated is not a MADN SCA group member, then the MemberID is not

ICM Interworking with MADN (continued)

included in the dv-Set-Offhook-U, dv-Call-Answered-U, and dv-Call-Released-U messages.

Interactions

ICM Interworking with MADN does not interact with other functionalities.

Activation and deactivation by the user

ICM Interworking with MADN does not require activation or deactivation by the user.

Billing

ICM Interworking with MADN does not generate billing records or changes.

Station Message Detail Recording

ICM Interworking with MADN does not require Station Message Detail Recording.

Office parameters used by ICM Interworking with MADN

The table that follows lists the office parameter used by ICM Interworking with MADN. For additional information about office parameters, refer to the *Office Parameters Reference Manual*.

Office parameters used by ICM Interworking with MADN

Table name	Parameter name	Explanation and action
OFCOPT	MAX_NUM_CTX_ASSOC	The office parameter controls the maximum number of MADN SCA associations.

Datafill sequence

The table that follows lists the tables that require datafill to put ICM Interworking with MADN into operation. You must enter data into the tables in this order.

Datafill requirements for ICM Interworking with MADN

Table	Purpose of table
SCAISSRV	Switch Computer Application Interface Subservices contains CompuCALL service categories. Table SCAISSRV includes a series of boolean values that indicate the CompuCALL messages provided for each subservice category.
SCAIPROF	Switch Computer Application Profile contains CompuCALL service profiles. A service profile is a set of CompuCALL messages and associated options available during a CompuCALL session.

Datafill related to ICM Interworking with MADN for table SCAISSRV

The table that follows provides the datafill related to ICM Interworking with MADN for table SCAISSRV. This table includes only those fields that apply directly to ICM Interworking with MADN.

Datafill related to table SCAISSRV

Field	Subfield	Entry	Explanation and action
SUBSERV		alphanumeric (1 to 16 characters)	Subservice profile name. Enter the subservice profile name. This field is the key to table SCAISSRV.
SRPROFILE		see subfield	Subservice profile contents. This field includes subfield CATEGORY.
	CATEGORY	CTXEVENT13$	CompuCALL service category. Enter CTXEVENT (Centrex Line Call Event).
	FUNCTION	SETOFFHOOK, CALLOFFR, CALLANSWR, CALLREL	Function. Enter CompuCALL messages. Enter SETOFFHOOK (set off hook) and select refinements NCALLID, DEVICEID, and MEMBERID. Enter CALLOFFR (call offered) and select refinements NCALLID, CALLNGNO, CALLNGDIAL, CALLNGNAME, CHARGENO, CALLTYPE, ORIGDN, ORIGDIAL, ORIGNAME, PREVAPPL, HOSTCALD, CALLMODE, and DEVICEID. Enter CALLANSWR (call answered) and select refinements NCALLID, DEVICEID, CALLNGNO, CALLNGDIAL, CALLNGNAME, CHARGENO, CALLTYPE, ORIGDN, ORIGDIAL, ORIGNAME, PREVAPPL, HOSTCALD, CALLMODE, and MEMBERID. Enter CALLREL (call release) and select refinements NCALLID, RELTYPE, DEVICEID, and MEMBERID.

Datafill example for table SCAISSRV

The figure that follows shows sample datafill for table SCAISSRV subservice profile CTXEVENT34$.

ICM Interworking with MADN (continued)

MAP example for table SCAISSRV subservice profile CTXEVENT34$

```
SUBSERV                                SPROFILE
---------------------------------------------------------
CTXEVENT34$
CTXEVENT (CALLOFFR Y Y N N Y Y Y N N Y Y Y Y) (CALLANSWR
Y Y Y N N Y Y Y N N Y Y Y N) (CALLREL Y Y Y N) $
```

The figure that follows shows sample datafill for table SCAISSRV subservice profile CTXEVENT35$.

MAP example for table SCAISSRV subservice profile CTXEVENT35$

```
SUBSERV                                SPROFILE
---------------------------------------------------------
CTXEVENT35$
CTXEVENT (CALLOFFR Y Y N N Y Y Y N N Y Y Y Y) (CALLANSWR
Y Y Y N N Y Y Y N N Y Y Y N) (CALLREL Y Y Y N) $
```

The figure that follows shows sample datafill for table SCAISSRV subservice profile CTXEVENT07$.

MAP example for table SCAISSRV subservice profile CTXEVENT07$

```
SUBSERV                                SPROFILE
---------------------------------------------------------
CTXEVENT07$
CTXEVENT (SETOFFHK Y Y N) (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y
Y Y) (CALLANSWR  Y Y Y Y Y Y Y Y Y Y Y Y Y N) (CALLREL Y
Y Y N) $
```

The figure that follows shows sample datafill for table SCAISSRV subservice profile CTXEVENT10$.

MAP example for table SCAISSRV subservice profile CTXEVENT10$

```
SUBSERV                                SPROFILE
---------------------------------------------------------
CTXEVENT10$
CTXEVENT (SETOFFHK Y Y N) (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y
Y Y) (CALLANSWR  Y Y Y Y Y Y Y Y Y Y Y Y Y N) (CALLREL Y
Y Y N) (CALLNAME  Y Y Y Y Y) $
```

The figure that follows shows sample datafill for table SCAISSRV subservice profile CTXEVENT13$.

MAP example for table SCAISSRV subservice profile CTXEVENT13$

```
SUBSERV                                SPROFILE
---------------------------------------------------------
CTXEVENT13$
CTXEVENT (SETOFFHK Y Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y
Y Y) (CALLANSWR  Y Y Y Y Y Y Y Y Y Y Y Y Y Y) (CALLREL Y
Y Y Y) (CALLNAME  Y Y Y Y Y) $
```

Datafill related to ICM Interworking with MADN for table SCAIPROF

The table that follows provides the datafill related to ICM Interworking with MADN for table SCAIPROF. This table includes only those fields that apply directly to ICM Interworking with MADN.

Datafill related to table SCAIPROF (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
PROFKEY		see subfields	Profile key. This field is a two-part key that identifies linkset and service profile combinations. Field PROFKEY consists of subfields LINKSET and SRVCID.
	LINKSET	alphanumeric (1 to 16 characters)	Linkset name. Enter one of the linkset names from table SCAICOMS. For example, enter LINKSET1.

ICM Interworking with MADN (continued)

Datafill related to table SCAIPROF (Sheet 2 of 2)

Field	Subfield	Entry	Explanation and action
	SRVCID	0 to 255	Service identity. Enter a service identity (ID) number. Up to eight service IDs can be entered for each linkset, but only one service profile can be used at any time. The service ID must be unique for each linkset and profile combination.
PROFILE		alphanumeric (1 to 16 characters)	Profile. Enter subservice names from table SCAISSRV. This field represents the CompuCALL service profile. A service profile can not have two subservice names from the same CompuCALL service category.

Datafill example for table SCAIPROF

The figure that follows shows sample datafill for table SCAIPROF.

MAP example for table SCAIPROF

```
PROFKEY                                          PROFILE
-------------------------------------------------------------
SET1 1                                     (CTXEVENT13$)$
```

Translation verification tools

ICM Interworking with MADN does not use translation verification tools.

SERVORD

ICM Interworking with MADN allows a customer to add the Multiple Directory Number (MDN) option to a Centrex/RES line with the Extended Call Management (ECM) option. The customer can add the ECM option to an existing MADN SCA primary DN.

SERVORD limitations and restrictions

The SERVORD limitations and restrictions that follow apply to ICM Interworking with MADN:

- Only MDN SCA is compatible with option ECM.
- Only primary DN is compatible with option ECM.

ICM Interworking with MADN (end)

- Only ECM suboptions CALL_EVENTS, CHKLOPT, and NETICM are compatible with option MDN.
- ECM option is not compatible with MDN non-primary members.

SERVORD example to add ICM Interworking with MADN

The SERVORD example that follows shows how to add ICM Interworking with MADN to a line with the ADO command in prompt mode.

SERVORD example for ICM Interworking with MADN in prompt mode

```
>ADO
SONUMBER:   NOW 98 5 20 PM
>
DN_OR_LEN:
> 6136211504
OPTKEY:
> 1
OPTION:
> ECM
CALL_EVENTS:
> Y
MAKECALL:
> Y
CONF_XFER:
> Y
MSG_WAIT
> Y
SCAICC:
> Y
CHKLOPT:
> Y
NETICM:
> Y
OPTKEY:
> $
```

The SERVORD example that follows shows how to add ICM Interworking with MADN to a line with the ADO command in no-prompt mode.

SERVORD example for ICM Interworking with MADN in no-prompt mode

```
> ADO   $   6136211504 1   ECM   Y   Y   Y   Y   Y   Y    Y   $
```

ICM Message Waiting Activation/Deactivation

Ordering codes

Functional group ordering code: ICM00050

Functionality ordering code: ICM00050

Release applicability

NA011 and up

NA011 introduced ICM Message Waiting Activation/Deactivation.

Requirements

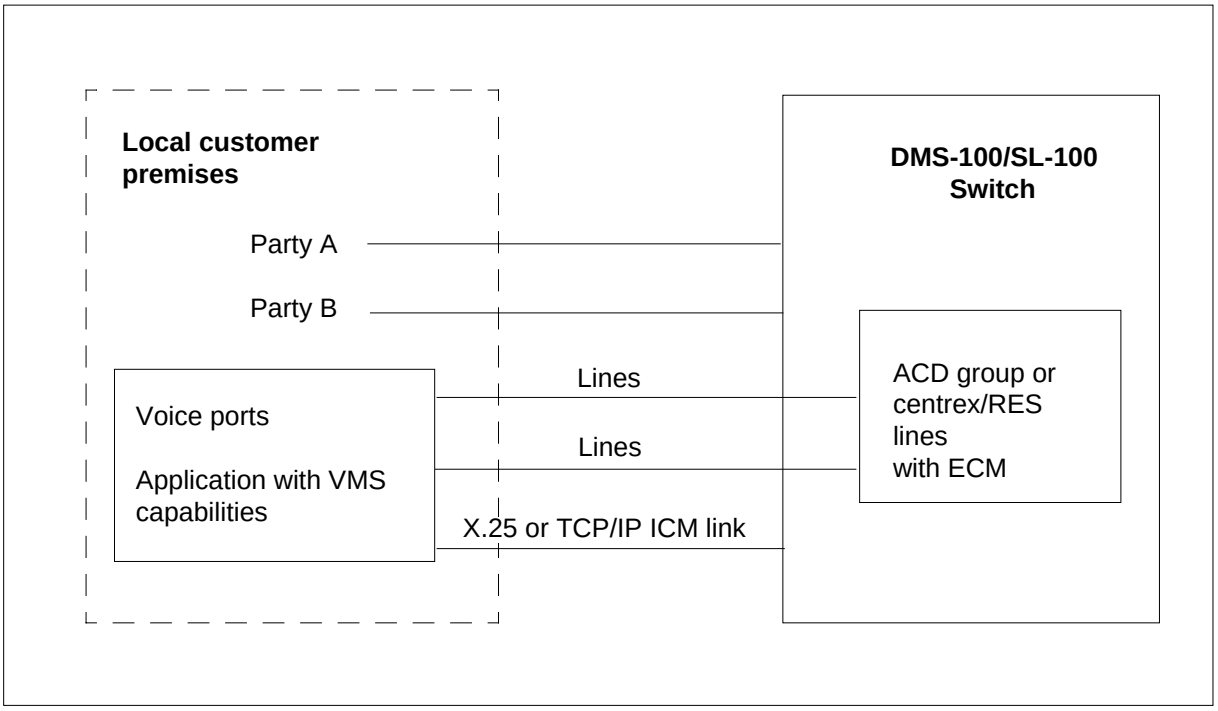
To operate, ICM Message Waiting Activation/Deactivation requires the ICM00050 functional group ordering code and the ICM00050 functionality ordering code.

Description

Intelligent Call Management (ICM) Message Waiting Activation/Deactivation allows the ICM link to interface to the Voice Mail System (VMS). The host computer can control the activation and deactivation of Message Waiting Indicator (MWI) with the ICM link. The ICM link is X.25 or TCP/IP. The ICM link provides information between the DMS-100 switch or SL-100 switch and the Voice Mail System (VMS). The figure that follows shows the Message Waiting activation/deactivation configuration with the ICM product.

ICM Message Waiting Activation/Deactivation (continued)

ICM Message Waiting Activation/Deactivation



ICM Message Waiting Activation/Deactivation changes the areas that follow:

- modified dv-Call-Answered-U message
- modified dv-Call-Offered-U messages
- creates dv-MWT-Activate message
- supports Network Message Service (NMS) for Message Waiting Indicator (MWI)
- modified table SCAICOMS
- modified table SCAISSRV
- creates operational measurement (OM) group Switch Computer Application Interface 3 (SCAISRV3) for ICM MWT message

Modified dv-Call-Answered-U message

The dv-Call-Answered-U message provides call-related information to the host computer when a Meridian Digital Centrex (MDC) or Residential Enhanced Services (RES) station or an Automatic Call Distribution (ACD) agent answers a call. The DMS switch does not expect to receive a Return Result message (RR) or a Return Error message (RE) from the host computer.

ICM Message Waiting Activation/Deactivation (continued)

This feature includes the ForwardingPartyParameter in the dv-Call-Answered-U message. The parameter appears in the message if an MDC or RES set or an automatic call distribution (ACD) agent answers the call. The call forward type calls Call Forward Busy (CFB), Call Forward Universal (CFU), and Call Forward Don't Answer (CFD) include this parameter. The reason in the parameter shows the type of call forwarding.

Modified dv-Call-Offered-U message

The dv-Call-Offered-U message provides call-related information to the host computer when a DMS switch makes available a call to an MDC or RES station or to an ACD agent. This message provides the host computer with the information to coordinate voice and data. The DMS switch does not expect the host computer to return a RR message or a RE message.

ICM Message Waiting Activation/Deactivation includes the ForwardingPartyParameter in the dv-Call-Offered-U message when the DMS switch makes available the call to a MDC or RES set and to an ACD agent. The call forward type calls CFB, CFU, and CFD include this parameter. The reason in the parameter shows the type of call forwarding.

Creates dv-MWT-Activate message

The host computer sends the dv-MWT-Activate message to a DMS switch. The host computer controls when to activate or deactivate a subscribers Message Waiting Indicator (MWI).

Network Message Waiting Services

Network Message Waiting Services enable the host computer to activate or deactivate the MWI of a VMS subscriber. The location of the subscriber is at a different DMS switch than the DMS switch for the host computer (message center) to perform this action. The conditions that follow must exist for both of the DMS switches:

- must support transaction capabilities application part (TCAP) communications.
- must have integrated services digital network (ISDN) user part (ISUP) or primary rate interface (PRI) trunks between them.

An additional condition is the host computer association to the VMS DN.

The dv-MWT-Activate message process is the same until the VMS subscriber with MWI is on a different switch. The DMS-100 switch sends an NMS TCAP QUERY message to the server node to activate or deactivate MWI. The server node sends an NMS TCAP RESPONSE message to the DMS-100 switch. The DMS-100 switch notifies the host computer with a Return Response message or a Return Error message. The host computer does not receive the

ICM Message Waiting Activation/Deactivation (continued)

dv-Message-Waiting-U message for MWI activation or deactivation with NMS.

Table SCAICOMS

Table SCAICOMS (Switch Computer Application Interface Communications) defines the linksets. Linksets join one or more DMS-100 switch multiprotocol controller card (MPC) or enhanced multiprotocol controller card (EMPC) links to the customer center computer. The protocol is X.25, or in connection with a customer IP address for TCP/IP protocol. The same IP address can have multiple linksets.

This feature modifies table SCAICOMS to include the option NONMS (No Network Message Service) and the option NMSPVT (NMS Private). Table SCAICOMS provides options like table SLLNKDEV (SL-100 Link Device). The entries in table SLLNKDEV provide the options for the VMS customer with MWI activation and deactivation through an SMDI link.

The NONMS option blocks network messages for a particular linkset.

The NMSPVT option identifies the VMS application interfaces that support communication of private DNs. The DMS switch sends a private DN across the link with the entry of the option NMSPVT.

Table SCAISSRV

Table SCAISSRV (Switch Computer Application Interface Subservices) lists the information that follows :

- ICM message services categories
- messages for each category
- parameter settings for each message subservice profile

This feature adds the subservice profile SCAIMWTI13$ to table SCAISSRV. The subservice profile SCAIMWTI13$ includes the message dv-MWT-ACT and the existing message dv-Message-Waiting-U.

SCAISRV3 OM group

This feature adds two registers to OM group SCAISRV3. The registers peg the MWT activation RR and RE messages. The following registers apply to OM group SCAISRV3:

- register MWTACTRR (message waiting return result) for a valid dv-MWT-Activate message request
- register MWTACTRE (message waiting return error) for an invalid dv-MWT-Activate request

ICM Message Waiting Activation/Deactivation (continued)

Operation

ICM Message Waiting Activation/Deactivation does not require operation.

Translations table flow

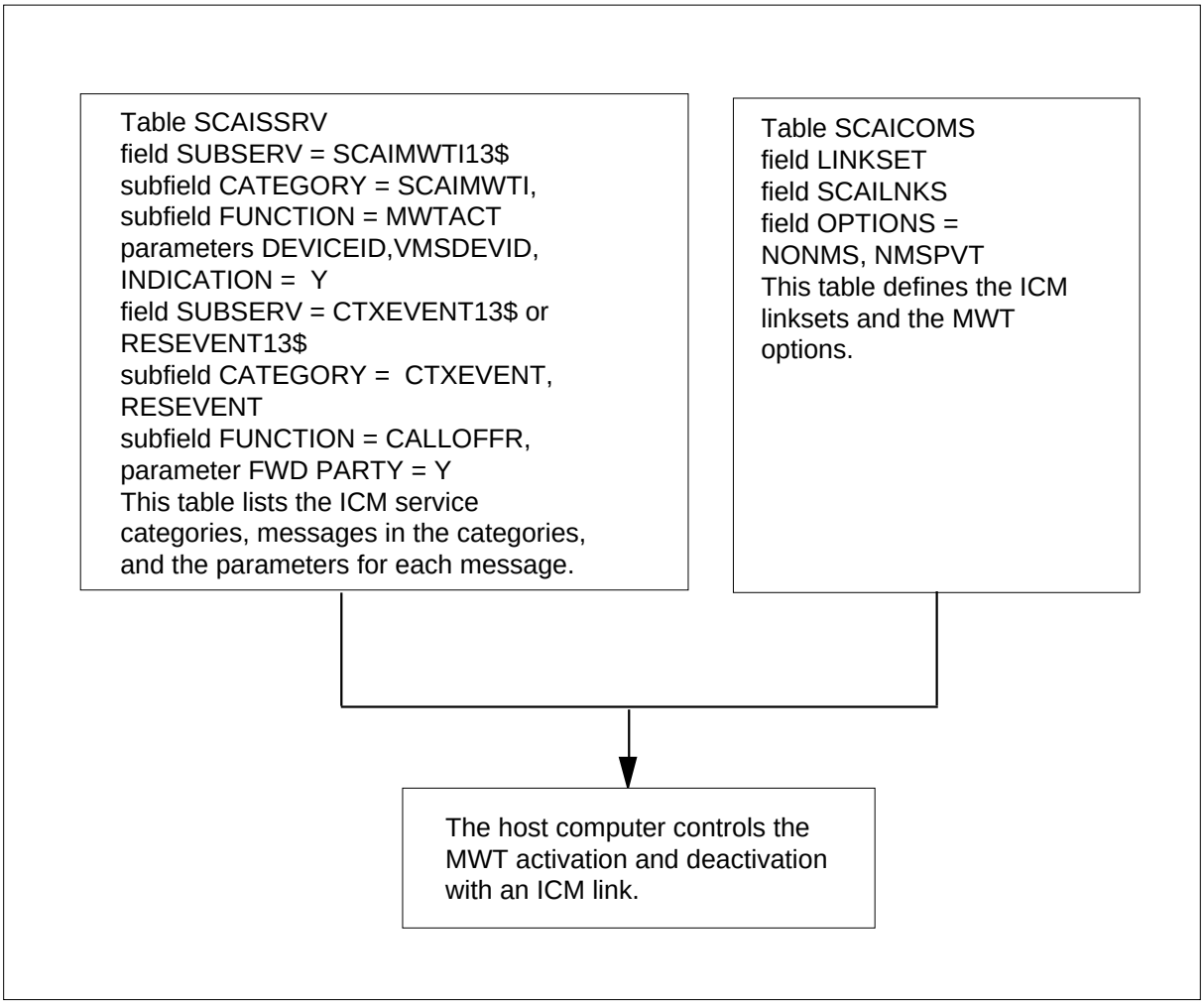
The list that follows includes the ICM Message Waiting Activation/Deactivation translations tables:

- Table SCAISSRV (Switch Computer Application Interface Subservice) contains ICM message service categories, the messages in each category, and the parameters for each message. The SCAIMWTI13$ subservice profile name (SUBSERV) includes the message dv-MWT-ACT and the existing message dv-Message-Waiting-U. The subservice profile of CTXEVENT13$ and RESEVENT13$ include FWDPARTY (Forward Party) parameter for the function Call Offered (CALLOFFR) and the function Call Answered (CALLANSWR).
- Table SCAICOMS (Switch Computer Application Interface Communications) defines a linkset for use by a switch computer application interface (SCAI) group. This table allows the configuration of SCAI links on a multiple protocol controller (MPC) card. The entries include MPC, link, calling address, and closed user group protocol for each link. The NONMS option (No Network Message Service) blocks network messages for a linkset. The option NMSPVT (No Message Service Private) identifies voice message service applications to send a private directory number (DN) across the link.

The flowchart that follows provides the ICM Message Waiting Activation/Deactivation translations process.

ICM Message Waiting Activation/Deactivation (continued)

Table flow for ICM Message Waiting Activation/Deactivation



The table that follows lists the datafill content used in the flowchart.

Datafill example for ICM Message Waiting Activation/Deactivation

Datafill table	Example data
SCAICOMS	TCP_RB TCP 47 129 163 5 (NOMS) (NMS PVT) $ LINKSET1 X25 (MPC 3 3 123456789 0 0 0 0 SVC) (MPC 1 3 123456789 0 0 0 0 SVC) $ (NOMS) (NMSPVT) $
SCAISSRV	CTXEVENT13$ CTXEVENT (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y Y Y Y) (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y Y Y Y)$ RESEVENT13$ RESEVENT (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y Y Y Y) (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y Y Y Y)$ SCAIMWTI13$ SCAIMWTI (MSGWAIT Y Y Y) (MWTACT Y Y Y)

ICM Message Waiting Activation/Deactivation (continued)

Limitations and restrictions

The limitations and restrictions that follow apply to ICM Message Waiting Activation/Deactivation:

- This feature supports the three categories that follow:
  - — DMS-100/SL-100 Automatic Call Distribution (ACD)
  - — DMS-100/SL-100 Meridian Digital Centrex (MDC)
  - — DMS-100 Residential Enhanced Services (RES)
- If the ICM data link fails, the DMS switch does not receive the dv-MWT-Activate message. If the DMS switch does not receive the dv-MWT-Activate message, the state of the Message Waiting Indicator (MWI) does not change. Operating company personnel can check the switch computer application interface (SCAI) or multiprotocol controller (MPC) logs for information about the link.

  If the DMS-100 switch does not receive the MWT deactivate message, the MWI remains active after the retrieval of all the messages.
- If a protocol or a parameter error is found in the dv-MWT-Activate message, the DMS switch responds with a Reject message or a Return Error (RE) message. If the host computer receives the Reject message or RE message, the state of the MWI does not change until the host computer sends a valid message.
- The ICM message desk identifies with ACD, MDC, and RES DNs. The customer group for the ACD group DN must have the assignment of the ECM (Extended Call Management) line option in table CUSTNTWK (Customer Group Network). The MDC and RES sets must have the assignment of the ECM line option. The DNs require these assignments to interwork with the ICM application.
- If the message desk is an ACD group DN, the DN is the primary group DN.
- If the message desk is an ACD posID, the host computer associates to the posID group DN, not to the posID.
- The options that follow apply to the requestee stations:
  - — Any type of call forwarding (CFW) option forwards calls to the ICM VMS.
  - — If a station does not have the MWT or EMW option, the DMS switch sends an RE message to the host computer. The RE message occurs when the DMS switch receives a dv-MWT-Activate message.
- This feature does not support ISDN sets as voice mail subscribers.
- This feature does not support UCD groups and hunt groups as message desk DNs.

ICM Message Waiting Activation/Deactivation (continued)

- The ICM ACD and MDC or RES messages, which contain different parameters, continue to have different parameters with this feature. The examples of the messages are dv-Call-Offered-U and dv-Call-Answered-U.
- The only MWT notification types this feature supports are message waiting lamp and stutter dial tone type indicators.
- This feature applies to subscribers whose calls go to a VMS. ICM Message Waiting Activation/Deactivation feature supports the following features:
  - Call Forwarding (CFW)
  - Series Completion (SCMP)
  - Line Overflow to DN (LOD)
  - Key Short Hunt (KSH)
- This feature does not support UCD or hunt groups. This feature identifies the message desk with automatic call distribution (ACD) group, MDC, or RES directory numbers (DNs). The agents have the customer group option ECM for ACD agents and the ECM (extended call management) line option for MDC or RES sets

Interactions

The paragraphs that follow describe how ICM Message Waiting Activation/Deactivation interacts with other functionalities.

- When dv-MWT-Activate message operate with Network Message Service (NMS), the DMS switch does not send a dv-MESSAGE-WAITING-U message to the host computer after the activation or deactivation of the Message Waiting Indicator (MWI).
- This feature supports the Call Request Retrieve (CRR) and Message List Editing (MLE) features.
- This feature does not support the Call Logging feature.

Activation and deactivation by the user

ICM Message Waiting Activation/Deactivation does not require activation or deactivation by the user.

Billing

ICM Message Waiting Activation/Deactivation does not generate billing records or changes.

ICM Message Waiting Activation/Deactivation (continued)

Station Message Detail Recording

ICM Message Waiting Activation/Deactivation does not require Station Message Detail Recording.

Office parameters used by ICM Message Waiting Activation/Deactivation

ICM Message Waiting Activation/Deactivation does not generate office parameters.

Datafill sequence

The table that follows lists the tables that require datafill to put ICM Message Waiting Activation/Deactivation into operation. You must enter data into the tables in this order.

Datafill requirements for ICM Message Waiting Activation/Deactivation

Table	Purpose of table
SCAICOMS	contains the linksets and options for each linkset
SCAISSRV	contains ICM service categories, messages for each category, parameters settings for each message

Datafill related to ICM Message Waiting Activation/Deactivation for table SCAICOMS

The table that follows provides the datafill related to ICM Message Waiting Activation/Deactivation for table SCAICOMS. This table includes only those fields that apply directly to ICM Message Waiting Activation/Deactivation.

Datafill related to table SCAICOMS

Field	Subfield	Entry	Explanation and action
OPTIONS		NONMS, NMSPVT	Options. This field identifies the option name for each linkset. The options include NONMS, NMSPVT, or $ for not present. No Network Message (NONMS). The option to block network messages for a linkset. Network Message Service Private (NMSPVT). The option for Voice Message Service (VMS) interface that sends private DNs across the link.

ICM Message Waiting Activation/Deactivation (continued)

Datafill example for table SCAICOMS

The figure that follows shows sample datafill for table SCAICOMS.

MAP example for table SCAICOMS

```
LINKSET          SCAILNKS
                                   OPTIONS
----------------------------------------------------------------------
TCP_RB  TCP 47 129 163 5    (NONMS) (NOPVT) $
TCP_JB  TCP 47 129 160 227   $
LINKSET1 X25  (MPC 3 3 123456789 0 0 0 0 SVC) (MPC 1 3 123456789 0 0 0
0 SVC) $   (NONMS) (NMSPVT) $
```

ICM Message Waiting Activation/Deactivation (continued)

Datafill related to ICM Message Waiting Activation/Deactivation for table SCAISSRV

The table that follows provides the datafill related to ICM Message Waiting Activation/Deactivation for table SCAISSRV. This table includes only those fields that apply directly to ICM Message Waiting Activation/Deactivation.

Datafill related to table SCAISSRV

Field	Subfield	Entry	Explanation and action
SUBSERV		alphanumeric (1 to 16 characters)	Subservice profile name. Enter the subservice profile name. This field is the key to table SCAISSRV. Enter the subservice profile name in table SCAIPROF if a SCAI group requires all the possible functions (messages). All functions must contain all the parameters (subfields) in a CompuCALL service category. The SUBSERV for category SCAIMWTI (Switch to Computer Applications Interface Message Waiting Indicator) is SCAIMWTI13$. SCAIMWTI13$ includes the messages dv-MWT-Act and dv-Message-Waiting-U. Set all parameters to Y. The SUBSERV for category CTXEVENT (Meridian Digital Centrex line call event) is CTXEVENT13$. The SUBSERV for category RESEVENT (Residential Enhanced Service [RES] line call event) is RESEVENT13$.
SPROFILE		see subfield	Subservice profile contents. This field includes subfield CATEGORY.
	CATEGORY	CTXEVENT, RESEVENT, or SCAIMWTI	CompuCALL service category. Enter CTXEVENT and select subfields for “CATEGORY = CTXEVENT" section. Enter RESEVENT and select subfields for “CATEGORY = RESEVENT" section. Enter SCAIMWTI and select subfields for “CATEGORY = SCAIMWTI" section.

ICM Message Waiting Activation/Deactivation (continued)

Category = CTXEVENT function CALLANSWR

The table that follows shows the entries for category CTXEVENT. Select the function CALLANSWR and the subfields as follows.

Datafill related to table SCAISSRV (category CTXEVENT function CALLANSWR) (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
	FUNCTIONS	see subfield	Functions. This subfield includes subfield FUNCTION. Select up to three functions. If you select less than three functions, end the list with a $ (dollar sign).
	FUNCTION	CALLANSWR	Function. Enter CALLANSWR (Call Answer) and select subfields NCALLID, DEVICEID, CALLNGNO, CALLNGDIAL, CALLNGNAME, CHARGENO, CALLTYPE, ORIGDN, ORIGDIAL, ORIGNAME, PREVAPPL, HOSTCALD, CALLMODE, and MEMBERID.
	NCALLID	Y or N	Network call identification. Enter Y to select option NCALLID. Otherwise, enter N.
	DEVICEID	Y or N	Destination device identification. Enter Y to select option DEVICEID. Otherwise, enter N.
	CALLNGNO	Y or N	Calling number. Enter Y to select option CALLNGNO. Otherwise enter N.
	CALLNGDIAL	Y or N	Dialable calling number. Enter Y to select option CALLNGDIAL. Otherwise, enter N.
	CALLNGNAME	Y or N	Calling name. Enter Y to select option CALLNGNAME. Otherwise, enter N.
	CHARGENO	Y or N	Charge number. Enter Y to select option CHARGENO. Otherwise, enter N.
	CALLTYPE	Y or N	Call type. Enter Y to select option CALLTYPE. Otherwise, enter N.
	ORIGDN	Y or N	Originating directory number. Enter Y to select option ORIGDN. Otherwise, enter N.
	ORIGDIAL	Y or N	Originating dialable digits. Enter Y to select option ORIGDIAL. Otherwise, enter N.
	ORIGNAME	Y or N	Originating name. Enter Y to select option ORIGNAME. Otherwise, enter N.

ICM Message Waiting Activation/Deactivation (continued)

Datafill related to table SCAISSRV (category CTXEVENT function CALLANSWR) (Sheet 2 of 2)

Field	Subfield	Entry	Explanation and action
	PREVAPPL	Y or N	Previous application. Enter Y to select option PREVAPPL. Otherwise, enter N.
	HOSTCALD	Y or N	Host call data. Enter Y to select option HOSTCALD. Otherwise, enter N.
	CALLMODE	Y or N	Call mode. Enter Y to select option CALLMODE. Otherwise, enter N.
	MEMBERID	Y or N	Member identification. Enter Y to select option MEMBERID. Otherwise enter N.

Category = CTXEVENT function CALLOFFR

The table that follows shows the entries for category CTXEVENT. Select the function CALLOFFR and the subfields as follows.

Datafill related to table SCAISSRV (category CTXEVENT function CALLOFFR (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
	FUNCTIONS	see subfield	Functions. This subfield includes subfield FUNCTION. Select up to three functions. If you select less than three functions, end the list with a $ (dollar sign).
	FUNCTION	CALLOFFR	Function. Enter CALLOFFR (Call Offer) and select subfields NCALLID, DEVICEID, CALLNGNO, CALLNGDIAL, CALLNGNAME, CHARGENO, CALLTYPE, ORIGDN, ORIGDIAL, ORIGNAME, PREVAPPL, HOSTCALD, CALLMODE, and FWDPARTY.
	NCALLID	Y or N	Network call identification. Enter Y to select option NCALLID. Otherwise, enter N.
	CALLNGNO	Y or N	Calling number. Enter Y to select option CALLNGNO. Otherwise, enter N.
	CALLNGDIAL	Y or N	Dialable calling number. Enter Y to select option CALLNGDIAL. Otherwise, enter N.
	CALLNGNAME	Y or N	Calling name. Enter Y to select option CALLNGNAME. Otherwise, enter N.

ICM Message Waiting Activation/Deactivation (continued)

Datafill related to table SCAISSRV (category CTXEVENT function CALLOFFR (Sheet 2 of 2)

Field	Subfield	Entry	Explanation and action
	CHARGENO	Y or N	Charge number. Enter Y to select option CHARGENO. Otherwise, enter N.
	CALLTYPE	Y or N	Call type. Enter Y to select option CALLTYPE. Otherwise, enter N.
	ORIGDN	Y or N	Originating directory number. Enter Y to select option ORIGDN. Otherwise, enter N.
	ORIGDIAL	Y or N	Originating dialable digits. Enter Y to select option ORIGDIAL. Otherwise, enter N.
	ORIGNAME	Y or N	Originating name. Enter Y to select option ORIGNAME. Otherwise, enter N.
	PREVAPPL	Y or N	Previous application. Enter Y to select option PREVAPPL. Otherwise, enter N.
	HOSTCALD	Y or N	Host call data. Enter Y to select option HOSTCALD. Otherwise, enter N.
	CALLMODE	Y or N	Call mode. Enter Y to select option CALLMODE. Otherwise, enter N.
	DEVICEID	Y or N	Destination device identification. Enter Y to select option DEVICEID. Otherwise, enter N.
	FWDPARTY	Y or N	Forwarding party. Enter Y to select option FWDPARTY. Otherwise, enter N. Enter Y if feature ICM MWT is active.

ICM Message Waiting Activation/Deactivation (continued)

Category = RESEVENT function CALLANSWR

The table that follows shows the entries for category RESEVENT. Select the function CALLANSWR and the subfields as follows.

Datafill related to table SCAISSRV (category RESEVENT function CALLANSWR) (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
	FUNCTIONS	see subfield	Functions. This subfield includes subfield FUNCTION. Select up to three functions. If you select less than three functions, end the list with a $ (dollar sign).
	FUNCTION	CALLANSWR	Function. Enter CALLANSWR (Call Answer) and select subfields NCALLID, DEVICEID, CALLNGNO, CALLNGDIAL, CALLNGNAME, CHARGENO, CALLTYPE, ORIGDN, ORIGDIAL, ORIGNAME, PREVAPPL, HOSTCALD, and CALLMODE.
	NCALLID	Y or N	Network call identification. Enter Y to select option NCALLID. Otherwise, enter N.
	DEVICEID	Y or N	Destination device identification. Enter Y to select option DEVICEID. Otherwise, enter N.
	CALLNGNO	Y or N	Calling number. Enter Y to select option CALLNGNO. Otherwise enter N.
	CALLNGDIAL	Y or N	Dialable calling number. Enter Y to select option CALLNGDIAL. Otherwise, enter N.
	CALLNGNAME	Y or N	Calling name. Enter Y to select option CALLNGNAME. Otherwise, enter N.
	CHARGENO	Y or N	Charge number. Enter Y to select option CHARGENO. Otherwise, enter N.
	CALLTYPE	Y or N	Call type. Enter Y to select option CALLTYPE. Otherwise, enter N.
	ORIGDN	Y or N	Originating DN. Enter Y to select option ORIGDN. Otherwise, enter N.
	ORIGDIAL	Y or N	Originating dialable digits. Enter Y to select option ORIGDIAL. Otherwise, enter N.
	ORIGNAME	Y or N	Originating name. Enter Y to select option ORIGNAME. Otherwise, enter N.

ICM Message Waiting Activation/Deactivation (continued)

Datafill related to table SCAISSRV (category RESEVENT function CALLANSWR) (Sheet 2 of 2)

Field	Subfield	Entry	Explanation and action
	PREVAPPL	Y or N	Previous application. Enter Y to select option PREVAPPL. Otherwise, enter N.
	HOSTCALD	Y or N	Host call data. Enter Y to select option HOSTCALD. Otherwise, enter N.
	CALLMODE	Y or N	Call mode. Enter Y to select option CALLMODE. Otherwise enter N.

Category = RESEVENT function CALLOFFR

The table that follows shows the entries for category RESEVENT. Select the function CALLOFFR and the subfields as follows.

Datafill related to table SCAISSRV (category RESEVENT function CALLOFFR (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
	FUNCTIONS	see subfield	Functions. This subfield includes subfield FUNCTION. Select up to three functions. If you select less than three functions, end the list with a $ (dollar sign).
	FUNCTION	CALLOFFR	Function. Enter CALLOFFR (Call Offer) and select subfields NCALLID, CALLNGNO, CALLNGDIAL, CALLNGNAME, CHARGENO, CALLTYPE, ORIGDN, ORIGDIAL, ORIGNAME, PREVAPPL, HOSTCALD, CALLMODE, DEVICEID, and FWDPARTY.
	NCALLID	Y or N	Network call identification. Enter Y to select option NCALLID. Otherwise, enter N.
	CALLNGNO	Y or N	Calling number. Enter Y to select option CALLNGNO. Otherwise, enter N
	CALLNGDIAL	Y or N	Dialable calling number. Enter Y to select option CALLNGDIAL. Otherwise, enter N.
	CALLNGNAME	Y or N	Calling name. Enter Y to select option CALLNGNAME. Otherwise, enter N.
	CHARGENO	Y or N	Charge number. Enter Y to select option CHARGENO. Otherwise, enter N.
	CALLTYPE	Y or N	Call type. Enter Y to select option CALLTYPE. Otherwise, enter N.

ICM Message Waiting Activation/Deactivation (continued)

Datafill related to table SCAISSRV (category RESEVENT function CALLOFFR (Sheet 2 of 2)

Field	Subfield	Entry	Explanation and action
	ORIGDN	Y or N	Originating DN. Enter Y to select option ORIGDN. Otherwise, enter N.
	ORIGDIAL	Y or N	Originating dialable digits. Enter Y to select option ORIGDIAL . Otherwise, enter N.
	ORIGNAME	Y or N	Originating name. Enter Y to select option ORIGNAME. Otherwise, enter N.
	PREVAPPL	Y or N	Previous application. Enter Y to select option PREVAPPL. Otherwise, enter N.
	HOSTCALD	Y or N	Host call data. Enter Y to select option HOSTCALD. Otherwise, enter N.
	CALLMODE	Y or N	Call mode. Enter Y to select option CALLMODE option. Otherwise, enter N.
	DEVICEID	Y or N	Destination device identification. Enter Y to select option DEVICEID. Otherwise, enter N.
	FWDPARTY	Y or N	Forwarding party. Enter Y for to select option FWDPARTY. Otherwise, enter N. Enter Y if feature ICM MWT is active.

Category = SCAIMWTI function MSGWAIT

The table that follows shows the entries for category SCAIMWTI, function MSGWAIT (Message Wait). Select the function MSGWAIT and the subfields as follows.

Datafill related to table SCAISSRV (category SCAIMWTI function MSGWAIT) (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
	FUNCTIONS		Functions. This subfield includes subfield FUNCTION. Select up to three functions. If you select less than three functions, end the list with a $ (dollar sign).
	FUNCTION		Function. Enter MSGWAIT (Message Wait) and select subfields DEVICEID, MWTYPE, and INDICATION as follows.
	DEVICEID	Y or N	Destination device identification. Enter Y to select option DEVICEID. Otherwise enter N.

ICM Message Waiting Activation/Deactivation (continued)

Datafill related to table SCAISSRV (category SCAIMWTI function MSGWAIT) (Sheet 2 of 2)

Field	Subfield	Entry	Explanation and action
	MWTYPE	Y or N	Message waiting type. Enter Y to select option MWTYPE. Otherwise enter N.
	INDICATION	Y or N	Indication. Enter Y to select option INDICATION. Otherwise enter N.

Category = SCAIMWTI function MSGACT

The table that follows shows the entries for category SCAIMWTI, function MSGWAIT (Message Wait). Select the function MWTACT and the subfields as follows.

Datafill related to table SCAISSRV (category SCAIMWTI function MWTACT

Field	Subfield	Entry	Explanation and action
	FUNCTIONS	see subfield	Functions. This subfield includes subfield FUNCTION. Select up to three functions. If you select less than three functions, end the list with a $ (dollar sign).
	FUNCTION	MWTACT	Function. Enter MWTACT (Message Activate) and select subfields DEVICEVID, VMSDEVID, and INDICATION as follows.
	DEVICEID	Y or N	Destination device identification. This parameter identifies the party for the activate or deactivate state of Message Wait Indicator (MWI). Enter Y to include this parameter in the dv-MWT-ACT message. Otherwise enter N.
	VMSDEVID	Y or N	Voice message service device identification. This parameter identifies the voice mail port. Enter Y to include this parameter is in the dv-MWT-ACT message. Otherwise enter N.
	INDICATION	Y or N	Indication. This parameter identifies the active or deactive state of MWI. Enter Y to include this parameter in the dv-MWT-ACT message. Otherwise enter N.

Datafill example for table SCAISSRV

The figure that follows shows sample datafill for table SCAISSRV.

ICM Message Waiting Activation/Deactivation (end)

MAP example for table SCAISSRV

```
            SUBSERV
                                                    SPROFILE
-------------------------------------------------------------
           CTXEVENT13$
CTXEVENT  (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y Y Y Y)
(CALLOFFR Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y)$
           RESEVENT13$
RESEVENT  (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y Y Y Y)
(CALLOFFR Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y)$
            SCAIMWTI13$
SCAIMWTI  (MSGWAIT Y Y Y)  (MWTACT Y Y Y)
```

Translation verification tools

ICM Message Waiting Activation/Deactivation does not use translation verification tools.

SERVORD

ICM Message Waiting Activation/Deactivation does not use the Service Order System (SERVORD).

SERVORD limitations and restrictions

ICM Message Waiting Activation/Deactivation has no SERVORD limitations or restrictions.

ICM TAPI Extensions

Ordering codes

Functional group ordering code: ICM00050

Functionality ordering code: not applicable

Release applicability

NA012 and up

NA012 introduced ICM TAPI Extensions.

Requirements

ICM TAPI Extensions has no functional group requirements.

Description

This feature adds a Class 5 event message, dv-Call-Progress-U. The DMS-100 switch sends the event message to the host computer to report the progress of a call. Event reports allow ICM to move towards alignment with TAPI.

A dv-Call-Progress-U message reports the following call state notifications:

- digits dialed state
- call progress state-BUSY
- call progress state-RINGBACK
- connected state
- call progress state-RAN
- call progress state-MUSIC
- call progress state-SILENCE

This feature creates service version SCAI14. The switch indicates the dv_Appl_Logon message for the host application to receive dv-Call-Progress-U messages. Service versions lower than SCAI14 do not deliver dv-Call-Progress-U messages.

The service version is upward compatible. SCAI14 provides all of the functionality of the previous service versions. Applications written to use SCAI14 do not require additional upgrading to continue working correctly.

Operation

This feature creates message category, CPGEVENT for table SCAISSRV. The message category allows subscription to the dv-Call-Progress-U messages.

ICM TAPI Extensions (continued)

The feature also creates default tuple CPGEVENT14$. The default tuple contains the CPGEVENT category with subscriptions to all call progress messages and optional message fields.

The host application receives dv-Call-Progress-U messages with the following setup and conditions:

- The host computer sends a successful dv-Appl-Logon request and establishes an ICM switch-host session.
- The host application monitors the line that associates with the session through dv-DN-Associate.
- The switch-host session subscribes to the Call Progress event messages.
- The SCAI service version is at least SCAI14.

Different events send a dv-Call-Progress-U message. The message includes a tag which identifies the event.

Digit collection event and message content

When the line goes off-hook to place an outbound call, the digit collection starts and the user dials the destination address. A dv-Call-Progress-U message indicating the digit collection event goes from the switch to the host computer on completion of digit collection.

When a feature activates to begin a call, the digits of the destination party display in the message. The message does not provide the feature activation code. For example, a user subscribing to Call Return can call the originator of the last incoming call by dialing *69. The digit collection event message only reports the digits of the destination party. The feature activation code, *69, does not appear in the message.

If a user is active in a call and begins a three way call, the system sends a dv-Call-Progress-U digit collection message. The system also sends a

ICM TAPI Extensions (continued)

dv-Call-Consult-Originated-U message. These messages require subscription in tables SCAISSRV and SCAIPROF.

Digit collection event message contents

Name	Description
NetworkCallID	An ICM call ID is a network node ID and a local call ID. The ICM call ID is new if the call ID is the first instance within this session environment. In other instances, the switch uses the call ID already assigned to this call.
OrigDevInfo	This parameter identifies the address of the party originating the call. If the call originates from a residential or centrex line, the switch provides the device ID in station number format. The switch also provides the name of the originator. If the call originates from an ACD agent, the switch provides the ACD group and position ID.
DialedDigits	This parameter defines the digits dialed.
CallType	This parameter identifies the type of call.
FirstLegDevInfo	This parameter identifies the address of the first leg of the call if the originator is already active in a call. If the first leg is a residential or centrex line, the switch provides the device ID with the station number and the name. If the first leg is an ACD agent, the switch provides the ACD group and position ID.

Busy event and message content

The call enters into one of two sub-states when placing an outbound call by dialing the destination address. When the far end destination party is busy and the call cannot terminate, the caller hears a busy tone. The call enters the busy state. The switch sends a dv-Call-Progress-U message to the host computer indicating the originator is receiving a busy tone from the switch. This action occurs when the call cannot terminate because the called party is busy.

Busy event message contents (Sheet 1 of 2)

Name	Description
NetworkCallID	An ICM call ID is a network node ID and a local call ID. The ICM call ID is new if the call ID is the first instance within this session environment. In other instances, the switch uses the call ID already assigned to this call.
OrigDevInfo	This parameter identifies the address of the party originating the call. If the call originates from a residential or centrex line, the switch provides the device ID in station number format. The switch also provides the name of the originator. If the call originates from an ACD agent, the switch provides the ACD group and position ID.
DialedDigits	This parameter defines the digits dialed.

ICM TAPI Extensions (continued)

Busy event message contents (Sheet 2 of 2)

Name	Description
CallType	This parameter identifies the type of call.
FirstLegDevInfo	This parameter identifies the address of the first leg of the call if the originator is already active in a call. If the first leg is a residential or centrex line, the switch provides the device ID with the station number and the name. If the first leg is an ACD agent, the switch provides the ACD group and position ID.

Ringback event and message content

The call enters into one of two sub-states when placing an outbound call by dialing the destination address. First, the call routes to the far end device and alerts the line. Then the caller hears ringback and the call enters the ringback state. The switch sends a dv-Call-Progress-U message to the host computer indicating the originator is receiving audible ringback.

The system does not report this event for inter-switch (trunk) calls.

Ringback event message contents (Sheet 1 of 2)

Name	Description
NetworkCallID	An ICM call ID is a network node ID and a local call ID. The ICM call ID is new if the call ID is the first instance within this session environment. In other instances, the switch uses the call ID already assigned to this call.
OrigDevInfo	This parameter identifies the address of the party originating the call. If the call originates from a residential or centrex line, the switch provides the device ID in station number format. The switch also provides the name of the originator. If the call originates from an ACD agent, the switch provides the ACD group and position ID.
TermDevInfo	This parameter identifies the terminating party address. If the call is not terminating to an ACD group, the switch provides the device ID in station number format. The switch also provides the terminator name. The switch provides the primary ACD group and the position ID under two conditions. First, the call terminates to an ACD group. Second, an agent responds to the call.
ACDDN	This parameter identifies the ACD DN the caller dials. The identity can be the primary ACD DN or an auxiliary ACD DN.
ForwardInfo	This parameter identifies forwarding information. The information includes the firstFwdNumber, firstFwdReason, lastFwdNumber, and lastFwdReason.

ICM TAPI Extensions (continued)

Ringback event message contents (Sheet 2 of 2)

Name	Description
CallType	This parameter identifies the type of call.
FirstLegDevInfo	This parameter identifies the address of the first leg of the call if the originator is already active in a call. If the first leg is a residential or centrex line, the switch provides the device ID in station number format and the name. If the first leg is an ACD agent, the switch provides the ACD group and position ID.

Connected event and message content

When the far end telephone device answers the incoming call, the caller's call changes to the connected state. The system sends a dv-Call-Progress-U message indicating a successful call connection from the switch to the host computer.

Connected event message contents

Name	Description
NetworkCallID	An ICM call ID is a network node ID and a local call ID. The ICM call ID is new if the call ID is the first instance within this session environment. In other instances, the switch uses the call ID already assigned to this call.
OrigDevInfo	This parameter identifies the address of the party originating the call. If the call originates from a residential or centrex line, the switch provides the device ID in station number format. The switch also provides the name of the originator. If the call originates from an ACD agent, the switch provides the ACD group and position ID.
TermDevInfo	This parameter identifies the terminating party address. If the call is not terminating to an ACD group, the switch provides the device ID in station number format. The switch also provides the terminator name. The switch provides the primary ACD group if the call terminates to an ACD agent.
ACDDN	This parameter identifies the ACD DN dialed by the caller. The identity can be the primary ACD DN or an auxiliary ACD DN.
ForwardInfo	This parameter identifies forwarding information. The information includes the firstFwdNumber, firstFwdReason, lastFwdNumber, and lastFwdReason.
CallType	This parameter identifies the type of call.
FirstLegDevInfo	This parameter identifies the address of the first leg of the call if the originator is already active in a call. If the first leg is a residential or centrex line, the switch provides the device ID in station number format and the name. If the first leg is an ACD agent, the switch provides the ACD group and position ID.

ICM TAPI Extensions (continued)

RAN event and message content

The switch sends a dv-Call-Progress-U message to the host computer when

- the switch routes a call to an ACD group
- the caller hears a Recorded Announcement

RAN event message contents

Name	Description
NetworkCallID	An ICM call ID is a network node ID and a local call ID. The ICM call ID is new if the call ID is the first instance within this session environment. In other instances, the switch uses the call ID already assigned to this call.
OrigDevInfo	This parameter identifies the address of the party originating the call. If the call originates from a residential or centrex line, the switch provides the device ID in station number format. The switch also provides the name of the originator. If the call originates from an ACD agent, the switch provides the ACD group and position ID.
TermDevInfo	This parameter identifies the terminating party address. The switch provides the primary ACD group.
ACDDN	This parameter identifies the ACD DN the caller dials. The identity may be the primary ACD DN or an auxiliary ACD DN.
ForwardInfo	This parameter identifies forwarding information. The information includes the firstFwdNumber, firstFwdReason, lastFwdNumber, and lastFwdReason.
CallType	This parameter identifies the type of call.
FirstLegDevInfo	This parameter identifies the address of the first leg of the call if the originator is already active in a call. If the first leg is a residential or centrex line, the switch provides the device ID in station number format and the name. If the first leg is an ACD agent, the switch provides the ACD group and position ID.

ICM TAPI Extensions (continued)

Music event and message content

The switch sends a dv-Call-Progress-U message to the host computer when

- the switch routes a call to an ACD group
- a caller hears music

Music event message contents

Name	Description
NetworkCallID	An ICM call ID is a network node ID and a local call ID. The ICM call ID is new if the call ID is the first instance within this session environment. In other instances, the switch uses the call ID already assigned to this call.
OrigDevInfo	This parameter identifies the address of the party originating the call. If the call originates from a residential or centrex line, the switch provides the device ID in station number format. The switch also provides the name of the originator. If the call originates from an ACD agent, the switch provides the ACD group and position ID.
TermDevInfo	This parameter identifies the terminating party address. The switch provides the primary ACD group.
ACDDN	This parameter identifies the ACD DN the caller dials. The identity may be the primary ACD DN or an auxiliary ACD DN.
ForwardInfo	This parameter identifies forwarding information. The information includes the firstFwdNumber, firstFwdReason, lastFwdNumber, and lastFwdReason.
CallType	This parameter identifies the type of call.
FirstLegDevInfo	This parameter identifies the address of the first leg of the call if the originator is already active in a call. If the first leg is a residential or centrex line, the switch provides the device ID in station number format and the name. If the first leg is an ACD agent, the switch provides the ACD group and position ID.

ICM TAPI Extensions (continued)

Silence event and message content

The switch sends a dv-Call-Progress-U message to the host computer when

- the switch routes a call to an ACD group
- a caller hears silence

Silence event message contents

Name	Description
NetworkCallID	An ICM call ID is a network node ID and a local call ID. The ICM call ID is new if the call ID is the first instance within this session environment. In other instances, the switch uses the call ID already assigned to this call.
OrigDevInfo	This parameter identifies the address of the party originating the call. If the call originates from a residential or centrex line, the switch provides the device ID in station number format. The switch also provides the name of the originator. If the call originates from an ACD agent, the switch provides the ACD group and position ID.
TermDevInfo	This parameter identifies the terminating party address. The switch provides the primary ACD group.
ACDDN	This parameter identifies the ACD DN the caller dials. The identity may be the primary ACD DN or an auxiliary ACD DN.
ForwardInfo	This parameter identifies forwarding information. The information includes the firstFwdNumber, firstFwdReason, lastFwdNumber, and lastFwdReason.
CallType	This parameter identifies the type of call.
FirstLegDevInfo	This parameter identifies the address of the first leg of the call if the originator is already active in a call. If the first leg is a residential or centrex line, the switch provides the device ID in station number format and the name. If the first leg is an ACD agent, the switch provides the ACD group and position ID.

Call progress reporting operational measurements

Several OM groups provide OM data on SCAI service use. This feature adds seven registers to the SCAISRV4 group for the dv-Call-Progress-U message:

- CPGDIGCU-Call progress-digit collection event reporting
- CPGBUSYU-Call progress-busy event reporting
- CPGRINGU-Call progress-ringback event reporting
- CPGCONNU-Call progress-connected event reporting
- CPGRANU-Call progress-recorded announcement event reporting

ICM TAPI Extensions (continued)

- CPGMUSCU-Call progress-music event reporting
- CPGSILU-Call Progress-silence event reporting

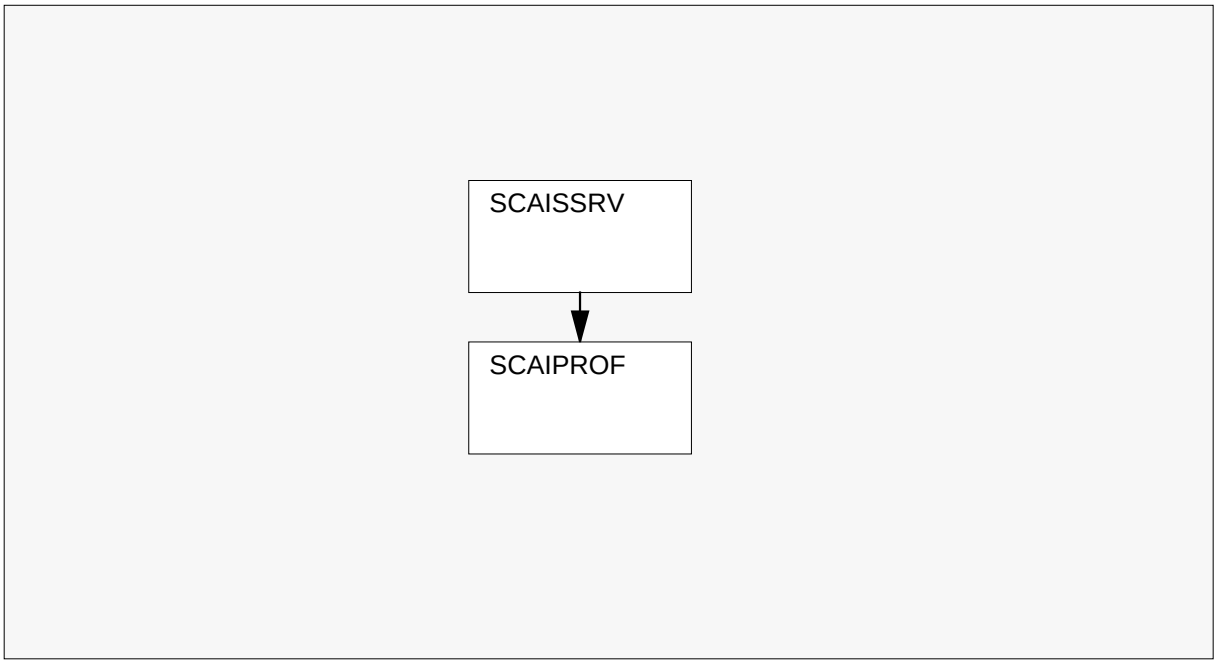
The switch sends a call progress message that details an event to the host computer. The switch marks the registers on a SCAIGRP basis.

Translations table flow

Table SCAISSRV acts as a reference table for ICM service categories. The existing subfield CATEGORY adds refinement CPGEVENT. When the system provisions CPGEVENT, the system also provisions a refinement containing fields for call progress events.

The flowchart that follows provides the ICM TAPI Extensions translations process.

Table flow for ICM TAPI Extensions



ICM TAPI Extensions (continued)

The table that follows lists the datafill content used in the flowchart.

Datafill example for ICM TAPI Extensions

Datafill table	Example data
SCAISSRV	RESEVENT13$ RESEVENT (SETOFFHK Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y Y Y Y) (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y Y Y Y) (CALLREL Y Y Y) (CALLNAME Y Y Y Y Y) $ CPGEVENT14$ CPGEVENT (DIGCOLL Y Y Y Y Y Y Y Y Y) (BUSY Y Y Y Y Y Y Y Y Y)(RINGBACK Y Y Y Y Y Y Y Y Y Y Y Y) (CONNECTED Y Y Y Y Y Y Y Y Y Y Y Y Y) $ (RAN Y Y Y Y Y Y Y Y Y Y Y) (MUSIC Y Y Y Y Y Y Y Y Y Y Y) (SILENCE Y Y Y Y Y Y Y Y Y Y Y) $

Limitations and restrictions

The limitations and restrictions that follow apply to ICM TAPI Extensions:

- The operating company does not report the ringback event for inter-switch calls. Detailed ACD information about calls to an ACD group are available for intra-switch calls.
- The operating company does not report digit collection, busy, and ringback events for intra-switch calls routed to a feature. However, the operating company reports the events if routed to an ACD group or agent.

Interactions

The paragraph that follows describes how ICM TAPI Extensions work with other functionalities.

If the user begins a consult leg call, the DMS-100 switch sends a dv-Call-Consult-Originated-U message and a dv-Call-Progress-U message. The DMS-100 switch sends the messages if the user subscribes to the messages.

Activation and deactivation by the user

ICM TAPI Extensions does not require activation or deactivation by the user.

Billing

ICM TAPI Extensions does not generate billing records or changes.

Station Message Detail Recording

ICM TAPI Extensions does not require Station Message Detail Recording.

ICM TAPI Extensions (continued)

Office parameters used by ICM TAPI Extensions

ICM TAPI Extensions does not generate office parameters.

Datafill sequence

The table that follows lists the table that requires datafill to put ICM TAPI Extensions into operation.

Datafill requirements for ICM TAPI Extensions

Table	Purpose of table
SCAISSRV	Switch-Computer Application Interface (SCAI) Subservices (SCAISSRV). This table acts as a reference table for ICM service categories and the messages that go into the categories.

Datafill related to ICM TAPI Extensions for table SCAISSRV

This feature adds a service category, CPGEVENT, to table SCAISSRV. Subscribable messages within the CPGEVENT category include DIGCOLL, BUSY, RINGBACK, CONNECTED, RAN, MUSIC, and SILENCE. The feature adds default tuple CPGEVENT14$ of category CPGEVENT. The feature subscribes all messages and sets all field subscriptions to Y.

ICM TAPI Extensions (continued)

The table that follows provides the datafill related to ICM TAPI Extensions for table SCAISSRV. This table includes only those fields that apply directly to ICM TAPI Extensions.

Datafill related to table SCAISSRV (Sheet 1 of 3)

Field	Subfield	Entry	Explanation and action
SPROFILE		see subfield	The feature modifies subfield CATEGORY and adds a refinement.
	CATEGORY	CTXEVENT, ACDEVENT, ROUTING, TPCC, RESOURCE, TPAC, RESEVENT, CALLINIT, SCAI3WC, SCAIMWTI, DNQUERY, SCAICC, TPQC, ICCM, CPGEVENT	This selector field allows selection of one of the possible service categories. Refinements are bound in for each service category. The feature adds category CPGEVENT and associated refinement.
	FUNCTION	DIGCOLL, BUSY, RINGBACK, CONNECTED RAN, MUSIC, SILENCE	This selector field allows selection of one of the possible call progress events for subscription. Refinements are bound for each call progress event.
	DIGCOLL	Multiple with fields: NCALLID, ORIGDEV, ORIGACD, ORIGNAME, DIALDIGS, CALLTYPE, FLEGDEV, FLEGACD, FLEGNAME	The system provisions each field as either Y or N. If the field is Y, the switch sends the field in the call progress message.

ICM TAPI Extensions (continued)

Datafill related to table SCAISSRV (Sheet 2 of 3)

Field	Subfield	Entry	Explanation and action
	BUSY	Multiple with fields: NCALLID, ORIGDEV, ORIGACD, ORIGNAME, DIALDIGS, CALLTYPE, FLEGDEV, FLEGACD, FLEGNAME	The system provisions each field as either Y or N. If the field is Y, the switch sends the field in the call progress message.
	RINGBACK	Multiple with fields: NCALLID, ORIGDEV, ORIGACD, ORIGNAME, TERMDEV, TERMACD, TERMNAME, ACDDN, FWDINFO, CALLTYPE, FLEGDEV, FLEGACD, FLEGNAME	The system provisions each field as either Y or N. If the field is Y, the switch sends the field in the call progress message.
	CONNECTED	Multiple with fields: NCALLID, ORIGDEV, ORIGACD, ORIGNAME, TERMDEV, TERMACD, TERMNAME, ACDDN, FWDINFO, CALLTYPE, FLEGDEV, FLEGACD, FLEGNAME	The system provisions each field as either Y or N. If the field is Y, the switch sends the field in the call progress message.

ICM TAPI Extensions (continued)

Datafill related to table SCAISSRV (Sheet 3 of 3)

Field	Subfield	Entry	Explanation and action
	RAN	NCALLID, ORIGDEV, ORIGACD, ORIGNAME, TERMACD, ACDDN, FWDINFO, CALLTYPE, FLEGDEV, FLEGACD, FLEGNAME	The system provisions each field as either Y or N. If the field is Y, the switch sends the field in the call progress message.
	MUSIC	NCALLID, ORIGDEV, ORIGACD, ORIGNAME, TERMACD, ACDDN, FWDINFO, CALLTYPE, FLEGDEV, FLEGACD, FLEGNAME	The system provisions each field as either Y or N. If the field is Y, the switch sends the field in the call progress message.
	SILENCE	NCALLID, ORIGDEV, ORIGACD, ORIGNAME, TERMACD, ACDDN, FWDINFO, CALLTYPE, FLEGDEV, FLEGACD, FLEGNAME	The system provisions each field as either Y or N. If the field is Y, the switch sends the field in the call progress message.

Datafill example for table SCAISSRV

The figure that follows shows sample datafill for table SCAISSRV.

ICM TAPI Extensions (end)

MAP example for table SCAISSRV

```
RESEVENT13$   RESEVENT (SETOFFHK Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y Y Y
Y)(CALLANSWR Y Y Y Y Y Y Y Y Y Y Y Y Y Y) (CALLREL Y Y Y)
(CALLNAME Y Y Y Y Y) $

-------------------------------------------------------------------
CPGEVENT14$ CPGEVENT (DIGCOLL Y Y Y Y Y Y Y Y Y) (BUSY Y Y Y Y Y Y Y Y Y)
(RINGING Y Y Y Y Y Y Y Y Y Y Y Y Y)
(CONNECTED Y Y Y Y Y Y Y Y Y Y Y Y Y)
(RAN Y Y Y Y Y Y Y Y Y Y Y) (MUSIC Y Y Y Y Y Y Y Y Y Y Y)
(SILENCE Y Y Y Y Y Y Y Y Y Y Y) $
```

Translation verification tools

ICM TAPI Extensions does not use translation verification tools.

SERVORD

ICM TAPI Extensions does not use the Service Order System (SERVORD).

ICM Three-Way Call Enhanced Status Reporting

Ordering codes

Functional group ordering code: ICM00050

Functionality ordering code: not applicable

Release applicability

NA012 and up

NA012 introduces ICM Three-Way Call Enhanced Status Reporting.

Requirements

The following conditions apply to receive the feature messages:

- A party connects with Extended Call Management (ECM).
- The service version is at least SCAI14.
- The Intelligent Call Management (ICM) session subscribes to the SCAI3WC or TPCC category. The ICM session subscribes to functions NCTRLREL (for the dv-Noncontroller-Released-U message) and CNTRLREL (for the dv-Controller-Released-U message).
- For a Residential Meridian Digital Centrex (RES/MDC) line, the ECM data feature option for RES/MDC line subscription CONF_XFER parameter boolean is set to Y.
- If the “address presentation restricted indicator" is presentation restricted, there is no directory number set for the releasing party.
- If there are no restrictions, the system sends the releasing party name when the releasing party is a RES/MDC line.

Description

This feature sends a message to the host computer of a Computer Telephony Integration system about a state transfer from a three-Way call (3WC) to a two-way call (2WC).

The ICM 3WC status reporting sends the following two messages from switch to host with the DN of the releasing party:

- If a state change of 3WC to 2WC is call transfer, the DMS-100 switch sends a dv-Controller-Released-U message.
- If a state change of 3WC to 2WC is not call transfer, the DMS-100 switch sends a dv-Noncontroller-Released-U message.

ICM Three-Way Call Enhanced Status Reporting (continued)

Operation

This functionality provides for Automatic Call Distribution (ACD) agents and RES/MDC lines. This activity improves the ICM 3WC status reporting by sending two messages from switch to host in the following conditions:

- If the result of a 3WC to 2WC state change is call transfer controlled by controller, the DMS-100 switch sends a new SCAI message. The message is dv-Controller-Released-U message with the Dialing Number (DN) of the releasing party.
- If the result of 3WC to 2WC state change is not call transfer, the DMS-100 switch sends a SCAI message. The message is dv-Noncontroller-Released-U with the DN of the releasing party.

Note: The DN means either the POSID, station number or dialed digits of the releasing party.

Change of status reports from 3-party to 2-party in a 3WC

State transition state # (combination of 3 parties)	Event#1 3-party talking to 2-party talking	Event #21st leg on hold, 2nd leg talking to 2-party talking	Event #31st leg on hold, 2nd leg ringing to 2-party talking
orig=agent controller=agent 3rd party=agent	Instance 1	Instance 2	Instance 3
orig=subscriber (through trunk) controller=agent 3rd party=agent	Instance 4	Instance 5	Instance 6
orig=agent controller=agent 3rd party=subscriber (through trunk)	Instance 7	Instance 8	Instance 9
orig=subscriber (through trunk) controller=agent 3rd party=subscriber (through trunk)	Instance 10	Instance 11	Instance 12

Instance 1

Originating party releases (event #1)

The message dv-Noncontroller-Released-U goes to the conferencing party and the conferenced party.

ICM Three-Way Call Enhanced Status Reporting (continued)

The originating party releases by

- Release key on originating party EBS
- dv_release_call sent for originating party

Conferencing party releases (event #1)

The message dv-Controller-Released-U goes to the originating party with the DN of the conferencing party.

The conferencing party releases by

- Release key on conferencing party EBS
- dv_release_call for conferencing party
- dv_transfer_party for conferencing party

Conferenced party releases (event #1)

The message dv-Noncontroller-Released-U goes to the originating party and the conferencing party.

The conferenced party releases by

- Release key on conferenced party EBS
- Flash/3WC key on conferencing party 500/2500 / EBS
- dv_drop_party message which the conferencing party sends for releasing the conferenced party
- dv_release_call for conferenced party

Instance 2

Originating party releases (event #2)

The message dv-Noncontroller-Released-U goes to the conferencing party and the conferenced party.

The originating party releases by

- Release key on originating party EBS
- dv_release_call for originating party

Conferencing party releases (event #2)

The message dv-Controller-Released-U goes to the originating party with the DN of the conferencing party.

ICM Three-Way Call Enhanced Status Reporting (continued)

The conferencing party releases by

- Release key on conferencing party EBS with call transfer feature
- dv_transfer_party for conferencing party

Conferenced party releases (event #2)
The message dv-Noncontroller-Released-U goes to the originating party and the conferencing party.

The conferenced party releases by

- Release key on conferenced party EBS
- Release key on conferencing party EBS without call transfer feature
- dv_release_call for conferencing party
- dv_drop_party message which the conferencing party sends for releasing the conferenced party
- dv_release_call for conferenced party

Instance 3

Originating party releases (event #3)
The message dv-Noncontroller-Released-U goes to the conferencing party.

The originating party releases by

- Release key on originating party EBS
- dv_release_call for originating party

Conferencing party releases (event #3)
The message dv-Controller-Released-U goes to the originating party with the DN of the conferencing party.

The conferencing party releases by

- Release key on conferencing party EBS with call transfer feature
- dv_transfer_party for conferencing party

Conferenced party releases (event #3)
The message dv-Noncontroller-Released-U goes to the originating party and the conferencing party.

ICM Three-Way Call Enhanced Status Reporting (continued)

The conferenced party releases by

- Release key on conferencing party EBS without call transfer feature
- dv_drop_party message which the conferencing party sends for releasing the conferenced party
- dv_release_call for conferencing party

Instance 4

Originating party releases (event #1)

The message dv-Noncontroller-Released-U goes to the conferencing party and the conferenced party.

The originating party releases by

- Release key on originating party EBS
- dv_release_call for originating party

Conferencing party releases (event #1)

This action requires no message.

Conferenced party releases (event #1)

The message dv-Noncontroller-Released-U goes to the conferencing party with the DN of the conferenced party.

The conferenced party releases by

- Release key on conferenced party EBS
- Flash/3WC key on conferencing party 500/2500 / EBS
- dv_drop_party message which the conferencing party sends for releasing the conferenced party
- dv_release_call for conferenced party

Instance 5

Originating party releases (event #2)

The message dv-Noncontroller-Released-U goes to the conferencing party and the conferenced party.

The originating party releases by

- Release key on originating party EBS
- dv_release_call for originating party

ICM Three-Way Call Enhanced Status Reporting (continued)

Conferencing party releases (event #2)

This action requires no message.

Conferenced party releases (event #2)

The message dv-Noncontroller-Released-U goes to the conferencing party with the DN of the conferenced party.

The conferenced party releases by

- Release key on conferenced party EBS
- Release key on conferencing party EBS without call transfer feature
- dv_release_call for conferencing party
- dv_drop_party message which the conferencing party sends for releasing the conferenced party
- dv_release_call for conferenced party

Instance 6

Originating party releases (event #3)

The message dv-Noncontroller-Released-U goes to the conferencing party with the DN of the originating party.

The originating party releases by

- Release key on originating party EBS
- dv_release_call for originating party

Conferencing party releases (event #3)

This action requires no message.

Conferenced party releases (event #3)

The message dv-Noncontroller-Released-U goes to the conferencing party with the DN of the conferenced party.

The conferenced party releases by

- Release key on conferencing party EBS without call transfer feature
- dv_drop_party message which the conferencing party sends for releasing the conferenced party
- dv_release_call for conferencing party

ICM Three-Way Call Enhanced Status Reporting (continued)

Instance 7

Originating party releases (event #1)

The message dv-Noncontroller-Released-U goes to the conferencing party with the DN of the originating party.

The originating party releases by

- Release key on originating party EBS
- dv_release_call for originating party

Conferencing party releases (event #1)

The message dv-Controller-Released-U goes to the originating party with the DN of the conferencing party.

The conferencing party releases by

- Release key on conferencing party EBS
- dv_release_call for conferencing party
- dv_transfer_party for conferencing party

Conferenced party releases (event #1)

The message dv-Noncontroller-Released-U goes to the originating party and the conferencing party.

The conferenced party releases by

- Release key on conferenced party EBS
- Flash/3WC key on conferencing party 500/2500 / EBS
- dv_drop_party message which the conferencing party sends for releasing the conferenced party
- dv_release_call for conferenced party

Instance 8

Originating party releases (event #2)

The message dv-Noncontroller-Released-U goes to the conferencing party with the DN of the originating party.

The originating party releases by

- Release key on originating party EBS
- dv_release_call for originating party

ICM Three-Way Call Enhanced Status Reporting (continued)

Conferencing party releases (event #2)

The message dv-Controller-Released-U goes to the originating party with the DN of the conferencing party.

The conferencing party releases by

- Release key on conferencing party EBS with call transfer feature
- dv_transfer_party for conferencing party

Conferenced party releases (event #2)

The message dv-Noncontroller-Released-U goes to the originating party and the conferencing party.

The conferenced party releases by

- Release key on conferenced party EBS
- dv_release_call for conferenced party
- Release key on conferencing party EBS without call transfer feature
- dv_release_call for conferencing party
- dv_drop_party message which the conferencing party sends for releasing the conferenced party

Instance 9

Originating party releases (event #3)

The message dv-Noncontroller-Released-U goes to the conferencing party with the DN of the originating party.

The originating party releases by

- Release key on originating party EBS
- dv_release_call for originating party

Conferencing party releases (event #3)

The message dv-Controller-Released-U goes to the originating party with the DN of the conferencing party.

The conferencing party releases by

- Release key on conferencing party EBS with call transfer feature
- dv_transfer_party for conferencing party

Conferenced party releases (event #3)

The message dv-Noncontroller-Released-U goes to the originating party and the conferencing party.

ICM Three-Way Call Enhanced Status Reporting (continued)

The conferenced party releases by

- Release key on conferencing party EBS without call transfer feature
- dv_drop_party message which the conferencing party sends for releasing the conferenced party
- dv_release_call for conferencing party

Instance 10

Originating party releases (event #1)

The message dv-Noncontroller-Released-U goes to the conferencing party with the DN of the originating party.

The originating party releases by

- Release key on originating party EBS
- dv_release_call for originating party

Conferencing party releases (event #1)

This action requires no message.

Conferenced party releases (event #1)

The message dv-Noncontroller-Released-U goes to the conferencing party with the DN of the conferenced party.

The conferenced party releases by

- Release key on conferenced party EBS
- Flash/3WC key on conferencing party 500/2500 / EBS
- dv_drop_party message which the conferencing party sends for releasing the conferenced party
- dv_release_call for conferenced party

Instance 11

Originating party releases (event #2)

The message dv-Noncontroller-Released-U goes to the conferencing party with the DN of the originating party.

The originating party releases by

- Release key on originating party EBS
- dv_release_call for originating party

ICM Three-Way Call Enhanced Status Reporting (continued)

Conferencing party releases (event #2)

This action requires no message.

Conferenced party releases (event #2)

The message dv-Noncontroller-Released-U goes to the conferencing party with the DN of the conferenced party.

The conferenced party releases by

- Release key on conferenced party EBS
- dv_release_call for conferenced party
- Release key on conferencing party EBS without call transfer feature
- dv_release_call for conferencing party
- dv_drop_party message which the conferencing party sends for releasing the conferenced party

Instance 12

Originating party releases (event #3)

The message dv-Noncontroller-Released-U goes to the conferencing party with the DN of the originating party.

The originating party releases by

- Release key on originating party EBS
- dv_release_call for originating party

Conferencing party releases (event #3)

This action requires no message.

Conferenced party releases (event #3)

The message dv-Noncontroller-Released-U goes to the conferencing party with the DN of the conferenced party.

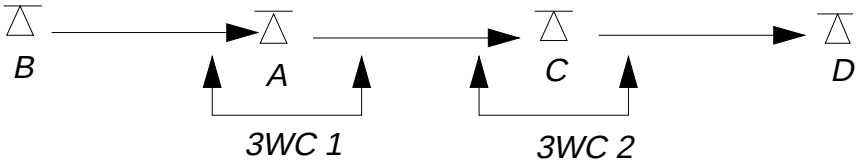
The conferenced party releases by

- Release key on conferencing party EBS without call transfer feature
- dv_drop_party message which the conferencing party sends for releasing the conferenced party
- dv_release_call for conferencing party

ICM Three-Way Call Enhanced Status Reporting (continued)

Event reporting for 3WC chaining

Consider the 3WC chain as shown in the following figure. The first 3WC is set when party B calls party A and then party A conferences party C. The second 3WC is set when party C adds party D. There are two 3WC in a chain format.



Event notification occurs if:

- Party B releases the call. The system sends the new the message dv-Noncontroller-Released-U to party A and party C.
- If party A releases the call the system sends the message dv-Controller-Released-U to party B.
- If party C releases the call the system sends the message dv-Controller-Released-U to party A.
- If party D releases the call the system sends the message dv-Noncontroller-Released-U to party C and party A.

Setting the DN of the releasing party in the messages

The following examples refer to the releasing party as an ACD agent.

Example 1

In this example, the parties receiving the messages are on the same switch as the releasing party. The switch sets the POSID of the releasing party as the DN of the releasing party in the message. If there is no provisioning of the POSID, the switch sets the station number of the ACD agent as the DN of the releasing party.

Example 2

In this example, the releasing party originates the first leg of the call. The releasing party is on a different switch than the parties receiving the messages. The station number of the releasing party is set in the messages as the DN of the releasing party.

ICM Three-Way Call Enhanced Status Reporting (continued)

Example 3

In this example, the releasing party is the called party of the first leg of the call. The releasing party is on a different switch than the parties receiving the messages. The switch sets the dialed digits calling the releasing party as the DN of the releasing party.

Example 4

In this example, the releasing party is the terminator of the second leg of the call. The releasing party is on a different switch than the parties receiving the messages. The switch sets the dialed digits calling the releasing party as the DN of the releasing party.

The following examples refer to the releasing party as a RES/MDC Line.

Example 1

In this example, the parties receiving the messages are on the same switch as the releasing party. The switch sets the station number of the releasing party in the messages as the DN of the releasing party.

Example 2

In this example, the releasing party originates the first leg of the call. The releasing party is on a different switch than the parties receiving the messages. The switch sets the station number of the releasing party in the messages as the DN of the releasing party.

Example 3

In this example, the releasing party is the terminator of the first leg of the call. The releasing party is on a different switch than the parties receiving the messages. The switch sets the dialed digits calling the releasing party as the DN of the releasing party.

Example 4

In this example, the releasing party is the terminator of the second leg of the call. The releasing party is on a different switch than the parties receiving the messages. The switch sets the dialed digits calling the releasing party as the DN of the releasing party.

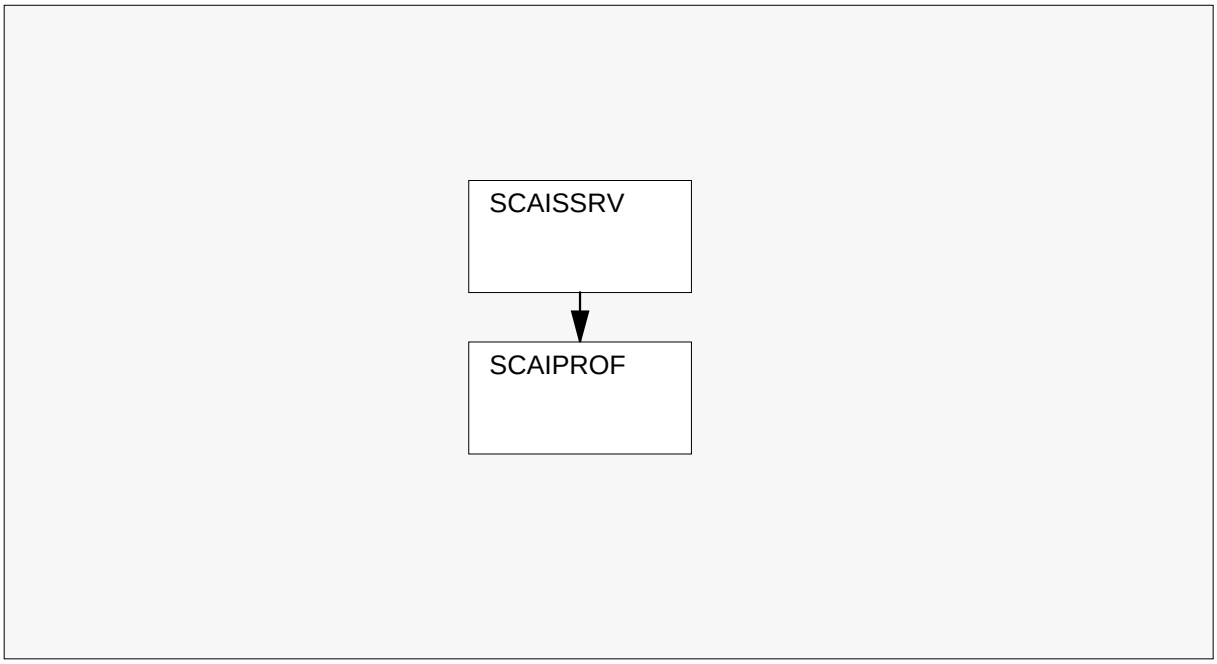
Translations table flow

Table SCAISSRV acts as a reference table for ICM service categories. This feature adds default tuples TPCC14$ and SCAI3WC14$ with functions CNTRLREL and NCTRLREL to table SCAISSRV.

The flowchart that follows provides the ICM Three-Way Call Enhanced Status Reporting translations process.

ICM Three-Way Call Enhanced Status Reporting (continued)

Table flow for ICM Three-Way Call Enhanced Status Reporting



The table that follows lists the datafill content used in the flowchart.

Datafill example for ICM Three-Way Call Enhanced Status Reporting

Datafill table	Example data
SCAISSRV	TPCC14$ TPCC (ANSWCALL) (RELSCALL Y) (CONSULTEV Y) (CONFEVNT Y)(TRANSFEREV Y) (HOLDCALL) (UNHOLDCALL) (CALLUNHELD Y) (ADDPTY Y Y Y Y) (CONFPTY Y) (DROPPTY Y Y) (TRANPTY Y) (MAKECALL Y Y) (CNTRLREL Y) (NCTRLREL Y)$ SCAI3WC14$SCAI3WC (CONSULTEV Y) (CONFEVNT Y) (TRANSFEREV Y) (ADDPTY Y Y Y) (CONFPTY Y) (DROPPTY Y Y) (TRANPTY Y)(CNTRLREL Y) (NCTRLREL Y)$

Limitations and restrictions

ICM Three-Way Call Enhanced Status Reporting has no limitations or restrictions.

Interactions

ICM Three-Way Call Enhanced Status Reporting does not interact with other functionalities.

ICM Three-Way Call Enhanced Status Reporting (continued)

Activation and deactivation by the user

ICM Three-Way Call Enhanced Status Reporting does not require activation or deactivation by the user.

Billing

ICM Three-Way Call Enhanced Status Reporting does not generate billing records or changes.

Station Message Detail Recording

ICM Three-Way Call Enhanced Status Reporting does not require Station Message Detail Recording.

Office parameters used by ICM Three-Way Call Enhanced Status Reporting

ICM Three-Way Call Enhanced Status Reporting does not generate office parameters.

Datafill sequence

The table that follows lists the table that requires datafill to put ICM Three-Way Call Enhanced Status Reporting into operation.

Datafill requirements for ICM Three-Way Call Enhanced Status Reporting

Table	Purpose of table
SCAISSRV	Switch-Computer Application Interface (SCAI) Subservices (SCAISSRV). This table acts as a reference table for ICM service categories and the messages that go into the categories.

Datafill related to ICM Three-Way Call Enhanced Status Reporting for table SCAISSRV

This feature adds default tuples TPCC14$ and SCAI3WC14$ with functions CNTRLREL and NCTRLREL to table SCAISSRV.

The table that follows provides the datafill related to ICM Three-Way Call Enhanced Status Reporting for table SCAISSRV. This table includes only

ICM Three-Way Call Enhanced Status Reporting (continued)

those fields that apply directly to ICM Three-Way Call Enhanced Status Reporting.

Datafill related to table SCAISSRV

Field	Subfield	Entry	Explanation and action
SPROFILE		see subfield	The feature modifies the functions in two categories.
	CATEGORY	CTXEVENT, ACDEVENT, ROUTING, TPCC, RESOURCE, TPAC, RESEVENT, CALLINIT, SCAI3WC, SCAIMWTI, DNQUERY, SCAICC, TPQC, ICCM, CPGEVENT	This selector field allows selection of one of the possible service categories. Refinements are bound in for each service category. The feature adds functions to categories TPCC and SCAI3WC.
	FUNCTION	CNTRLRELN CTRLREL	This selector field allows selection of one of the call progress events for subscription.
	CNTRLREL	Y or N	The parameter NetworkCallID identifies the call. The default value is Y.
	NCTRLREL	Y or N	The parameter NetworkCallID identifies the call. The default value is Y.

Datafill example for table SCAISSRV

The figure that follows shows sample datafill for table SCAISSRV.

ICM Three-Way Call Enhanced Status Reporting (end)

MAP example for table SCAISSRV

```
TPCC14$
TPCC (ANSWCALL) (RELSCALL Y) (CONSULTEV Y) (CONFEVNT Y)
(TRANSFEREV Y) (HOLDCALL) (UNHOLDCALL) (CALLUNHELD Y) (ADDPTY Y Y Y Y)
(CONFPTY Y) (DROPPTY Y Y) (TRANPTY Y) (MAKECALL Y Y) (CNTRLREL Y)
(NCTRLREL Y)$
----------------------------------------------------------------------
SCAI3WC14$
SCAI3WC (CONSULTEV Y) (CONFEVNT Y) (TRANSFEREV Y)
(ADDPTY Y Y Y) (CONFPTY Y) (DROPPTY Y Y) (TRANPTY Y)
(CNTRLREL Y) (NCTRLREL Y)$
```

Translation verification tools

ICM Three-Way Call Enhanced Status Reporting does not use translation verification tools.

SERVORD

ICM Three-Way Call Enhanced Status Reporting does not use the Service Order System (SERVORD).

ICM Variable Wrap Reporting

Ordering codes

Functional group ordering code: ICM00050

Functionality ordering code: not applicable

Release applicability

NA010 and up

ICM Variable Wrap Reporting was introduced in NA010.

Prerequisites

This document includes all the data table information for this functionality. But, complete implementation of this functionality can require software or hardware not described in this document.

Description

This feature reports variable wrap, which is an Automatic Call Distribution (ACD) feature. The VARWRAP timer starts when the ACD agent releases a call. The agent's set becomes unavailable to receive calls when the timer starts. The set becomes available, and the agent presents the next queued call when the timer expires. If option VARWRAP is absent, the 1-s release guard feature takes its place.

When the caller releases, the agent releases automatically after a 2.5-s delay. A 1-s release guard follows before the next queued call. The agent terminates the 2.5-s timer by pressing the release key, but the 1-s release guard remains.

This feature modifies the dv-call-released-u ICM message to report the postcall status parameter. The parameter values can be one of the following:

- variable wrap started
- zero interval started (for varwrap time of zero)
- release guard started
- not ready (in case the agent hits or host send not ready initiation during the call)
- logged out (in case the agent hits or host sends logged out initiation during the call)

This feature also modifies the dv-agent-setaction-u message created for Network Intelligent Call Management (AU2799). The switch sends a dv-agent-setaction-u message with the interval status parameter set to interval

ended. The switch sends the message when variable wrap or release guard ends, and no queued calls are presented to the agent.

Operation

Reporting variable wrap

The variable wrap timer starts when the agent releases the call. The variable wrap timer also starts when the caller releases the call followed by one of the following:

- The fixed wrap terminates, if the agent presses the release key.
- The expiration of the fixed wrap, if the agent does nothing.
- Agent completion of an LOB (Line Of Business) entry.

The DMS switch starts the variable wrap interval and issues a dv-call-released-u message on behalf of the agent. The enhanced dv-call-released-u message contains an added parameter resulting in a structure containing the following:

- network call ID
- release reason
- agent position ID
- postcall status set equal to variable wrap

Reporting a variable wrap when time is set to zero

If the provisioned variable wrap time is zero, there is no variable wrap interval nor release guard interval. The switch issues a dv-call-released-u message on behalf of the agent and the enhanced format contains the following:

- network call ID
- release reason
- agent position ID
- postcall status set equal to zero interval

Reporting release guard

When option VARWRAP is not present, release guard takes the place of variable wrap time. The dv-call-released-u message directly precedes release guard and contains the following:

- network call ID
- release reason

ICM Variable Wrap Reporting (continued)

- agent position ID
- postcall status set equal to release guard

Reporting not ready

An ACD agent ends a call and “goes on break" by pressing ACDNR during the call. The switch sends a dv-call-released-u message and a dv-agent-not-ready-u message in immediate succession. The enhanced dv-call-released-u message prevents the host from presenting a call to the agent during the gap between messages.

The structure of the dv-call-released-u message is as follows:

- network call ID
- release reason
- agent position ID
- postcall status set equal to not ready

A dv-agent-not-ready-u message occurs even though the switch conveys the agent status information.

The agent presses the not ready button or the host activates agent not ready status. An agent with a 2500 POTS set provisions a star code for not ready status.

Reporting logged out status

The agent releases or the fixed wrap expires after the caller releases for the agent to log out. The switch sends a dv-call-released-u message followed by a dv-agent-logged-out-u message.

The enhanced dv-call-released-u message contains the following:

- network call ID
- release reason
- agent position ID
- postcall status set equal to logged out

A dv-agent-logged-out-u message occurs even though the switch conveys the agent status information. The agent presses the logged out button or the host activates agent logged out status. An agent with a 2500 POTS set provisions a star code for log out.

ICM Variable Wrap Reporting (continued)

Reporting the end of variable wrap

Variable wrap terminates in one of several ways:

- Agent entry of ACDNR during the variable wrap interval generates a dv-agent-not-ready-u message.
- Agent entry of MSB during the interval generates a dv-agent-logged-out-u message.
- Expiration of the variable wrap interval with a call in the ACD queue generates a dv-call-offered-u message.
- Expiration of the interval with no call in the queue generates.

Reporting the end of release guard

Release guard ends similarly to variable wrap intervals:

- Agent entry of ACDNR during release guard generates a dv-agent-not-ready-u message.
- Agent entry of MSB during the release guard generates a dv-agent-logged-out-u message.
- Expiration of the release guard with a call in the ACD queue generates a dv-call-offered-u message.
- Expiration of the release guard with no call in the queue generates.

A dv-agent-setaction-u message has the following format:

- agent position ID
- network set action, set equal to unreserved
- interval status set equal to interval ended

Message validations

The switch performs a series of checks before sending the dv-call-released-u message from an ACD agent. The switch verifies the following:

- Switch-to-host session subscribes to this message.
- Host application has been associated with the ACD group or agent (using the dv-dn-associate message).
- SCAI service version is at least SCAI12. Note that the previous service versions pass dv-call-released-u, but without the postcall-status portion of the message. Also, the dv-appl-logon message contains a parameter, service version, which uniquely identifies the protocol version stream of messages.

ICM Variable Wrap Reporting (continued)

Message protocols

This feature introduces two changes to ICM messages.

A change in the dv-call-released-u message reports the following:

- start of variable wrap
- start of release guard
- start of not ready status when requested by the agent or host while a call is in progress
- start of logged out status when requested by the agent or host while a call is in progress

Network ICM (AU2799) creates the message dv-agent-setaction-u message. This message uses an additional parameter to report the end of the variable wrap interval when the agent becomes idle and is waiting for calls.

Translations table flow

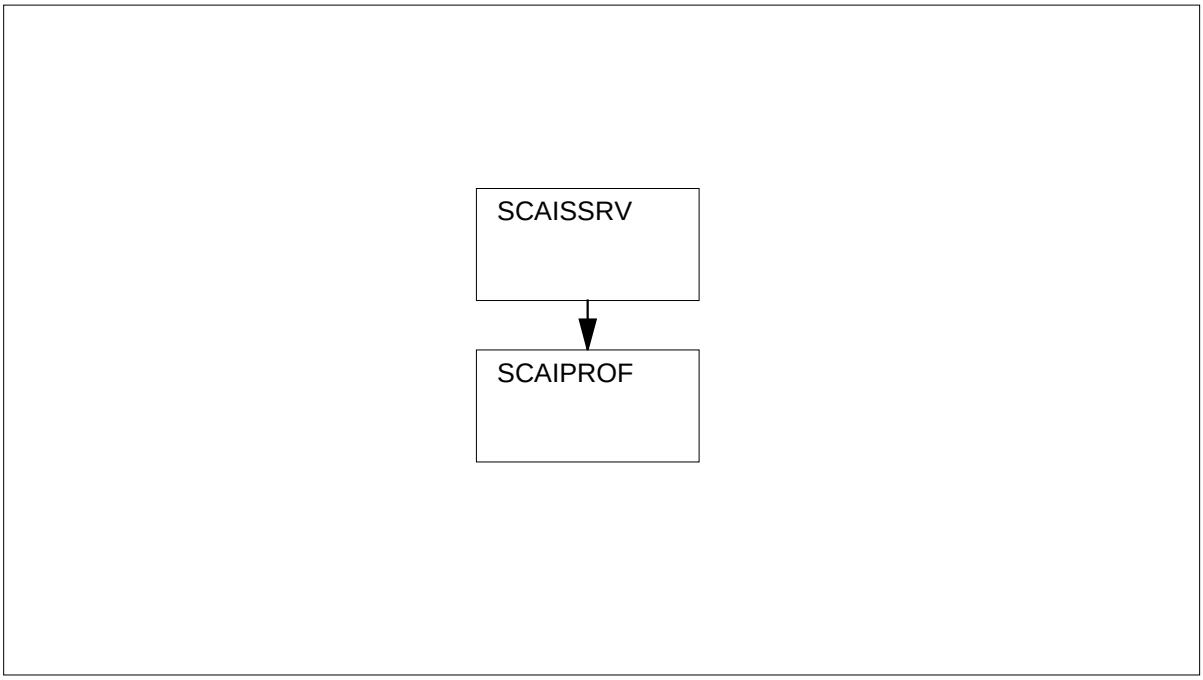
The ICM Variable Wrap Reporting translations tables are described in the following list:

- Table SCAISSRV acts as a reference table for ICM service categories. The existing CALLREL function in the ACDEVENT category includes the refinement POSTCALL for this feature. The function AGTSETACT created in Network Intelligent Call Manager (AU2799) includes the refinement INTSTAT for this feature.

The ICM Variable Wrap Reporting translation process is shown in the flowchart that follows.

ICM Variable Wrap Reporting (continued)

Table flow for ICM Variable Wrap Reporting



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

Datafill example for ICM Variable Wrap Reporting

Datafill table	Example data
SCAISSRV	ACDEVENT12$ ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y Y) (CALLOFFR Y Y Y Y Y Y Y Y Y Y Y) (CALLANSWR Y Y Y Y Y Y Y Y Y Y Y) (CALLREL Y Y Y Y Y Y) (AGTLGDIN Y Y Y) (AGGTLGDOUT Y Y) (AGTREADY Y Y) (AGTNREADY Y Y N) (LOBEVENT Y Y Y (EMKEVENT Y Y Y Y Y Y) (AGTSETACT Y Y) $ CUSTOM ACDEVENT (AGTREADY Y Y) (CALLREL Y Y N N N Y) (AGTSETACT Y Y) $

Limitations and restrictions

This feature has the same limitations and restrictions as the ACD Variable Wrap feature.

This feature supports the following business sets:

- EBS
- M5008 meridian business set

ICM Variable Wrap Reporting (continued)

- M5009 meridian business set
- M5112 meridian business set
- M5208 meridian business set
- M5209 meridian business set
- M5212 meridian business set
- M5312 meridian business set
- M5216 meridian business set
- M5316 meridian business set
- PSET with display

This feature supports the 500/2500 POTS sets. These sets send agent status changes to the DMS switch through star codes.

This feature does not introduce any additional meridian feature transparency set restrictions. However, existing restrictions from other features are not altered. MFT sets formerly offered are limited to a specific market and are no longer generally offered.

Interactions

The following paragraphs describe the interactions between ICM Variable Wrap Reporting and other functionalities.

If the dv-set-feature message activates option ACDNR from the host, the call continues until one of the parties releases. The postcall status is set to not ready.

If option NRONSDN is not provisioned, the agent puts the call on hold by pressing the secondary DN (Directory Number) key.

If option NRONSDN is available, once the original call is released, the agent puts the call into not ready. The postcall status is set to not ready.

If the secondary DN has the added feature of CLSUP (call supervisor), option NONSDN is nullified.

The agent releases a call by pressing the ACD Call Park key. The switch sends a dv-call-released-u message to the host and a postcall status of variable wrap or release guard begins.

Option ACDXFER allows the agent to dial the DN of another agent in the group. Option ACDXFER must have the 3WC or CXR key. The 3WC key

begins the postcall status of variable wrap or release guard if the agent drops out of the conference.

Activation/deactivation by the end user

ICM Variable Wrap Reporting requires no activation or deactivation by the end user.

Billing

ICM Variable Wrap Reporting does not affect billing.

Station Message Detail Recording

ICM Variable Wrap Reporting does not affect Station Message Detail Recording.

Datafilling office parameters

ICM Variable Wrap Reporting does not affect office parameters.

Datafill sequence

The following table lists the table that requires datafill to implement ICM Variable Wrap Reporting.

Datafill tables required for ICM Variable Wrap Reporting

Table	Purpose of table
SCAISSRV	Switch-Computer Application Interface (SCAI) Subservices (SCAISSRV). This table acts as a reference table for ICM service categories and the messages that go into the categories.

Datafilling table SCAISSRV

This feature adds POSTCALL parameter to CALLREL function and INTSTAT parameter to AGTSETACT function for the ACDEVENT category.

The following table shows the datafill specific to ICM Variable Wrap Reporting for table SCAISSRV. Only those fields that apply directly to ICM

ICM Variable Wrap Reporting (continued)

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

Datafilling table SCAISSRV

Field	Subfield or refinement	Entry	Explanation and action
SPROFILE		see subfield	Subservice profile contents. This field consists of subfield CATEGORY.
	CATEGORY	ACDEVENT	ICM (formerly CompuCALL) service category. This subfield specifies the ICM service category. Enter ACDEVENT (Automatic Call Distribution line call event) and datafill the following refinements.
FUNCTIONS		see subfield	Functions. This field consists of subfield FUNCTION. You can select up to eight functions. If you select fewer than eight functions, end the list with a $ (dollar sign).
	FUNCTION	CALLREL, AGTSETACT	Function. Enter CALLREL (call released) or AGTSETACT (agent set action). For CALLREL, select refinements NCALLID, RELTYPE, ACDDN, ACDGROUP, DEVICEID, and POSTCALL. For AGTSETACT, select refinements NTWSETACT and INTSTAT.
	NCALLID	Y or N	Network call ID. Enter Y or N depending on whether or not you want the network call ID option.
	RELTYPE	Y or N	Release type. Enter Y or N depending on whether or not you want the release type option.
	ACDDN	Y or N	ACD directory number. Enter Y or N depending on whether or not you want the ACDDN option.
	ACDGROUP	Y or N	ACD group. Enter Y or N depending on whether or not you want the ACD group option.
	DEVICEID	Y or N	Device ID. Enter Y or N depending on whether or not you want the device ID option.
	POSTCALL	Y or N	Postcall status. Enter Y or N depending on whether or not you want the postcall status option.
	NTWSETACT	Y or N	Network set action. Enter Y or N depending on whether or not you want the network set action option.
	INTSTAT	Y or N	Interval status. Enter Y or N depending on whether or not you want the interval status option.

Datafill example for table SCAISSRV

The following example shows sample datafill for table SCAISSRV.

MAP display example for table SCAISSRV

```
SUBSERV SPROFILE
-----------------------------------------------------------------------
ACDEVENT12$ ACDEVENT (CALLQUED Y Y Y Y Y Y Y Y Y Y)
(CALLOFFR Y Y Y Y Y Y Y Y Y Y Y)
(CALLANSWR Y Y Y Y Y Y Y Y Y Y Y)
(CALLREL Y Y Y Y Y Y) (AGTLGDIN Y Y Y) (AGGTLGDOUT Y Y)
(AGTREADY Y Y) (AGTNREADY Y Y N) (LOBEVENT Y Y Y)
(EMKEVENT Y Y Y Y Y Y) (AGTSETACT Y Y) $

CUSTOM ACDEVENT (AGTREADY Y Y) (CALLREL Y Y N N N Y)
(AGTSETACT Y Y) $
```

Translation verification tools

ICM Variable Wrap Reporting does not use translation verification tools.

SERVORD

ICM Variable Wrap Reporting does not use SERVORD.

ICM Workqueue Re-Engineering

Ordering codes

Functional group ordering code: ICM00050

Functionality ordering code: NA

Release applicability

NA012 and up

NA012 introduces ICM Workqueue Re-Engineering.

Requirements

ICM Workqueue Re-Engineering has no functional group requirements.

Description

This feature provides reliable Intelligent Call Management (ICM) services to the end-user by decreasing message loss in high traffic conditions. ICM Workqueue Re-Engineering re-designs current workqueues to support additional messages. Enhancement of the Switch Computer Application Interface (SCAI) resource audit mechanism provides routine audits of the workqueues; and flags, identifies, and corrects problems.

This feature makes the continuity test customer programmable. The continuity test creates an option for link termination for links that do not respond for an indicated period. The customer determines the period of time.

Operation

The following sections describe the operation of the ICM Workqueue Re-Engineering feature.

Re-Engineering

The present SCAI workqueue handles 128 messages. In high traffic, the messages exceed this limit. The present SCAI resource audit also does not audit the workqueues or flags with faults.

This feature reduces the message loss during high traffic. This feature creates temporary incoming/outgoing workqueues when the number of messages in the incoming/outgoing SCAI workqueues reach the threshold. The temporary queues support 512 more messages. The total message capacity for a queue is 640 messages. While the queues add messages, the ICM processes also remove messages from a queue. Therefore, the actual message handling capacity is more than 640 messages.

ICM Workqueue Re-Engineering (continued)

The feature improves the resource audit mechanism to handle SCAI workqueue and flag errors. The resource audit provides a routine audit of the SCAI workqueues. The resource audit identifies and corrects all faults.

> ***Note:*** This re-engineering section does not change the SCAI datafill requirements. This part of the feature does not impact the end user except to improve message handling capacity.

Continuity test enhancements

This feature improves the continuity test mechanism to make it customer programmable.

Table SCAICOMS adds option CONTAUD for the continuity test. The prompt AUDIT follows the option and takes in a boolean value.

If the end user selects N for AUDIT, there is no application continuity audit for the related linkset. If the end user selects Y, the application continuity audit activates and the following parameters apply:

- AUDINTVL: This parameter allows the end-user to provision the audit interval of the continuity test (Range: 1 to 720 minutes).
- RESPTIME: This parameter allows the end-user to provision the time the switch waits for a response from the host computer. This provisioning occurs after the switch sends the continuity message.
- NUMATMPT: This parameter allows the end-user to provision the maximum number of times the switch sends a continuity test message. When there is no response from the host, the switch continues to send continuity test messages up to the maximum number of messages. A RETURN_ERROR or RETURN_REJECT response counts as no response. A RETURN_ERROR or RETURN_REJECT prompts the next continuity test without waiting for the RESPTIME (Range: 1 to 10).
- TERMINET: The parameter allows the end user to terminate the session when the host does not send an appropriate response (Y or N).

Continuity test activation

If the system subscribes to CONTAUD, test activation is on the basis of the subfields of CONTAUD.

If the system subscribes to CONTAUD and the AUDIT value is N, the continuity audit does not occur. If the system activates for a session through MAPCI, parameters take the default values and the TERMINET value is N.

If the system does not subscribe to CONTAUD, activation depends on the office parameter in table OFCVAR and the default values.

ICM Workqueue Re-Engineering (continued)

Session termination

Termination occurs if the TERMINET parameter is set to Y in the option CONTAUD, and the continuity test fails on the linkset.

If the continuity test fails for any link, the system generates SCAI200 log with reason `NO_RESPONSE_FROM_HOST'.

If the session ends, the system generates SCAI103 log with reason `CONTINUITY DISASSOCIATED'.

In this example, the switch provisions Table SCAICOMS with the following values for the CONTAUD option:

- AUDIT: Y
- AUDINTVL: 15
- NUMATMPT: 4
- RESPTIME: 12
- TERMINET: Y

In the previous example the switch performs a continuity test for the linkset every 15 minutes. When the switch sends the continuity test message, the switch waits for 12 seconds to get a response. If the switch does not get a response within 12 seconds the switch sends the continuity test message again.

The switch sends up to four messages until it gets a RETURN_RESULT from the host computer.

The continuity test occurs for all the links if there are multiple links in the linkset.

If the switch does not get a RETURN_RESULT for the continuity test message, the continuity test fails for the tested link. If the continuity test fails for all the links in that linkset, then the session ends (the TERMINET parameter is Y).

If the sessions ends, the system generates a SCAI103 log with reason CONTINUITY DISASSOCIATED. The systems also generates a SCAI200 log with reason NO_RESPONSE_FROM_HOST for all the links for which a continuity test fails.

If the host computer sends a response, the continuity test passes and no action occurs.

ICM Workqueue Re-Engineering (continued)

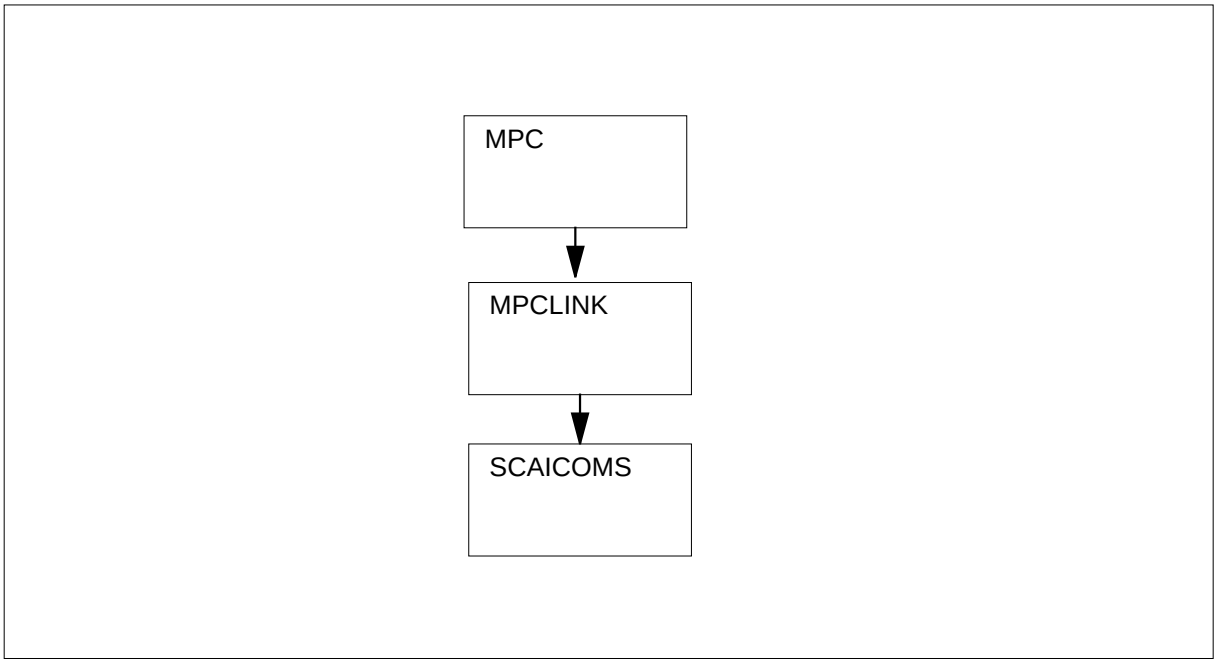
The functionality at the MAPCI level does not change, except that the system audits all the links in a session when performing SCAITEST. The continuity audit activation through MAPCI does not cause the session to end. All other parameters take default values through MAPCI. For example, RESPTIME is equal to 10 seconds and NUMATMPT is equal to 5.

Translations table flow

Table SCAICOMS contains the linksets and options for each linkset. This feature adds entry CONTAUD to the OPTIONS field.

The flowchart that follows provides the ICM Workqueue Re-Engineering translations process.

Table flow for ICM Workqueue Re-Engineering



The table that follows lists the datafill content used in the flowchart.

Datafill example for ICM Workqueue Re-Engineering

Datafill table	Example data
SCAICOMS	TCP1 TCP 192 136 141 201 N (CONTAUD 15 12 4 Y) $X251 X25 (MPC (0 3 000000000000000 9 9 9 9 SVC) $)$ MN CR(CONTAUD 15 124 Y) $TCP1 TCP 192 136 141 201 N (CONTAUD 15 12 4 Y) $X251 X25 (MPC (0 3 000000000000000 9 9 9 9 SVC) $)$ MN CR(CONTAUD 0) $

ICM Workqueue Re-Engineering (continued)

Limitations and restrictions

ICM Workqueue Re-Engineering has no limitations or restrictions.

Interactions

ICM Workqueue Re-Engineering does not interact with other functionalities.

Activation and deactivation by the user

ICM Workqueue Re-Engineering does not require activation or deactivation by the user.

Billing

ICM Workqueue Re-Engineering does not generate billing records or changes.

Station Message Detail Recording

ICM Workqueue Re-Engineering does not require Station Message Detail Recording.

Office parameters used by ICM Workqueue Re-Engineering

ICM Workqueue Re-Engineering does not generate office parameters.

Datafill sequence

This feature adds entry CONTAUD to the OPTIONS field of table SCAICOMS. The message options for CONTAUD include AUDINTVL, NUMATMPT, RESPTIME, and TERMINET.

The table that follows lists the table that requires datafill to put ICM Workqueue Re-Engineering into operation.

Datafill requirements for ICM Workqueue Re-Engineering

Table	Purpose of table
SCAICOMS	Switch Computer Application Interface (SCAI) Communications (COMS). This table contains the linksets and options for each linkset.

Datafill related to ICM Workqueue Re-Engineering for table SCAICOMS

The table that follows provides the datafill related to ICM Workqueue Re-Engineering for table SCAICOMS. This table includes only those fields that apply directly to ICM Workqueue Re-Engineering.

Datafill related to table SCAICOMS

Field	Subfield	Entry	Explanation and action
OPTIONS		selector	
	CONTAUD	see subfield	Continuity Audit Interval Option
	AUDINTVL	1 to 720	This parameter allows the minutes for audit interval of the continuity test. If the value is zero, the switch does not prompt the next parameters.
	NUMATMPT	1 to 10	This parameter allows provisioning for maximum times the switch sends a continuity test message for a particular linkset.
	RESPTIME	1 to 30	This parameter allows provisioning of seconds the switch waits for a response from the host computer.
	TERMINET	Y or N	This parameter allows provisioning for termination of a session.

Datafill example for table SCAICOMS

The figure that follows shows sample datafill for table SCAICOMS.

MAP example for table SCAICOMS

```
 TCPI TCP 192 136 141 201 N (CONTAUD Y) $
X251 X25 (MPC (0 3 000000000000000 9 9 9 9 SVC) $) $ MN CR
(CONTAUD Y 15 12 4 Y) $
```

```
 TCPI TCP 192 136 141 201 N (CONTAUD Y) $
X251 X25 (MPC (0 3 000000000000000 9 9 9 9 SVC) $) $ MN CR
(CONTAUD N) $
```

Translation verification tools

ICM Workqueue Re-Engineering does not use translation verification tools.

ICM Workqueue Re-Engineering (end)

SERVORD

ICM Workqueue Re-Engineering does not use the Service Order System (SERVORD).

10 Datafilling CompuCALL Status Query

The following chapter describes the CompuCALL Status Query, ICM00055, functionality.

CompuCALL Status Query

Ordering codes

Functional group ordering code: ICM00055

Functionality order code: does not apply

Release applicability

NA009 and later versions

CompuCALL Status Query was introduced in NA009.

Requirements

This document describes the data entry process for this functionality. The CompuCALL feature requires software or hardware for complete input of this feature.

Description

The CompuCALL Status Query feature provides new Status message message functionality for the Automatic Call Distribution (ACD) customers that use the CompuCALL service. Feature AU2620 provides status reports for ACD and called number (CDN) associated devices. These status reports help resynchronization. Resyncronization is part of the process that recovers an application after link or host computer failure.

Feature AU2620 adds messages to the current CompuCALL interface. The messages report the status of the ACD Agents and CDNs. Datafill selections in table SCAISSRV determine the ACD agent and CDN status report messages.

The messages display status based on the following query filters:

- Single ACD agent
- All agents in an ACD group
- Single CDN
- All agents that associate with the same session by position identifications (IDs)
- All CDNs that associate with the same session by position IDs

The CompuCALL customer is an operating company that subscribes to a minimum of one CompuCALL options. To receive the CompuCALL Status Query feature, the CompuCALL customer subscribes to the CompuCALL

CompuCALL Status Query (continued)

options that contain this feature. Activate and deactivate the messages that this feature provides through CompuCALL tables.

CompuCALL background

CompuCALL provides a data communications channel between a computer and a switch. This channel allows an operating company to provide coordinated switch-based services to applications on the host computer.

CompuCALL provides an open standard interface to receive status messages about host applications. CompuCALL provides these services for DMS-100/SL-100 ACD customers, DMS-100/SL-100 Meridian Digital Centrex (MDC) customers and Residential Enhanced Services (RES) customers.

CompuCALL uses the ANSI Switch-Computer Applications Interface (SCAI) 1 protocol across the line. The SCAI specifies the architecture and uses Open Systems Interconnection (OSI) application layer protocol group. This protocol provides peer-to-peer data communication between host computer applications and switch applications. The Remote Operation Service Element (ROSE) supports the interactive communication between the switch and host application.

The DMS-100 uses an SCAI link as a signaling interface between the DMS-100 switch and the host computer. The messages carried across the signaling link interface the DMS-100 switch applications with host computer applications.

CompuCALL table control

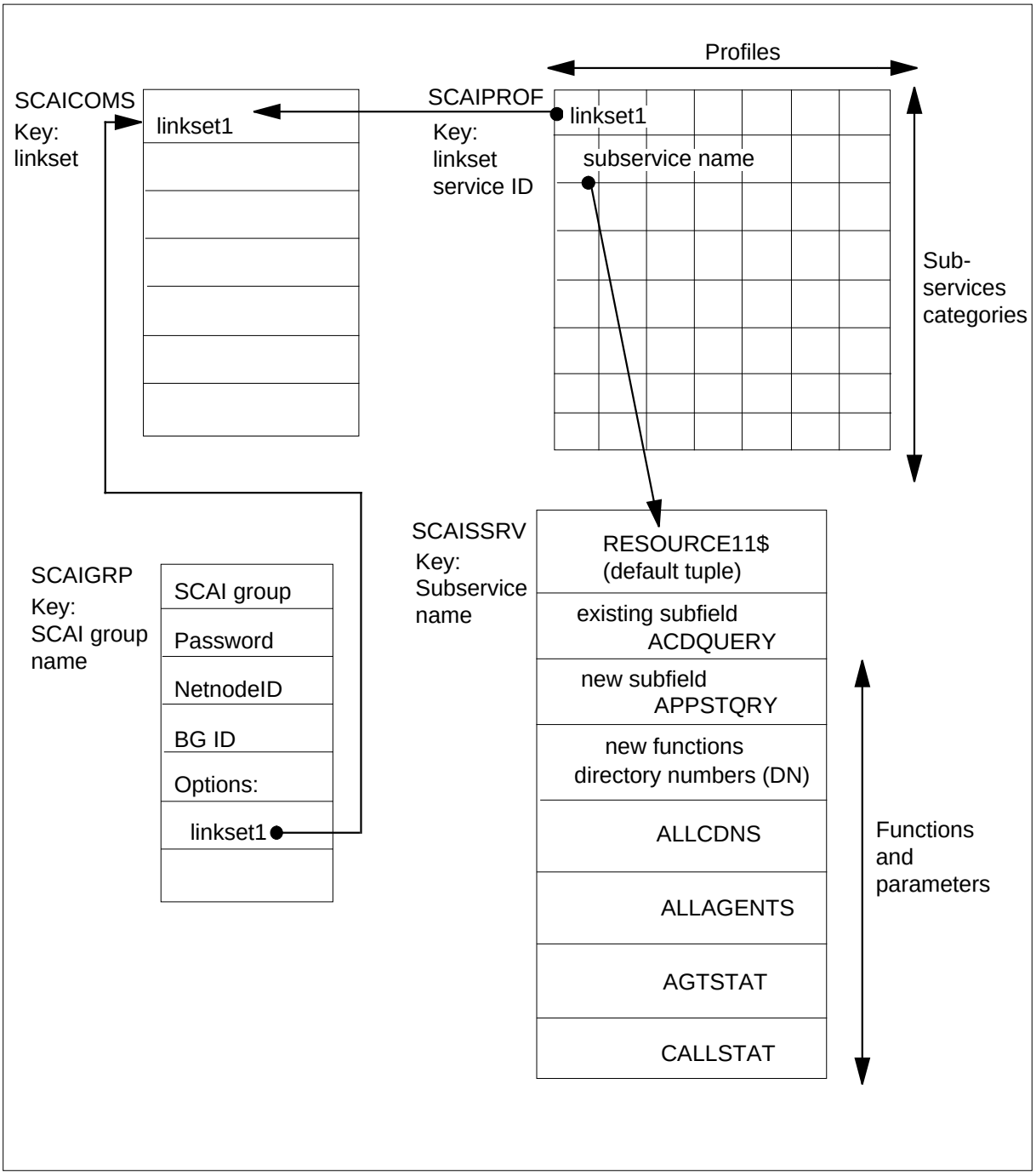
Table entries control the availability of CompuCALL functionality. Table SCAIGRP datafill associates identification information for each customer group with an SCAI group. This table includes the linkset data for the customer group in this table. A linkset in table SCAIGRP corresponds to a tuple in table SCAICOMS.

A tuple in table SCAICOMS defines the SCAI linkset used in a host-switch session. This tuple indicates a profile of customer-subscribed services in table SCAIPROF. The profile tuple indicates subservices that a tuple in table SCAISSRV identifies.

Table SCAISSRV contains tuples that associate subservice categories with subfields and functions. This table allows customers to define which CompuCALL messages to activate or deactivate. This table allows customers to define the optional parameters of these messages.

CompuCALL Status Query (continued)

CompuCALL SCAI services table control for CompuCALL Query



The table control diagram represents table control for the CompuCALL Status Query feature. This feature introduces a second function for the subservice category called RESOURCE. The function APPSTQRY provides five

parameters. These parameters activate and deactivate the ACD and CDN Status messages that this feature provides.

Operation

This feature transfers messages between the host application and the switch. The messages provide the status of the devices, ACD agents and CDNs that associate with the session. To operate, the CompuCALL Status Query feature introduces the following:

- Application Status Query message
- Switch Report Agent Status message
- Switch Report CDN Status message
- CompuCALL Status Query OM registers
- Application logon service version update

Application Status Query message

The Application Status Query message requests information for ACD agents and CDNs. The host application sends this message to the switch and queries the status of the devices that associates with the session. This SCAI message (dv_Appl_Stat_Qry) maps to a ROSE Class 2 Operation.

The Application Status Query message queries the switch based on the parameter selections entered in table SCAISSRV. The default data sets all parameters to Y. Fixed groups of subfield parameters define a message query that filters the status reporting messages. The subfield parameter groups are:

- ALLAGENTS
- ALLCDNS
- ALLAGENTS and ALLCDNS
- DN and AGTSTAT
- DN and CALLSTAT
- DN AGSTAT and CALLSTAT

ALLAGENTS

To report the status of all agents that associate by position IDs, enter Y in subfield for ALLAGENTS in table SCAISSRN.

ALLCDNS

To report the status of all CDNs that associate by DNs, enter Y in subfield ALLCDNS in table SCAISSRN.

CompuCALL Status Query (continued)

ALLAGENTS and ALLCDNS

Associated devices are agents that associate by position IDs and CDNs. To report the status information for associated devices, enter Y in subfields ALLAGENTS and ALLCDNS in table SCAISSRN.

DN and AGTSTAT

The switch checks the DN subfield entry when the host queries the switch about the status of an ACD Group. If the value of this subfield is Y, the switch checks the AGTSTAT and CALLSTAT subfields. If the AGTSTAT subfield is Y, the switch reports the agent status for the DN queried.

Set the filtering criteria for Status messages, based on a single ACD group. To set the filtering criteria, use the following steps:

1. Enter Y for the DN subfield in table SCAISSRV.
2. Enter Y for the AGTSTAT subfield in table SCAISSRV.

DN and CALLSTAT

The switch checks the DN subfield entry when the host queries the switch about the status of an ACD group. If the value of this subfield is Y, the switch checks the AGTSTAT and CALLSTAT subfields. If the value of the CALLSTAT subfield is Y, the switch reports the call status for the DN queried.

Set the filtering criteria for Status messages, based on a single CDN. To set the filtering criteria, use the following steps:

1. Enter Y for the DN subfield in table SCAISSRN
2. Enter Y for the CALLSTAT subfield in table SCAISSRN

DN and AGSTAT and CALLSTAT

The switch checks the DN subfield entry when the host queries the switch about the status of an ACD Group. If the value this subfield is Y, the switch checks the AGTSTAT and CALLSTAT subfields. When the value of CALLSTAT and AGTSTAT are Y, the switch reports call status and agent status for the DN queried.

Set the filtering criteria for Status messages, based on both the agent status and call status for a DN. To set the filtering criteria, use the following steps:

1. Enter Y for the DN subfield in table SCAISSRV
2. Enter Y for the AGTSTAT subfield in table SCAISSRV
3. Enter Y for the CALLSTAT subfield in table SCAISSRN

CompuCALL Status Query (continued)

Validation checks

The validations performed on the Application Status Query message are as follows:

- The Service Version must be SCAI11 or a later version.
- The CompuCALL session must subscribe to the Application Status Query message in table SCAISSRV.
- Enter a minimum of one parameter for the CompuCALL Status Query feature in table SCAISSRV.
- Use a valid DN associated with the session.
- Use a position ID associated with the session. The position ID must associate with the session by the position ID or the ACD group to which the ACD belongs.
- To obtain call status or agent status, a minimum of one agent or CDN must associate with the session.
- A minimum of one agent must belong to the associated DN when specification of the primary DN of an ACD group occurs.

After validation, one of three service messages can appear. The service messages include the RETURN-RESULT, RETURN-REJECT and RETURN-ERROR.

When the validation process completes, the switch sends a RETURN-RESULT service message to the host. This message confirms the validity of the query.

A RETURN-REJECT service message appears at the host computer when one of the following events occur:

- an invalid service version
- data corruption
- an wrong typed argument

This message notifies the host that the system did not decode the message correctly.

If the validation process fails, the switch sends a RETURN-ERROR service message. The error conditions include the following:

- NOT ALLOWED. The status message is not subscribed.
- UNKNOWN DN. A DN or position ID does not associate with the session when the parameter is a DN.

CompuCALL Status Query (continued)

- INVALID DN. The specified DN or position ID does not belong to the associated customer group.
- INVALID FILTER. The specified filter parameter is not ALLAGENTS, ALLCDNS, AGTSTAT or CALLSTAT.
- INVALID MESSAGE. The message contains a parameter that is not necessary or the message does not contain any parameters
- NO ASSOCIATED DEVICE. Devices are not present to match the query parameter. Agents or CDNs do not associate with the session. Agents do not belong to the associated DN or the primary DN of an ACD group.

Switch Report Agent Status message

The Switch Report Agent Status message reports the status of the agents that associate with the session. The switch sends this message to the host. The Switch Report Agent Status message (dv_Agent_Status_U) maps to a ROSE Class 5 Operation.

The message appears if the Applications Status Query message finds one of the following conditions:

- The DN parameter the host specifies is an ACD DN.
- The DN parameter the host specifies is the position ID of an associated agent.
- The value of subfield ALLAGENTS or subfield ALLCDNS in table SCAISSRV is Y.

The switch sends this message to the host. This message reports the status of an ACD agent for the ACD incalls key and the secondary DN key. The message fields include the following information:

- FLAG: Specifies if an upload is in progress or complete.
- POSID: Specifies the position ID of the ACD agent.
- STATUS: Includes agent status or call status.

Agent Status messages include BUSY, IDLE, LOGGED OUT and NOT READY. If the status is NOT READY, the three-digit walkaway code provides the reason for this condition. The message indicates the reason for the condition, like the Variable Wrap-up Time feature.

Call status messages appear for the ACD incalls key and the first located secondary DN key. Call status messages include Idle, Ringing and Active.

CompuCALL Status Query (continued)

Switch Report CDN Status Message

The Switch Report CDN Status message reports the status of the CDNs that associate with the session. The switch sends this message to the host. The Switch Report CDN Status message (dv_CDN_Status_U) maps to a ROSE Class 5 Operation.

The message appears if the Applications Status Query message finds one of the following conditions:

- The DN number the host specifies must be a CDN.
- The value of subfield ALLCDNS and/or ALLAGENTS in table SCAISSRV must be 4.

The switch sends this message to the host. This message reports the status of a CDN number. The message fields include the following:

- FLAG: Specifies if an upload is in progress or completed.
- CDN: Specifies the CDN.
- STATUS: Includes agent status or call status.

The CDN messages include Controlled, Default and Revert to default.

CompuCALL Status Query OM registers

The CompuCALL uses four OM groups for CompuCALL. The four OM groups are SCAITRAN, SCAISERV, SCAISRV2 and SCAISRV3. Each group pegs each customer group that table SCAIGRP identifies. The SCAITRAN OM group is dedicated to basic CompuCALL transport functions and pegs message queuing. The SCAISERV, SCAISRV2 and SCAISRV3 OM groups peg application-specific, outgoing SCAI message types.

The registers for the CompuCALL Status Query feature are in the SCAISRV3 OM group. These registers peg outgoing messages from the switch. The outgoing messages produce service messages that include INVOKE-REQUESTS, RETURN-RESULTS, RETURN-ERRORS or RETURN-REJECTS.

The CompuCALL Status Query feature introduces the following registers:

- APPQRYRR: outgoing Status Query Return-Result
- APPQRYRE: outgoing Status Query Return-Error
- AGTSTATU: outgoing dv-Agent-Status-U Invoke-Result
- CDNSTATU: outgoing dv-CDN-Status-U Invoke-Result

CompuCALL Status Query (continued)

Application logon service version update

The SCAI11 is a service version value. This version introduces SCAI11 for this stream of CompuCALL messages. The SCAI11 service version delivers the messages in this software release.

The service version is compatible with newer versions. Service version SCAI11 provides all functionality that previous CompuCALL service versions provide.

Translations table flow

The CompuCALL Status Query feature does not affect translations table flow.

Limits

The following limits apply to the CompuCALL Status Query feature:

- The RES/CTX messages do not include the new functionality. The Application Status Query message and response messages are not sent for these lines.
- Do not associate an agent with a session after you send the query message. The system does not always report the agent status.
- Do not associate a CDN with a session after you send the query message. The system does not always report the agent status.
- Do not associate an agent added to an ACD group with a session after you send the query message. The system does not always report the agent status.

Interactions

CompuCALL Status Query does not have functionality interactions.

Activation/deactivation by the end user

CompuCALL Status Query does not require activation or deactivation by the end user.

Billing

CompuCALL Status Query does not affect billing.

Station Message Detail Recording

CompuCALL Status Query does not affect Station Message Detail Recording.

Datafilling office parameters

CompuCALL Status Query does not affect office parameters.

CompuCALL Status Query (continued)

Datafill sequence

The list of tables that that require datafill to use the CompuCALL Status Query feature appears in the following table. The tables appear in the correct entry order.

Datafill requirements for CompuCALL Status Query

Table	Purpose of table
OFCOPT	Table Office Option contains data on engineering options for the office. Refer to *Office Parameters Reference Manual* to determine how the CompuCALL Status Query feature affects office parameters.
SCAISSRV	Table Switch Computer Application Interface Subservices is a look-up table for CompuCALL service categories and associated messages.
SCAIPROF	Table Switch Computer Application Interface Profile defines the service profile a service ID can use. A service profile contains a set of subservices a customer center computer can use. For the CompuCALL Status Query feature, this table contains subservice category RESOURCE.

Datafilling table SCAISSRV

Datafill for CompuCALL Status Query feature for table SCAISSRV appears in the following table. The fields that apply to CompuCALL Status Query

CompuCALL Status Query (continued)

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

Datafilling table SCAISSRV

Field	Subfield or refinement	Entry	Explanation and action
SUBSERV		alphanumeric (1 to 16 characters)	Subservice profile name. Enter the subservice profile name. This field is the key to table SCAISSRV. Enter these subservice names in table SCAIPROF when an SCAI group requires the following; • all possible functions in a set CompuCALL service category • all associated parameters in a set CompuCALL service category ***Note:*** Each fixed subservice name is a connection of the category name, the Batch Change Supplement (BCS) or release number, and the $ (dollar sign). For example, ACDEVENT34$ is the subservice name that includes all functions and parameters in category ACDEVENT that correspond., The system supports these functions and parameters in BCS34. ***Note:*** Do not use the $ (dollar sign) character in subservice names. Use this character in current and future fixed subservice names.
SPROFILE		refer to subfield	Subservice profile contents. This field contains subfield CATEGORY.
	CATEGORY	RESOURCE	CompuCALL service category. Enter RESOURCE (resource) and datafill refinements as in the field descriptions table in CATEGORY = RESOURCE.

CompuCALL Status Query (continued)

CATEGORY = RESOURCE

If the entry in subfield CATEGORY is RESOURCE, enter data in refinement FUNCTIONS as follows. See CompuCALL in the translations section of this document for more information.

Field descriptions for category RESOURCE

Field	Subfield or refinement	Entry	Explanation and action
FUNCTIONS		refer to subfield	Functions. This field consists of subfield FUNCTION.
	FUNCTION	APPSTQRY	Enter APPSTQRY and datafill refinements DN, ALLCDNS, ALLAGENTS, AGTSTAT and CALLSTAT as in the Field descriptions. Enter this data entries for conditional datafill table in FUNCTION = APPSTQRY.

FUNCTION = APPSTQRY

If the entry in subfield FUNCTION is APPSTQRY, enter data in refinement APPSTQRY as follows.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	DN	Y or N	Single ACD DN, CDN, or Agent. Enter Y to select the DN option. If you do not enter Y, enter N.
	ALLCDNS	Y or N	All CDNs status. Enter Y to select the ALLCDNS option. If you do not enter Y, enter N.
	ALLAGENTS	Y or N	All Agents status. Enter Y to select the ALLAGENTS option. If you do not enter Y, enter N.
	AGTSTAT	Y or N	Agent status. Enter Y to select the AGTSTAT option. If you do not enter Y, enter N.
	CALLSTAT	Y or N	Call status. Enter Y to select the CALLSTAT option. If you do not enter Y, enter N.

Datafill example for table SCAISSRV

Sample datafill for table SCAISSRV appears in the following example.

CompuCALL Status Query (end)

MAP example for table SCAISSRV

```
      SUBSERV

                                                                SPROFILE
-----------------------------------------------------------------------

     RESOURCE11$
RESOURCE   (ACDQUERY)  (APPSTQRY Y Y Y Y Y)  $
```

Tools for verifying translations

CompuCALL Status Query does not use tools for verifying translations.

SERVORD

CompuCALL Status Query does not use SERVORD.

11 Appendix A: Example single-node network configuration

This appendix provides an example single-node network to illustrate Network Automatic Call Distribution (NACD) translations. This appendix includes the following:

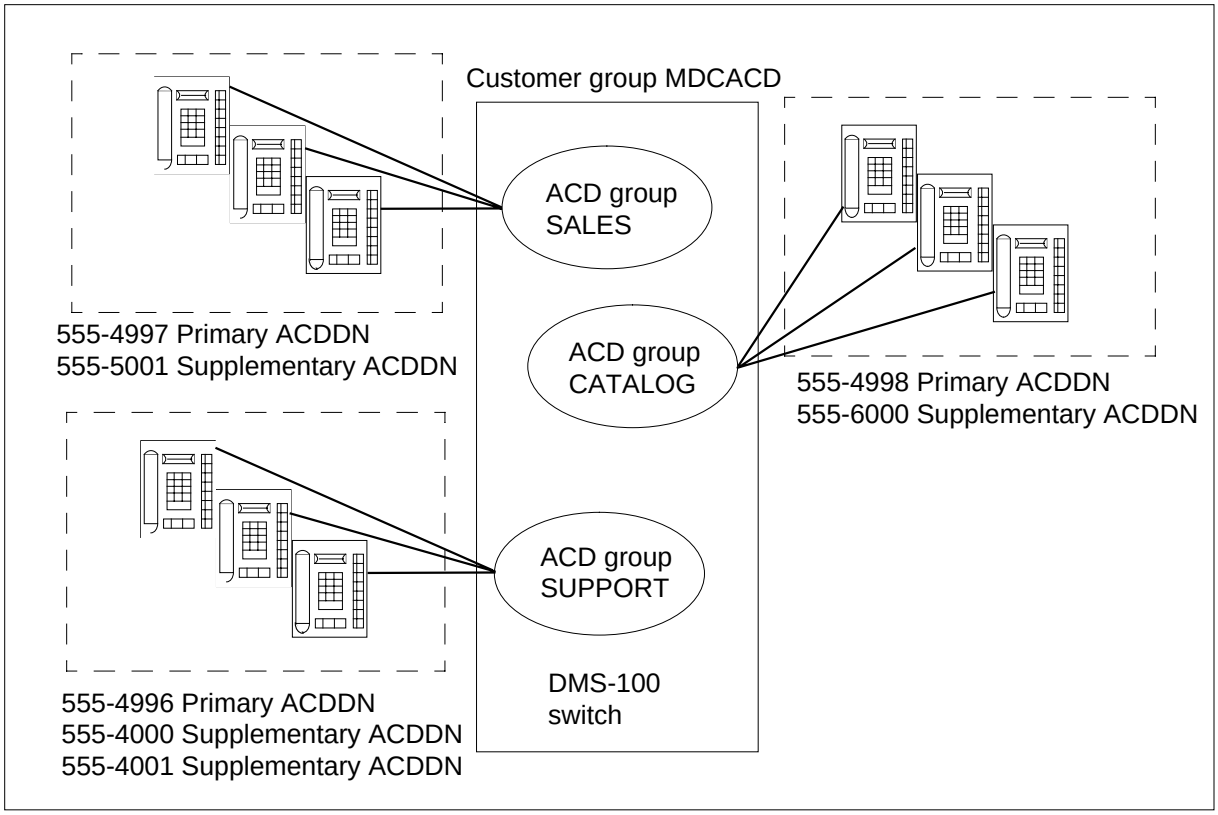
- example network configuration
- datafill to create customer groups
- datafill for announcements
- datafill for routing
- datafill to set up Automatic Call Distribution (ACD) groups
- NACD overflow formulas
- call-flow scenario for an NACD call

CAUTION
Datafill that appears in this appendix is for example purposes only.
Each operating company must design datafill that is correct for the office configuration and dialing plan of the offence.

Network configuration

The configuration of the example network appears in the following figure.

Figure 11-1 Single-node NACD configuration



Defining customer groups

Before an ACD group can be defined, the group must belong to a current customer group. Example translations for the customer group MDCACD appear in the following sections.

> ***Note:*** The following examples assume an establishment of the switching unit parameters. For more information about these parameters, refer to the *Translations Guide*.

Table DIGCOL

Table DIGCOL defines the basic digit collection plan for the customer group. Datafill for the digit collection group ACDCOL in table DIGCOL appears in the following example.

Table 11-1 Datafill example for table DIGCOL (Sheet 1 of 2)

DGKEY	DGDATA
ACDCOL 1	RPT
ACDCOL 2	RPT

Table 11-1 Datafill example for table DIGCOL (Sheet 2 of 2)

```
ACDCOL 3                        COL L 1

ACDCOL 4                        COL L 2

ACDCOL 5                        COL L 1

ACDCOL 6                        COL L 1

ACDCOL 7                        COL L 1

ACDCOL 8                        RPT

ACDCOL 9                        POTS Y

ACDCOL 0                        RPT
```

Table XLANAME

Table XLANAME defines the customer group, feature, preliminary, and octothorpe translators. Datafill for table XLANAME appear in the following example.

Table 11-2 Datafill example for table XLANAME

```
XLANAME                         DEFAULT

MDCXLA                          $
9
```

Table IBNXLA

Table IBNXLA uses feature translators to define access codes that can be on single-line sets. Datafill for table IBNXLA appears in the following example.

Table 11-3 Datafill example for table IBNXLA

```
KEY                                          RESULT

MDCXLA 72   FEAT   N   N   N   ACDLGA

MDCXLA 73   FEAT   N   N   N   ACDLGD

MDCXLA 74   FEAT   N   N   N   ACDRNA

MDCXLA 75   FEAT   N   N   N   ACDNRD
```

Table CUSTENG

Table CUSTENG defines customer groups. The customer group MDCACD is defined in the following example.

Table 11-4 Datafill example for table CUSTENG

```
CUSTNAME NONCOS NOIBNTMT CONSOLES DOMAIN  GROUPID OPTIONS

MDCACD    15        15        N   PRIVATE       0       $
```

Table CUSTHEAD

Table CUSTHEAD assigns customer group names and allocates the customer group translator, feature translator, and digit collection name for the customer group. This table also assigns a treatment for codes that are not dialed correctly. Customer group MDCACD is defined as the MDC customer group in the following example.

Table 11-5 Datafill example for table CUSTHEAD

```
CUSTNAME   CUSTXLA   DGCOLMN  IDIGCOL
                                          OPTIONS

MDCACD     MDCXLA     ACDCOL   NIL
                                       (VACTRMT 1) $
```

Table CUSTSTN

Table CUSTSTN defines the parameters for the assigned options to the stations in a customer group. Distinctive ringing is assigned to customer group MDCACD in the following table.

Table 11-6 Datafill example for table CUSTSTN

```
CUSTNAME  OPTNAME                              OPTION

MDCACD    DRINGDRING N N NO N N N N Y 4
```

Table NCOS

Table NCOS defines the different network classes of service (NCOS) and can restrict dialing patterns for a customer group. One NCOS, 0, for customer group MDCACD appears in the following example.

Table 11-7 Datafill example for table NCOS

```
   CUSTGRP NCOS NCOSNAME LSC TRAFSNO         OPTIONS

  MDCACD     0     LINE   0       0               $
```

Defining announcements

Announcements for ACD groups include the following:

- announcements for calls that enter the queue
- announcements for calls in the queue
- announcements for overflowed calls
- announcements for ACD groups in night service

Announcements reside on digital recorded announcement machines (DRAM).

Enter data in the tables to provide announcements for ACD groups:

- DRAMS
- CLLI
- AUDIO
- ANNS
- ANNMEMS
- DRMUSERS

Table DRAMS

Table DRAMS identifies the physical configuration of the DRAM hardware. Datafill for table DRAMS appears in the following table.

Table 11-8 Datafill example for table DRAMS

```
DRAMCARD    TMTYPE TMNO TMCKT CARDCODE CARDINFO

0     0     MTM  5  0    1X75BA  CNTRL  DRAM 0
0     1     MTM  5  2    1X79AA  EEPROM (0)  $
0     2     MTM  5  4    1X79AA  EEPROM (1)  $
0     3     MTM  5  6    1X79AA  EEPROM (2)  $
0     4     MTM  5  8    1X79AA  EEPROM (3)  $
0     5     MTM  5  10   1X79AA  EEPROM (4)  $
0     6     MTM  5  12   1X79AA  EEPROM (5)  $
0     7     MTM  5  14   1X79AA  EEPROM (6)  $
0     8     MTM  5  16   1X79AA  EEPROM (7) $
```

Table CLLI

Table CLLI defines the names of the announcements for ACD. Announcements are used when ACD calls are queued or overflowed. Datafill for table CLLI appears in the following example.

Table 11-9 Datafill example for table CLLI

```
     CLLI      ADNUM  TRKGRSIZ              ADMININF

AGTSBSYANN     250         1      ACD_QUEUE_ANNCT

AGTSTILLBSYANN251          1     QUEUE_STILL_BUSY

MDCACDTRK      76         32         INCOMING_IBN

LONLONEOIS     435         10             ISUP_ESN
```

Table AUDIO

Table AUDIO gives the available broadcasts for calls in the ACD queues. Datafill for table AUDIO appears in the following example.

Table 11-10 Datafill example for table AUDIO

```
AUDIOKEY                                        ROUTES

AUDIO3  ACDQ

      (ANN Y 1 AGTSBSYANN) (SILENCE 60)

      (ANN N AGTSTILLBSYANN) (SILENCE 0) $
```

Table ANNS

Table ANNS contains information about announcements that reside on a DRAM. Datafill for table ANNS appears in the following table.

Table 11-11 Datafill example for table ANNS

CLLI	ANTYPE	TRANSFNO	MAXCONN	CYTIME	MAXCYC
AGTSBSYANN	STND	0	1	0	5
AGTSTILLBSYANN	STND	0	1	0	7

Table ANNMEMS

Table ANNMEMS contains information about announcement group members defined in table ANNS. Datafill for table ANNMEMS appears in the following table.

Table 11-12 Datafill example for table ANNMEMS

ANNMEM	HDWTYPE	CARD		MEMINFO
AGTSBSYANN $	1	DRAM	DRA	(0 MTM 5 2)$
AGTSTILLBSYANN	1	DRAM	DRA	(0 MTM 6 2)$

Table DRMUSERS

Table DRMUSERS contains the lists of phrases in one announcement. Datafill for table DRMUSERS appears in the following example.

Note: The phrases in the following example are example phrases only. The phrases are not present in the switch. The operating company records announcements in this table on site. To perform this action, the operating company uses the DRAMREC facility.

Table 11-13 Datafill example for table DRMUSERS

USERANN		PHSLIST	
AGTSBSYANN	1	(SILENCE)	(SALESANN1)$
AGTSTILLBSYANN	1(SORRY)	(SILENCE)	(SALESANN2)$

Defining routing

The following tables define the trunk groups available for the customer group:

- PADDATA
- TRKGRP
- TRKSGRP
- TRKMEM

Table PADDATA

Table PADDATA defines valid packet assembler/disassembler (PAD) groups. Datafill for table PADDATA appears in the following example.

Table 11-14 Datafill example for Table PADDATA

PADKEY	PAD1TO2	PAD2TO1
ELO ELO	0	0

Table TRKGRP

Table TRKGRP defines the trunks that provide access between MDC customer groups on different switches. Table TRKGRP defines MDCACDTRK and LONLONEOIS to customer group MDCACD in the following example.

Table 11-15 Datafill example for table TRKGRP

```
GRPKEY
                                                GRPINFO

MDCACDTRKL

IBNT2 0 ELO NCRT MDCACD 0 MIDL 0 N ANSDISC 0 N N N N     N N
Y 0 0 N 0 0 0 0 N N N N N N N N N N NATL $

LONLONEIOS

   IBNT0 0 ELO NCRT MDCACD 0 MIDL ANSDISC 0 N 0 0

 8 9 N N N N N N NATL $
```

Table TRKSGRP

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

Table 11-16 Datafill example for table TRKSGRP

```
    SGRPKEY   CARDCODE
                                                  SGRPVAR

  MDCACDTRK    DS1SIG

STD 2W MF WK N 5 5 MF WK 7 0 Y NO NO N N N M 7 0 UNEQ
```

Table TRKMEM

Table TRKMEM lists the data that associates with each trunk defined in table TRKGRP and table TRKSGRP. Datafill for table TRKMEM appears in the following table.

Table 11-17 Datafill example for table TRKMEM

```
          CLLI  EXTRKNM  SGRP                    MEMVAR

     MDCACDTRK        5     0              DTC  11  218
```

Defining ACD groups

Datafill for ACD groups CATALOG, SALES, and SUPPORT appears in the following sections.

Table OFCENG

Table OFCENG defines how often the resource index (RI) of an NACD group is broadcast to the network. Datafill for table OFCENG appears in the following example.

Table 11-18 Datafill example for table OFCENG

```
                    PARMNAME                PARMVAL

NACD_RI_DELTA_PARM                      5

NACD_BRDCAST_INTERVAL                   60
```

Table ACDMISPL

Table ACDMISPL establishes pools, passwords, and protocol for ACD groups that use the Automatic Call Distribution Management Information System (ACDMIS) software. Datafill for table ACDMISPL appears in the following example.

Table 11-19 Datafill example for table ACDMISPL

```
                POOL   PASSWORD PROTOCOL OUTEVENT

                 POOL1     ADMIN    BCS30      100
```

Table ACDMISSP

Table ACDMISSP creates subpools for pools in table ACDMISPL. Datafill for table ACDMISSP appears in the following example.

Table 11-20 Datafill example for table ACDMISSP

```
          SUBPOOL    PASSWORD     POOL

     SUBPOOL1    ACDMIS  POOL1
```

Table ACDGRP

Table ACDGRP defines ACD groups. Table ACDGRP defines ACD groups CATALOG, SALES, and SUPPORT in the following example.

Table 11-21 Datafill example for table ACDGRP (Sheet 1 of 2)

```
ACDNAME     CUSTGRP ACDRNGTH       THROUTE
    NSROUTE PROPRIO DBG MAXCQSIZ MAXWAIT
                     ACDMIS
                    MSQS DISTRING  OBSWTONE
      FRCNGTSV
                                          OPTIONS
CATALOG     MDCACD       30         IBNRTE  41
  IBNRTE  42     0    N       9      300
                 Y     POOL1    SUBPOOL1  N     $
                    N     BOTH      N
              N
          (TMDELOFL 20 ALLPRIO) (OFLINQ OVFLIN 2 Y 5)
            (ACDCPK Y 60) (ACDXFER 4 Y 30)
              (MAXCQLMT 22) (OBSREST) $
```

Table 11-21 Datafill example for table ACDGRP (Sheet 2 of 2)

```
SALES     MDCACD       30         IBNRTE  41
  IBNRTE  44     0    N       15        60
                 Y     POOL1    SUBPOOL1  N     $
           Y  1  2  20 CALLQ  N  Y  0    BOTH      N
             N
         (AUDIO 18 Y AUDIO3) (ACDDISP 4) (NONIMCUT)
       (TMDELOFL 20 ALLPRIO) ( OFLINQ P0FIRST 3 Y 5)
     (QTOMSB) (NRONSDN ) ( TIMECXR ) (  ACDCPK N ) $
SUPPORT     MDCACD       20         IBNRTE  41
 IBNRTE  42     0    N       9      180
                Y     POOL1    SUBPOOL1  N     $
                   N     BOTH      N
           N
                       (ACDDISP   4) ( VARWRAP 30)
      ( TMDELOFL 20 ALLPRIO) ( OFLINQ OVFLIN 2 Y 5)
                     ( ACDXFER 0 Y 12) ( NONIMCUT )$
```

Table ACDRTE

Table ACDRTE defines the correct routes an ACD group can use. Datafill for table ACDRTE appears in the following example.

Table 11-22 Datafill example for table ACDRTE

```
ACDGRP          OPTNAME                                    OPTION
CATALOG        TABEN     TABEN  IBNRTE 41  IBNRTE 42  IBNRTE 6
CATALOG      TMDTHRTE  TMDTHRTE   IBNRTE 6  120
CATALOG          OVFL      OVFL  (SUPPORT) (XSUPPORT) (SALES)
SUPPORT        TABEN     TABEN  IBNRTE 41  IBNRTE 42  IBNRTE 6
SUPPORT      TMDTHRTE  TMDTHRTE   IBNRTE 6  120
SUPPORT          OVFL      OVFL  (CATALOG) (XSUPPORT) (SALES)
SALES          TABEN     TABEN  IBNRTE 41  IBNRTE 42  IBNRTE 6
SALES        TMDTHRTE  TMDTHRTE   IBNRTE 6  120
SALES           OVFL      OVFL  (SUPPORT) (XSUPPORT) (CATALOG)
SALES           AUDIO     AUDIO  (AUDIO3) (AUDIO4)
```

Table NACDGRP

Table NACDGRP defines NACD groups. Table NACDGRP defines NACD groups CATALOG, SALES, and SUPPORT in the following example.

Table 11-23 Datafill example for Table NACDGRP

```
  ACDGRP QTHRESH WTHRESH  PWF BESTGRP SRVRATE NUMIDLE TIMEIDLE
                                                      NTWKGRPS

CATALOG       2       20  100       Y      60      60       60

( LCL  SUPPORT  100) (LCL  SALES  100) $

SUPPORT       2       17  100       Y      60      60       60

( LCL  SUPPORT  100) (LCL  SALES  100) $

SALES         2       21  100       Y      60      60       60

( LCL  SUPPORT  100) (LCL  SALES  100) $
```

Table CUSTNTWK

Table CUSTNTWK defines the network name with which the customer group is associated. Datafill for table CUSTNTWK appears in the following table.

Table 11-24 Datafill example for table CUSTNTWK

```
        CUSTNAME  NETNAME  NETCGID
DNREVXLA

OPTIONS

   MDCACD  PRIVATE     6

     (PRIVATE CKARPRI 10) (PUBLIC CKARPUB 10)

(NTWKRAG 47 30 5 31 2 30 OFFNET) (CLID OFFNET) (ECM)$
```

Table ACDSGRP

Table ACDSGRP links supervisors with the agents in the subgroup of the supervisors. Datafill for table ACDSGRP appears in the following example.

Table 11-25 Datafill example for table ACDSGRP

ACDGROUP	SUBGROUP	RECORDER
CATALOG	1	NONE
SALES	2	NONE
SUPPORT	3	NONE

Table DNROUTE

Table DNROUTE defines primary and additional directory numbers (DN) for ACD groups. Datafill for table DNROUTE appears in the following example.

Table 11-26 Datafill example for table DNROUTE

```
AREACODE OFCCODE STNCODE                DNRESULT

919       362     4996  FEAT ACD SUPPORT PRIM 0 1 $

919       362     4000  FEAT ACD SUPPORT SUPP 1 $

919       362     4001  FEAT ACD SUPPORT SUPP 2 $

919       362     4997  FEAT ACD SALES PRIM 0 1 $

919       362     5001  FEAT ACD SALES SUPP 0 $

919       362     4998  FEAT ACD CATALOG PRIM 0 1 $

919       362     6000  FEAT ACD CATALOG SUPP 1 $
```

Table ACDLOGIN

Table ACDLOGIN assigns correct ACD logins and can assign passwords to the login IDs. This table also assigns an individual wrap-up time to agents. Datafill for table ACDLOGIN appears in the following example.

Table 11-27 Datafill example for table ACDLOGIN

```
LOGINID         CUSTGRP    PSWD              OPTIONS

1234          Y MDCACD   Y 2238                  $

8888                 N   Y 9876                  $
```

Table DNATTRS

Table DNATTRS defines attributes of a line. If an ACD group has the feature ACDDISP, the name must be in this table. Datafill for table DNATTRS appears in the following example.

Table 11-28 Datafill example for table DNATTRS

```
KEY                                        DATA
                                       OPTDATA

919 362 4996
(PUBLIC ( NAME  SUPPORT) $ ) $
                                             $
919 362 4997
 (PUBLIC ( NAME  SALES) $ ) $
                                             $
919 362 4998
  (PUBLIC ( NAME  CATALOG) $ ) $
                                             $
```

Table MPC

Table MPC identifies a multiprotocol controller (MPC) card to the central control. This table helps to establish a data link between the switch and the customer site that uses ACDMIS. Datafill for table MPC appears in the following example.

Table 11-29 Datafill example for table MPC

```
MPCNO  MPCIOC  IOCCCT      EQ    DLDFILE

   0       0      32   1X89AA    MPC31AB
```

Table MPCLINK

Table MPCLINK makes sure that a data link from the switch to the customer site that uses ACDMIS is established and maintained. Datafill for table MPCLINK appears in the following example.

Table 11-30 Datafill example for table MPCLINK (Sheet 1 of 2)

```
LINKKEY
                                          PRTCLDAT
```

Table 11-30 Datafill example for table MPCLINK (Sheet 2 of 2)

```
   0  3

X25ORIG 0 0 (L7WINDOW 7) (NUMSVCS 1)

(STANDARD CCITT80) $ (EXINFSEL SVCDNA)

(DIGITS 12345678) (SVCTYPE DATAPAC) $
```

Table GDLADEV

Table GDLADEV associates data transmission devices with specificed remote polling system applications for use in data transfer. This table helps to establish a data link between the switch and the customer site that uses ACDMIS. Datafill for table GDLADEV appears in the following table.

Table 11-31 Datafill example for table GDLADEV

```
APPLN   DEVICE

 NOP      MPC
```

Table NOPADDR

Table NOPADDR establishes the addresses the switch accepts. This table helps to establish a data link between the switch and the customer site that uses ACDMIS. Datafill for table NOPADDR appears in the following example.

Table 11-32 Datafill example for table NOPADDR

```
INDEX  UNIT   LINK    ADDRESS   PROTOCOL

   0     0      3   12345678    0 0 0 0
```

Table NOPAPPLN

Table NOPAPPLN controls the applications that remote users can access. An example of remote users are ACDMIS users. Datafill for table NOPAPPLN appears in the following example.

Table 11-33 Datafill example for table NOPAPPLN

```
  DNAKEY   APPLNS

12345678    ONLY         (ACDMIS_APPL) $
```

Table KSETLINE

Table KSETLINE contains the data of DN appearances on business sets. Each DN-related key used for ACD on a business set requires an entry in this table.

> **CAUTION**
> **SERVORD required**
> Every other addition, deletion, and change to table KSETLINE must be entered with the Service Order System. For information, see the *SERVORD Reference Manual*.

Datafill for table KSETLINE appears in the following table.

Table 11-34 Datafill example for table KESETLINE

```
  KSETKEY FORMAT                          DNRESULT

HOST 02 0 0 04 1  ACD  Y  3623872
           MDCACD  0  0  919
    INCALLS N SALES     1 N
                     (   MSB) (  ACDNR)$

HOST 02 0 0 01 1  ACD  Y  3624885
           MDCACD  0  0  919
    INCALLS N SALES     1 N
                     (   MSB) (  ACDNR)$

HOST 02 0 0 16 1  ACD  Y  3621195
            MDCACD  0   0    919
     INCALLS N CATALOG   1 N
                     (   MSB) (  ACDNR)$
```

Table KSETINV

Table KSETINV lists the data for business sets and add-on modules. An entry must be in this table for each line card slot assigned to a business set in use for ACD.

> **CAUTION**
> **SERVORD required**
> Every addition, deletion, and change to table KSETINV must be entered with the Service Order System. For information, see the *SERVORD Reference Manual*.

Datafill for table KSETINV appears in the following example.

Table 11-35 Datafill example for table KESETINV

```
KSETLEN                                    SETDATA

                                                     OPTIONS

HOST 00 0 0 04                             M5212
                                                     $

HOST 02 0 0 01                             M5212
                                                     $

HOST 02 0 0 16                             M5212
                                                     $
```

Table IBNFEAT

Table IBNFEAT describes line features for ACD lines.

> **CAUTION**
> **SERVORD required**
> Every addition, deletion, and change to table IBNFEAT must be entered with the Service Order System. For information, see the *SERVORD Reference Manual*.

Datafill for table IBNFEAT appears in the following table.

Table 11-36 Datafill example for table IBNFEAT (Sheet 1 of 2)

```
          LEN DNNO     DF FEATURE

                                          DATA
```

Table 11-36 Datafill example for table IBNFEAT (Sheet 2 of 2)

```
HOST 00 0 0 04   0   ACD  ACD SUPPORT 0 N ACDNR $

HOST 02 0 0 01   0   ACD  ACD SALES 0 N ACDNR $

HOST 02 0 0 16   0   ACD  ACD CATALOG 0 N ACDNR $
```

NACD overflow formulas

The sum of the resource index (RI) and preference weighting factor (PWF) determine which group in the network must receive a networked/overflowed call.

The RI is a continuously calculated figure. Computation of this figure occurs in the following two ways:

- When there are idle agents in the ACD group, the algorithm is:

  RI = 2500 + (NUMIDLE × no. of idle agents) + queue size + (no. of active agents ÷ 26) + (idle time x TIMEIDLE)

- When there are no idle agents, the algorithm is:

  RI = 2500 - [(waiting calls × SRVRATE) ÷ no. active agents] - SRVRATE

  NUMIDLE, TIMEIDLE, and SRVRATE are set in Table NACDGRP and can be altered.

The PWF is a value that the customer assigns to each group in the network.

The best group to receive a networked call has the highest desirability measure.

Call flow

The following steps show how calls flow in the NACD network defined in the datafill in this appendix:

1. A customer with a DN of 555-1991 dials 555-4997, which is the ACD group SALES.
2. The ACD group SALES does not have idle agents, so the call is placed in the queue. When the call is in the queue, the caller hears ringing for three seconds and a series of announcements. These announcements are entered in table ACDGRP.
3. The call waits in the incoming call queue for 20 seconds. The ACD group SALES has the option TDMELOFL assigned in table ACDGRP for every priority of calls. The call overflows to the best group.

4. The switch uses NACD overflow formulas to determine the best group to handle the call. The following information determines the calculations:
   a. SALES has
      - three waiting calls
      - SRVRATE set to 60 in table NACDGRP
      - 16 agents in total
   b. CATALOG has
      - zero waiting calls
      - SRVRATE set to 60 in table NACDGRP
      - NUMIDLE set to 60 in table NACDGRP
      - TIMEIDLE set to 60 in table NACDGRP
      - 22 active agents
      - queue size of nine (set in table ACDGRP)
      - 25 agents in total
   c. SUPPORT has
      - two waiting calls
      - SRVRATE set to 60 in table NACDGRP
      - five agents in total
5. The given information determines that the CATALOG has the highest desirability measure.
6. The call overflows to the ACD group CATALOG.

12 Appendix B: Network example for ACD using CCS7

This appendix provides an example network to describe Network Automatic Call Distribution (NACD) translations when the NACD uses Common Channel Signaling No. 7 (CCS7) translations. This appendix includes the following:

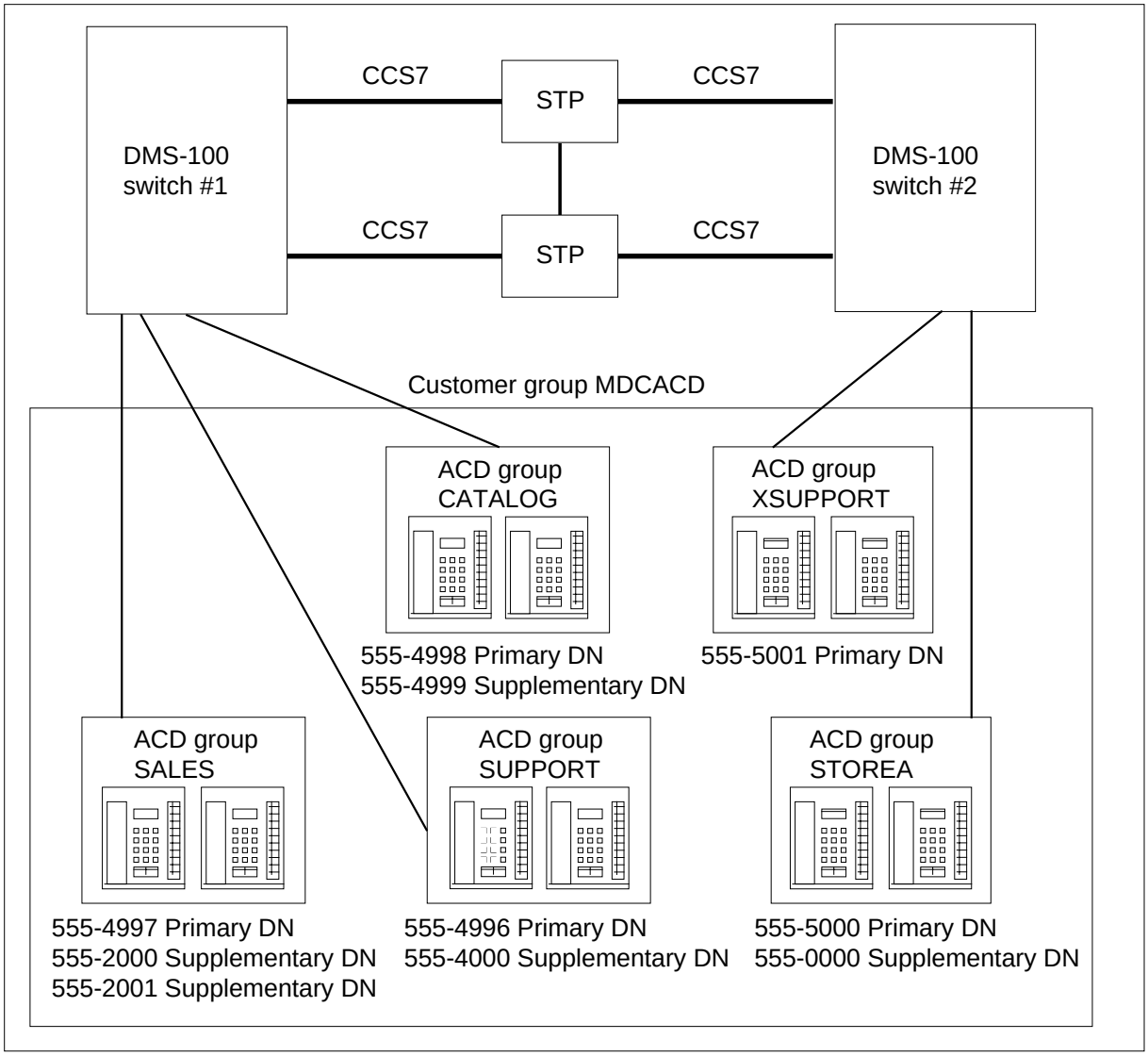
- example network configuration
- datafill to create customer groups
- datafill for announcements
- datafill for routing
- datafill to use CCS7
- datafill to set up Automatic Call Distribution (ACD) groups
- NACD overflow formulas
- call-flow scenario for an NACD call

CAUTION
Datafill in this appendix is for example purposes only.
Each operating company must design datafill appropriate for the office configuration and dialing plan.

Network configuration

The configuration of the example network appears in the following figure.

Figure 12-1 Single-node NACD configuration



Defining customer groups

Before you can define an ACD grsoup, the group must belong to a current customer group. The following sections indicate example translations for the customer group MDCACD.

Note 1: The following examples assume that the switching unit parameters were established. For additional information about these parameters, refer to the *Translations Guide*.

Note 2: The following examples assume that the two switches have the same datafill.

Table DIGCOL

Table DIGCOL defines the basic digit collection plan for the customer group. Datafill for the digit collection group ACDCOL in table DIGCOL appears in the following example.

Table 12-1 Datafill example for table DIGCOL

```
DGKEY                          DGDATA

ACDCOL 1                       RPT

ACDCOL 2                       RPT

ACDCOL 3                       COL L 1

ACDCOL 4                       COL L 2

ACDCOL 5                       COL L 1

ACDCOL 6                       COL L 1

ACDCOL 7                       COL L 1

ACDCOL 8                       RPT

ACDCOL 9                       POTS Y

ACDCOL 0                       RPT
```

Table XLANAME

Table XLANAME defines the customer group, feature, preliminary, and octothorpe translators. Datafill for table XLANAME appears in the following example.

Table 12-2 Datafill example for table XLANAME

```
XLANAME                        DEFAULT;
MAXDIG

MDCXLA                         $;
9
```

Table IBNXLA

Table IBNXLA uses feature translators to define access codes. This event allows for the use of features on single-line sets. Datafill for table IBNXLA appears in the following example.

Table 12-3 Datafill example for table IBNXLA

```
KEY

RESULT

MDCXLA 72  FEAT  N  N  N   ACDLGA

MDCXLA 73  FEAT  N  N  N   ACDLGD

MDCXLA 74  FEAT  N  N  N   ACDRNA

MDCXLA 75  FEAT  N  N  N   ACDNRD
```

Table CUSTENG

Table CUSTENG defines customer groups. The definition for the customer group MDCACD appears in the following example.

Table 12-4 Datafill example for table CUSTENG

```
CUSTNAME NONCOS NOIBNTMT CONSOLES    DOMAIN     GROUPID
                                                          OPTIONS

MDCACD    10        15        N      PRIVATE     0
                                                          $
```

Table CUSTHEAD

Table CUSTHEAD assigns the customer group name and allocates the following for the customer group:

- customer group translator
- feature translator
- digit collection name

The table assigns a treatment for dialed codes that are not correct. The customer group MDCACD definition appears as the ACD customer group in the following example.

Table 12-5 Datafill example for table CUSTHEAD

```
CUSTNAME   CUSTXLA   DGCOLMN  IDIGCOL
                                        OPTIONS

MDCACD     MDCXLA     ACDCOL   NIL      (VACTRMT 0) $
```

Table CUSTSTN

Table CUSTSTN defines the parameters for the assigned options to the stations in a customer group. The assignment of distinctive ringing to customer group MDCACD appears in the following example.

Table 12-6 Datafill example for table CUSTSTN

```
CUSTNAME  OPTNAME         OPTION

MDCACD    DRING           DRING N N NO N N N N N Y 4
```

Table NCOS

Table NCOS defines the different network classes of service (NCOS) and can limit dialing patterns for a customer group. One NCOS, 0, for customer group MDCACD appears in the following example.

Table 12-7 Datafill example for table NCOS

```
   CUSTGRP NCOS NCOSNAME LSC TRAFSNO
                                        OPTIONS

  MDCACD     0     LINE   0       0
                                        $
```

Defining announcements

Announcements for ACD groups include:

- announcements for calls that enter the queue
- announcements for calls in the queue
- announcement for overflowed calls
- announcement for ACD groups in night service

Announcements are on digital recorded announcement machines (DRAM).

Datafill the following tables to provide announcements for ACD groups:

- DRAMS
- CLLI
- AUDIO
- ANNS
- ANNMEMS
- DRMUSERS

Table DRAMS

Table DRAMS identifies the configuration of the DRAM hardware. Datafill for table DRAMS appears in the following example.

Note: This example assumes that the two switches have the same or like datafill.

Table 12-8 Datafill example for table DRAMS

DRAMCARD		TMTPE	TMNO	TMCKT	CARCODE	CARDINFO
0	0	MTM	5	0	1X75BA	CNTRL DRAM0
0	1	MTM	5	2	1X79AA	EEPROM (0) $
0	2	MTM	5	4	1X79AA	EEPROM (1) $
0	3	MTM	5	6	1X79AA	EEPROM (2) $
0	4	MTM	5	8	1X79AA	EEPROM (3) $
0	5	MTM	5	10	1X79AA	EEPROM (4) $
0	6	MTM	5	12	1X79AA	EEPROM (5) $
0	7	MTM	5	14	1X79AA	EEPROM (6) $
0	8	MTM	5	16	1X79AA	EEPROM (7) $

Table CLLI

Table CLLI defines the names of the announcements for ACD. The use of announcements occurs when ACD calls are queued or overflowed. Table CLLI assigns codes to trunk groups. The following example indicates datafill for table CLLI.

Table 12-9 Datafill example for table CLLI

CLLI	ADNUM	TRKGRSIZ	ADMININF
AGTSBSYA	N250	1	ACD_QUEUE_ANNCT
AGTSTILLBSYANN	251	1	QUEUE_STILL_BUSY
MDCACDTRK	76	32	INCOMING_IBN
LONLONEOIS	435	10	ISUP_ESN

Table AUDIO

The available broadcasts for calls in the ACD queues appear in table AUDIO. A single broadcast can have a maximum of six elements. Datafill for table AUDIO appears in the following example.

Table 12-10 Datafill example for table AUDIO

```
AUDIOKEY
                                          ROUTES

AUDIO3  ACDQ
(ANN Y 1 AGTSBSYANN) (SILENCE 60)
 (ANN N AGTSTILLBSYANN) (SILENCE 0) $
```

Table ANNS

Table ANNS contains information about announcements on a DRAM. Datafill for table ANNS appears in the following example.

Table 12-11 Datafill example for table ANNS

CLLI	ANTYPE	TRAFSNO	MAXCONN	CYTIME	MAXCYC
AGTSBSYANN	STND	0	1	0	5
AGTSTILLBSYANN	STND	0	1	0	7

Table ANNMEMS

Table ANNMEMS contains information about announcement group members defined in table ANNS. Datafill for table ANNMEMS appears in the following example.

Table 12-12 Datafill example for table ANNMEMS

ANNMEM	HDWTYPE	CARD	MEMINFO
AGTSBSYANN1	DRAM	DRA	(0 MTM 5 2)$
AGTSTILLBSYANN1	DRAM	DRA	(0 MTM 6 2)$

Table DRMUSERS

Table DRMUSERS contains the lists of phrases that constitute one announcement. Datafill for table DRMUSERS appears in the following example.

> ***Note:*** Example phrases appear in the following example. The example phrases are not available in the switch. The operating company records the announcements on site with the use of the DRAMREC facility.

Table 12-13 Datafill example for table DRMUSERS

USERANN				PHSLIST
AGTSBSYANN	1		(SILENCE)	(SALESANN1)$
AGTSTILLBSYANN	1	(SORRY)	(SILENCE)	(SALESANN2)$

Defining routing

The following tables define the trunk groups available for the customer group:

- PADDATA
- TRKGRP
- TRKGRPS
- TRKMEM

> ***Note:*** The examples in this section assume that the two switches have the same datafill.

Table PADDATA

Table PADDATA defines correct packet assembler/disassembler (PAD) groups. Datafill for table PADDATA appears in the following example.

Table 12-14 Datafill example for table PADDATA

PADKEY	PAD1TO2	PAD2TO1
ELO ELO	0	0

Table TRKGRP

Table TRKGRP defines the trunks that provide access between MDC customer groups on different switches. Table TRKGRP defines MDCACDTRK and

LONLONEOIS to customer group MDCACD. This condition appears in the following example.

Table 12-15 Datafill example for table TRKGRP

```
GRPKEY
                                          GRPINFO

MDCACDTRK

IBNT2 0 ELO NCRT MDCACD 0 MIDL 0 N ANSDISC 0 N N

N N N N Y 0 0 N 0 0 0 0 N N N N N N N N N NATL $

LONLONEIOS

IBNT0 0 ELO NCRT MDCACD 0 MIDL ANSDISC 0 N 0 0

8 9 N N N N N N NATL $
```

Table TRKSGRP

Table TRKSGRP lists the additional information for each subgroup assigned to one trunk group in table TRKGRP. Datafill for table TRKSGRP appears in the following example.

Table 12-16 Datafill example for table TRKSGRP

```
    SGRPKEY   CARDCODE                    SGRPVAR

  MDCACDTRK    DS1SIG

STD 2W MF WK N 5 5 MF WK 7 0 Y NO NO N N N M 7 0 UNEQ
```

Table TRKMEM

Table TRKMEM lists the data associated with each trunk defined in table TRKGRP and table TRKSGRP. Datafill for table TRKMEM appears in the following example.

Table 12-17 Datafill example for table TRKMEM

```
           CLLI  EXTRKNM  SGRP                  MEMVAR

   MDCACDTRK        5     0            DTC  11  218
```

Defining Common Channel Signaling No. 7 translations

An NACD network that uses CCS7 contains two or more switching and processing nodes. Signaling links interconnect these nodes. With CCS7, NACD groups can form if the NACD groups have a maximum of 12 000 agents.

The following tables must be entered to define the CCS7 network:

- C7NETWRK
- C7LKSET
- C7LINK
- C7RTESET
- C7NETSSN
- C7LOCSSN
- ISUPDEST
- C7TRKMEM
- IBNRTE
- CUSTNTWK

> ***Note:*** The examples in the following sections assume that the two switches have identical datafill.

Table C7NETWRK

Table C7NETWRK defines correct network names. Datafill for table C7NETWRK appears in the following example.

Table 12-18 Datafill example for table C7NETWRK

```
   NETNAME             PTCODE
NI
SLSROT   TFR    MCS                        CLUSTERS
RCTEST
C7NETWRK1 ANSI7 1 2 3
INTLSPARE
Y     Y     3            Y                 Y
```

Table C7LKSET

Table C7LKSET defines the characteristics of a linkset. A linkset is a set of links that operates as a group. Each linkset can carry traffic between switches. Datafill for table C7LKSET appears in the following example.

Table 12-19 Datafill example for table C7LKSET

```
  LINKSET  LSTYPE  NETNAME                        FEPC

FECLLI SIGLKTST RSTEST INHTEST

Q704   CNGSTN  NUMFLAGS

C7LKSET1   ALINK C7NETWRK1                ANSI7 4 5 6

C7LKSET1        N      N                  Y

0         0      1
```

Table C7LINK

Table C7LINK defines the configuration of a linkset. Datafill for table C7LINK appears in the following example.

Table 12-20 Datafill example for table C7LINK

```
LINKNAME
                                          LINKDATA
                                 Q703     Q707
                                 LINKOPT

C7LKSET1 0                       STPOOL 0 CCS7TLOO   0
                                 0        0
                                 $

C7LKSET1 0                       STPOOL 0 CCS7TLOO   1
                                 0        0
                                 $
```

Table C7RTESET

Table C7RTESET logically associates linksets to use as possible routes for each signaling point in the network. Datafill for table C7RTESET appears in the following example.

Table 12-21 Datafill example for table C7RTESET (Sheet 1 of 2)

```
     ROUTESET   NETNAME  TFPBCAST        DPC

                                        ROUTES
```

Table 12-21 Datafill example for table C7RTESET (Sheet 2 of 2)

```
  C7RTESET1 C7NETWRK1       N   ANSI7 (4) (5) (6) $

( C7LKSET1 0 ) $
```

Table C7NETSSN

Table C7NETSSN defines the subsystem in use. Datafill for table C7RNETSSN appears in the following example.

Table 12-22 Datafill example for table C7NETSSN

```
PCNAME                                    SSNAMES

C7RTESET1                                 (INTERWRK 200) $
```

Table C7LOCSSN

Table C7LOCSSN defines the subsystem in use. Datafill for table C7LOCSSN appears in the following example.

Table 12-23 Datafill example for table C7LOCSSN

```
    SSNAME SSNUMBER  MININST REPLINFO
                                         TFMI
                                         PCNAMES
INTERWERK     200      1              N
                                         N
                                         $
```

Table ISUPDEST

Table ISUPDEST logically associates the signaling network ID with the trunking tables. Datafill for table ISUPDEST appears in the following example.

Table 12-24 Datafill example for table ISUPDEST

```
          DESTKEY              ISUPROUT

   LONLONEOIS  0              C7RTESET1
```

Table C7TRKMEM

Table C7TRKMEM relates the circuit identification code to the common language location identifier (CLLI) and the trunk member number. Datafill for Table C7TRKMEM appears in the following example.

Table 12-25 Datafill example for table C7TRKMEM

```
            MEMKEY        CIC

   LONLONEOIS  0        614
```

Table IBNRTE

Table IBNRTE defines route lists available to the NACD groups. Datafill for table IBNRTE appears in the following example.

Table 12-26 Datafill example for table IBNRTE

```
 RTE                                          RTELIST

41                ( N Y Y N  MDCACDTRK        0)$
42                (  N Y Y N N MDCACDTRK      2)$
```

Table CUSTNTWK

Table CUSTNTWK defines the network name with which the customer group associates. Datafill for table CUSTNTWK appears in the following example.

Table 12-27 Datafill example for table CUSTNTWK

```
     CUSTNAME  NETNAME  NETCGID
                                      DNREVXLA
                                      OPTIONS

      MDCACD  PRIVATE       6
(PRIVATE CKARPRI 10) (PUBLIC CKARPUB 10)
(NTWKRAG 47 30 5 31 2 30 OFFNET) (CLID OFFNET) (ECM)$
```

Defining ACD groups

Datafill for ACD groups CATALOG, SUPPORT, and SALES in switch #1 appears in the following examples. Datafill for XSUPPORT and STOREA in switch #2 also appears in the following examples.

Table OFCENG

Table OFCENG contains parameters that define when the resource index (RI) of an NACD group is broadcast to the network. The RI can be broadcast on a

timed basis or when a value changes. Datafill for table OFCENG appears in the following example.

Table 12-28 Datafill example for table OFCENG

PARMNAME	PARMVAL
NACD_RI_DELTA_PARM	5
NACD_BRDCAST_INTERVAL	60

Table ACDMISPL

Table ACDMISPL establishes pools, passwords, and protocol for ACD groups that use the Automatic Call Distribution Management Information System (ACDMIS) software. Datafill for table ACDMISPL appears in the following example.

Table 12-29 Datafill example for table ACDMISPL

POOL	PASSWORD	PROTOCOL	OUTEVENT
POOL1	ADMIN	BCS30	100

Table ACDMISSP

Table ACDMISSP creates subpools for pools established in table ACDMISPL. Datafill for table ACDMISSP appears in the following example.

Table 12-30 Datafill example for table ACDMISPL

POOL	PASSWORD	PROTOCOL	OUTEVENT
POOL1	ADMIN	BCS30	100

Table ACDGRP

Table ACDGRP defines and establishes parameters and options for each ACD group. The ACD groups are CATALOG, SALES, and SUPPORT. These groups appear in the following example.

Datafill for switch #1 appears in the following example.

Table 12-31 Datafill example for table ACDGRP (Sheet 1 of 2)

```
ACDNAME     CUSTGRP ACDRNGTH       THROUTE

NSROUTE PROPRIO DBG MAXCQSIZ MAXWAIT

ACDMIS

MSQS DISTRING  OBSWTONE

FRCNGTSV
```

Table 12-31 Datafill example for table ACDGRP (Sheet 2 of 2)

```
                                                          OPTIONS

CATALOG     MDCACD       30         IBNRTE  41
IBNRTE  42     0    N       9      300
               Y     POOL1    SUBPOOL1  N     $
                  N     BOTH      N
          N
( TMDELOFL 20 ALLPRIO) (ACDCPK Y 60)
(QTOMSB) (AUDIO 0 N AUDIO3)
(ACDDISP 4) ( OFLINQ OVFLIN 2 Y 5)$

SALES     MDCACD       30         IBNRTE  41
IBNRTE  44     0    N       15        60
               Y     POOL1    SUBPOOL1  N     $
        Y  1  2  20 CALLQ  N  Y  0    BOTH      N
          N
(AUDIO 18 Y AUDIO3) (ACDDISP 4) (NONIMCUT)
( TMDELOFL 20 ALLPRIO) ( OFLINQ P0FIRST 3 Y 5)
(NONIMCUT) (OBSREST) $

SUPPORT     MDCACD       20         IBNRTE  41
 IBNRTE  42     0    N       9      180
               Y     POOL1    SUBPOOL1  N     $
                  N     BOTH      N
          N
(ACDDISP   4) ( ACDXFER 3 Y 60 ) (MAXCQLMT 25)
( TMDELOFL 20 ALLPRIO) ( OFLINQ OVFLIN 2 Y 5) $
```

Datafill for switch #2 appears in the following example.

Table 12-32 Datafill example for table ACDGRP

```
ACDNAME     CUSTGRP ACDRNGTH       THROUTE
   NSROUTE PROPRIO DBG MAXCQSIZ MAXWAIT
                  ACDMIS
                 MSQS DISTRING  OBSWTONE


     FRCNGTSV
                                                          OPTIONS
XSUPPORT     MDCACD       30         IBNRTE  41
 IBNRTE  42     0    N       9      300
                Y     POOL1    SUBPOOL1  N     $
                   N     BOTH      N
           N
( TMDELOFL 20 ALLPRIO) (QTOMSB) ( TIMECXR )
 (ACDDISP 4) ( OFLINQ OVFLIN 2 Y 5)$
STOREA     MDCACD       30         IBNRTE  41
 IBNRTE  42     0    N       9      300
                Y     POOL1    SUBPOOL1  N     $
                   N     BOTH      N
           N
( TMDELOFL 20 ALLPRIO) ( VARWRAP 25 )
 (ACDDISP 4) ( OFLINQ OVFLIN 2 Y 5)
( ACDCPK Y 30 ) ( ACDXFER 2 Y 60 ) $
```

Table ACDRTE

Table ACDRTE defines all the correct routes an ACD group can use.

Datafill for switch #1 appears in the following example.

Table 12-33 Datafill example for table ACDRTE

```
ACDGRP       OPTNAME                                OPTION

CATALOG     TABEN     TABEN  IBNRTE 41  IBNRTE 42  IBNRTE 6
CATALOG     TABEN     TABEN  IBNRTE 31
CATALOG   TMDTHRTE  TMDTHRTE   IBNRTE 6  120
CATALOG       OVFL      OVFL  (SUPPORT) (XSUPPORT) (SALES)

SUPPORT     TABEN     TABEN  IBNRTE 41  IBNRTE 42  IBNRTE 6
SUPPORT     TABEN     TABEN  IBNRTE 31
SUPPORT   TMDTHRTE  TMDTHRTE   IBNRTE 6  120
SUPPORT      OVFL      OVFL  (CATALOG) (XSUPPORT) (SALES)

SALES       TABEN     TABEN  IBNRTE 41  IBNRTE 42  IBNRTE 6
SALES        TABEN     TABEN  IBNRTE 31
SALES     TMDTHRTE  TMDTHRTE   IBNRTE 6  120
SALES         OVFL      OVFL  (SUPPORT) (XSUPPORT)(CATALOG)
SALES        AUDIO     AUDIO  (AUDIO3) (AUDIO4)
```

Datafill for switch #2 appears in the following example.

Table 12-34 Datafill example for table ACDRTE

```
ACDGRP      OPTNAME                                OPTION

XSUPPORT    TABEN     TABEN  IBNRTE 41  IBNRTE 42  IBNRTE 6
XSUPPORT    TABEN     TABEN  IBNRTE 31
XSUPPORT  TMDTHRTE  TMDTHRTE   IBNRTE 6  120
XSUPPORT     OVFL      OVFL  (STOREA) (CATALOG) (SALES)

STOREA      TABEN     TABEN  IBNRTE 41  IBNRTE 42  IBNRTE 6
STOREA       TABEN     TABEN  IBNRTE 31
STOREA     TMDTHRTE  TMDTHRTE   IBNRTE 6  120
STOREA        OVFL      OVFL  (CATALOG) (XSUPPORT) (SALES)
```

Table REMNACD

Table REMNACD provides routing information to ACD groups on a remote node in the network. Datafill for table REMNACD appears in the following example.

Datafill for switch #1 appears in the following example.

Table 12-35 Datafill example for table REMNACD

REMGROUP	REMOTEDN	ROUTE		OPTIONS
STOREA	9193625000	IBNRTE	31	$
XSUPPORT	9193625001	IBNRTE	31	$

Datafill for switch #2 appears in the following example.

Table 12-36 Datafill example for table REMNACD

REMGROUP	REMOTEDN	ROUTE		OPTIONS
SUPPORT	9193624996	IBNRTE	31	$
CATALOG	9193624998	IBNRTE	31	$
SALES	9193624997	IBNRTE	31	$

Table NACDGRP

Table NACDGRP defines and describes NACD groups. Table NACDGRP provides parameters and values to determine the other member of the network. The parameters and values determine if the NACD group prefers to use any or all of members of the supergroup. An NACD group does not have to include all other members of the supergroup in the overflow list.

Datafill for switch #1 appears in the following example.

Table 12-37 Datafill example for table NACDGRP (Sheet 1 of 2)

```
  ACDGRP QTHRESH WTHRESH  PWF BESTGRP SRVRATE NUMIDLE TIMEIDLE
                                                      NTWKGRPS
               OPTIONS

CATALOG       2       19  100       Y      60      60       60
 ( LCL  SUPPORT  100) (LCL  SALES  100) $
                     $
```

Table 12-37 Datafill example for table NACDGRP (Sheet 2 of 2)

```
SUPPORT     2     13  100     Y    60    60     60
( LCL  CATALOG  100) (LCL  SALES  100)
(REM XSUPPORT 10) $
            $
SALES       2     20  100     Y    60    60     60
( LCL  CATALOG  100) (REM STOREA 10)
(LCL  SUPPORT  100) $
            $
```

Datafill for switch #2 appears in the following example.

Table 12-38 Datafill example for table NACDGRP

```
  ACDGRP QTHRESH WTHRESH  PWF BESTGRP SRVRATE NUMIDLE TIMEIDLE
                                                        NTWKGRPS
               OPTIONS
XSUPPORT       2       18  110       Y      60      60       60
 ( REM  CATALOG  100) (LCL  STOREA  100)
( REM  SALES  100) (REM SUPPORT 100) $
                     $
STOREA         2       20   90       Y      60      60       60
 ( REM  CATALOG  100) (LCL  XSUPPORT  100)
( REM  SALES  100) (REM SUPPORT 100) $
                     $
```

Table ACDSGRP

Table ACDSGRP links supervisors with the agents in the subgroup of the supervisors.

Datafill for switch #1 appears in the following example.

Table 12-39 Datafill example for table ACDSGRP

ACDGROUP	SUBGROUP	RECORDER
CATALOG	1	NONE
SALES	2	NONE
SUPPORT	3	NONE

Datafill for switch #2 appears in the following example.

Table 12-40 Datafill example for table ACDSGRP

ACDGROUP	SUBGROUP	RECORDER
STOREA	2	NONE
XSUPPORT	3	NONE

Table DNROUTE

Table DNROUTE defines primary and auxiliary directory numbers (DN) for ACD groups.

Datafill for switch #1 appears in the following example.

Table 12-41 Datafill example for table DNROUTE

AREACODE	OFCCODE	STNCODE	DNRESULT
919	362	4996	FEAT ACD SUPPORT PRIM 0 1 $
919	362	4000	FEAT ACD SUPPORT SUPP 1 $
919	362	4997	FEAT ACD SALES PRIM 0 1 $
919	362	2000	FEAT ACD SALES SUPP 1 $
919	362	2001	FEAT ACD SALES SUPP 2 $
919	362	4998	FEAT ACD CATALOG PRIM 0 1 $
919	362	4999	FEAT ACD CATALOG SUPP 0 $

Datafill for switch #2 appears in the following example.

Table 12-42 Datafill example for table DNROUTE

```
AREACODE OFCCODE STNCODE                DNRESULT

919       362     5000  FEAT ACD STOREA PRIM 0 1 $

919       362     0000  FEAT ACD STOREA SUPP 1 $

919       362     5001  FEAT ACD XSUPPORT PRIM 0 1$
```

Table ACDLOGIN

Table ACDLOGIN assigns ACD logins. This table can assign passwords to the login IDs. This table also assigns a wrap-up time that changes for separate agents. Datafill for table ACDLOGIN appears in the following example.

Table 12-43 Datafill example for table ACDLOGIN

```
LOGINID         CUSTGRP    PSWD              OPTIONS

1234          Y MDCACD   Y 2238                  $

8888                 N   Y 9876                  $
```

Table DNATTRS

Table DNATTRS stores line attributes. If an ACD group has the feature ACDDISP assigned, the attribute must be stored in table DNATTRS. This storage must occur or the visual name is not delivered on agent telephones. Delivery does not occur when a call is answered from the specified DN.

Datafill for switch #1 appears in the following example.

Table 12-44 Datafill example for table DNATTRS

```
KEY                                        DATA
                                        OPTDATA

919 362 4996
(PUBLIC  NAME  SUPPORT)
                                             $
919 362 4997
  (PUBLIC  N
AME  SALES)
                                             $
919 362 4998
  (PUBLIC  NAME  CATALOG)
                                             $
```

Datafill for switch #2 appears in the following example.

Table 12-45 Datafill example for table DNATTRS

```
KEY                                        DATA
                                        OPTDATA

919 362 5000
  (PUBLIC  NAME  STOREA)
                                             $
919 362 5001
  (PUBLIC  NAME  XSUPPORT)
                                             $
```

Table MPC

Table MPC identifies a multiprotocol controller (MPC) card to the central control. This table establishes a data link between the switch and the customer

site that uses ACDMIS. Datafill for table MPC appears in the following example.

Table 12-46 Datafill example for table MPC

```
MPCNO  MPCIOC  IOCCCT      EQ    DLDFILE

   0       0      32   1X89AA    MPC31AB
```

Table MPCLINK

Table MPCLINK makes sure the establishment and maintenance of a data link from the switch to the customer site that uses ACDMIS occurs. Datafill for table MPCLINK appears in the following example.

Table 12-47 Datafill example for table MPCLINK

```
LINKKEY
                                                PRTCLDAT

   0  3
X25ORIG 0 0 (L7WINDOW 7) (NUMSVCS 1)
(STANDARD CCITT80) $ (EXINFSEL SVCDNA)
(DIGITS 12345678) (SVCTYPE DATAPAC) $
```

Table GDLADEV

Table GDLADEV associates data transmission devices with specified remote polling system applications for use in data transfer. This table establishes a data link between the switch and the customer site that uses ACDMIS. Datafill for table GDLADEV appears in the following example.

Table 12-48 Datafill example for table GDLADEV

```
APPLN   DEVICE

 NOP      MPC
```

Table NOPADDR

Table NOPADDR establishes the addresses that the switch accepts. This table establishes a data link between the switch and the customer site that uses ACDMIS. Datafill for table NOPADDR appears in the following example.

Table 12-49 Datafill example for table NOPADDR

```
INDEX  UNIT   LINK    ADDRESS   PROTOCOL

   0     0      3   12345678    0 0 0 0
```

Table NOPAPPLN

Table NOPAPPLN controls the applications that remote users can access. An example of remote users are ACDMIS users. Datafill for table NOPAPPLN appears in the following example.

Table 12-50 Datafill example for table NOPAPPLN

```
  DNAKEY   APPLNS

12345678   ONLY         (ACDMIS_APPL) $
```

NACD overflow formulas

The total of the resource index (RI) and preference weighting factor (PWF) determines the best group in the network to receive a networked/overflowed call.

The RI figure is a continuous calculation. The RI figure is computed in the following two ways:

- When idle agents are in the ACD group, the algorithm is:

  RI = 2500 + (NUMIDLE × no. of idle agents) + queue size + (no. of active agents ÷ 26) + (idle time x TIMEIDLE)

- When idle agents are not present in the ACD group, the algorithm is:

  RI = 2500 - [(waiting calls × SRVRATE) ÷ no. active agents] - SRVRATE

  NUMIDLE, TIMEIDLE, and SRVRATE are set in Table NACDGRP and can be altered.

The PWF is a value the customer assigns to each group in the network.

The best group to receive a networked call has the highest advantage measure.

Call flow

The following steps describe how calls flow in the NACD network that the datafill defines in this appendix:

1. A customer on switch #1 with a DN of 555-1991 dials 555-4997. The number 555-4997 is the ACD group SALES.
2. The ACD group SALES does not have idle agents. The call is placed in the queue. When the call is in the queue, the caller hears rings for 3 s. A series of announcements follow the rings. These announcements are entered in table AUDIO.

3. The call waits in the incoming call queue for 20 s. The ACD group SALES has the option TDMELOFL assigned in table ACDGRP for all call priorities. The call overflows to the best group based on the RI values.
4. The switch determines the best group to handle the call based on the NACD formulas. Refer to the following example.
   a. SALES contains:
      - three waiting calls
      - SRVRATE set to 60 in table NACDGRP
      - 16 agents in total
      - PWF of 100 (set in table NACDGRP)
   b. CATALOG contains:
      - five waiting calls
      - SRVRATE set to 60 in table NACDGRP
      - 25 agents in total
      - PWF of 100 (set in table NACDGRP)
   c. SUPPORT contains:
      - two waiting calls
      - SRVRATE set to 60 in table NACDGRP
      - five agents in total
      - PWF of 100 (set in table NACDGRP)
   d. XSUPPORT contains:
      - two waiting calls
      - SRVRATE set to 60 in table NACDGRP
      - ten agents in total
      - PWF of 110 (set in table NACDGRP)
   e. STOREA contains:
      - one waiting call
      - SRVRATE set to 60 in table NACDGRP
      - five agents in total
      - PWF of 90 (set in table NACDGRP)
5. This information indicates that XSUPPORT has the highest advantage measure.
6. The call moves to the outgoing queue for the ACD group SALES. The call moves to the incoming queue for the ACD group XSUPPORT. The

call overflows to the overflow in queue of the ACD group XSUPPORT that uses the CCS7 network.

13 Appendix C: Network example for ACD using PRI

This appendix provides an example network to illustrate Network Automatic Call Distribution (NACD) translations. The NACD translations uses primary rate interface (PRI) trunks to route calls. The appendix includes the following:

- example network configuration
- datafill to create customer groups
- datafill for announcements
- datafill for routing
- datafill to set up Automatic Call Distribution (ACD) groups
- overflow formulas for the NACD
- call-flow example for an NACD call

CAUTION
Datafill that appears in the appendix is for example purposes only.
Each operating company must design datafill that is appropriate for the office configuration and dialing plan.

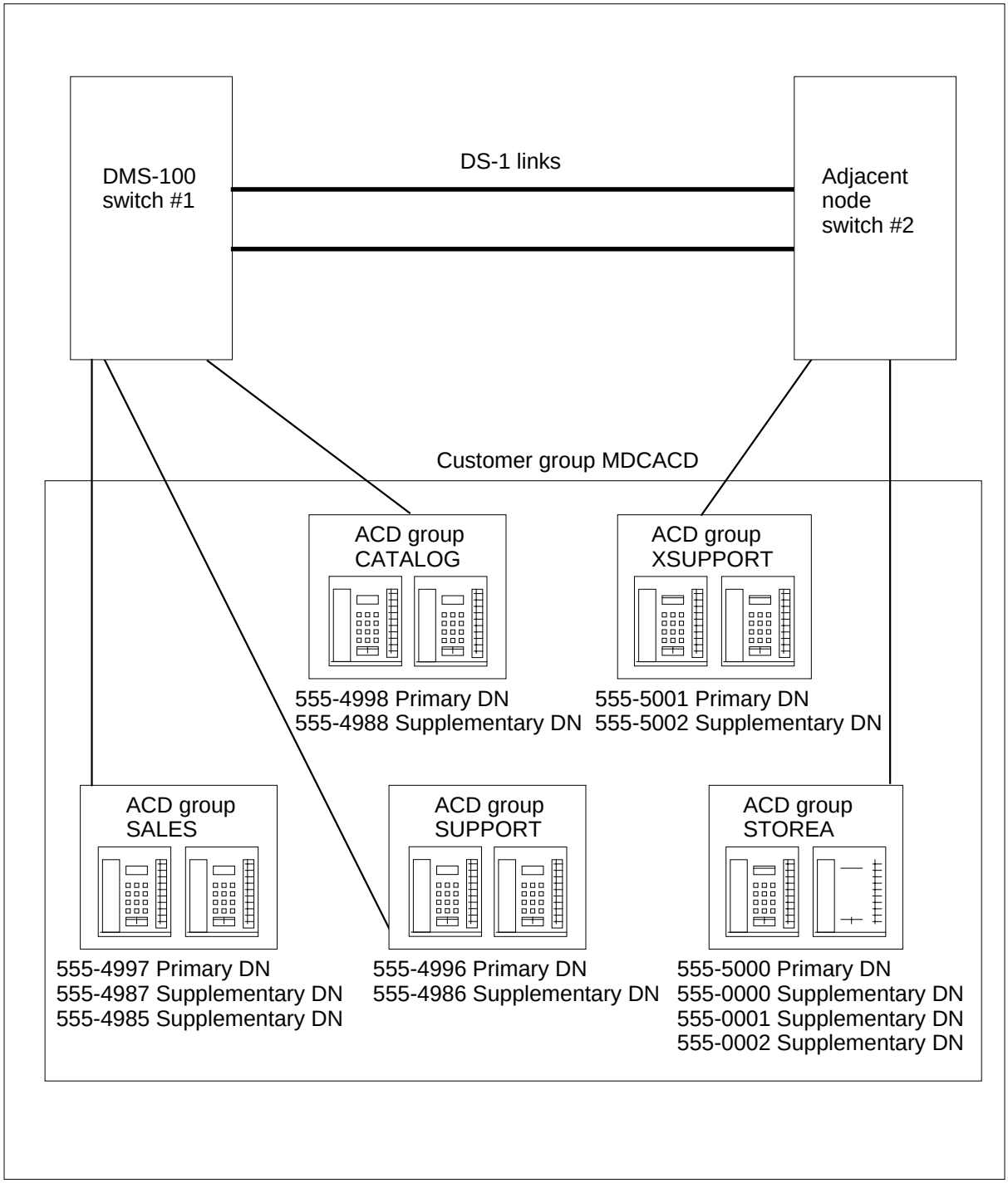
For additional information on NACD, use PRI, refer to the *Translations Guide*.

Note: The terms PRI and primary rate access (PRA) have the same meaning. This chapter uses the term PRI. This chapter uses the term PRA when you must enter the value PRA in datafill tables. This chapter uses the term PRA when the value PRA appears in a feature package name.

Network configuration

The configuration of the example network appears in the following figure.

Figure 13-1 Single-node NACD configuration



Defining customer groups

An ACD group must belong to a current customer group before you can define the group. Example translations for the customer group MDCACD appear in the following sections.

Note 1: The following examples assume that the switching unit parameters are established. For additional information about these parameters, refer to the *Translations Guide*.

Note 2: The following examples assume that the two switches have identical datafill unless noted.

Table DIGCOL

Table DIGCOL defines the basic digit collection plan for the customer group. The datafill for the digit collection group ACDCOL appears in the following example.

Table 13-1 Datafill example for table DIGCOL

DGKEY	DGDATA
ACDCOL 1	RPT
ACDCOL 2	RPT
ACDCOL 3	COL L 1
ACDCOL 4	COL L 2
ACDCOL 5	COL L 1
ACDCOL 6	COL L 1
ACDCOL 7	COL L 1
ACDCOL 8	RPT
ACDCOL 9	POTS Y
ACDCOL 0	RPT

Table IBNXLA

The feature translators in table IBNXLA define access codes to allow features to operate on single-line sets. Datafill for table IBNXLA appears in the following example.

Table 13-2 Datafill example for table IBNXLA

```
KEY

RESULT
MDCXLA 72  FEAT  N  N  N   ACDLGA
MDCXLA 73  FEAT  N  N  N   ACDLGD
MDCXLA 74  FEAT  N  N  N   ACDRNA
MDCXLA 75  FEAT  N  N  N   ACDNRD
```

Table XLANAME

Table XLANAME defines the customer group, feature, preliminary, and octothorpe translators. Datafill for table IBNXLA appears in the following example.

Table 13-3 Datafill example for table XLANAME

```
XLANAME                        DEFAULT;
MAXDIG

MDCXLA                         $;
9
```

Table CUSTENG

Table CUSTENG defines customer groups. The definition for customer group MDCACD appears in the following example.

Table 13-4 Datafill example for table CUSTENG

```
CUSTNAME NONCOS NOIBNTMT CONSOLES  DOMAIN     GROUPID

OPTIONS

MDCACD    10        15        N    PRIVATE          0
                                                                  $
```

Table CUSTHEAD

Table CUSTHEAD assigns the customer group name. Table CUSTHEAD allocates the customer group translator, feature translator, and digit collection name for the customer group. Table CUSTHEAD assigns a treatment for incorrectly dialed codes. The following example defines customer group MDCACD as the ACD customer group.

Table 13-5 Datafill example for table CUSTHEAD

```
CUSTNAME   CUSTXLA   DGCOLMN  IDIGCOL

                                          OPTIONS

MDCACD     MDCXLA     ACDCOL   NIL
                                          (VACTRMT 0) $
```

Table CUSTSTN

Table CUSTSTN defines the parameters for the assigned options to the stations in a customer group. Customer group MDCACD has the distinctive ringing option in the following example.

Table 13-6 Datafill example for table CUSTSTN

```
CUSTNAME  OPTNAME        OPTION

MDCACD    DRING          DRING N N NO N N N N N Y 4
```

Table NCOS

Table NCOS defines the different network classes of service (NCOS). Table NCOS can restrict dialing patterns for a customer group. One NCOS, 0, for customer group MDCACD, appears in the following example.

Table 13-7 Datafill example for table NCOS

```
   CUSTGRP NCOS NCOSNAME LSC TRAFSNO         OPTIONS

  MDCACD     0     LINE   0       0               $
```

Defining announcements

Announcements for ACD groups include:

- announcements for calls that enter the queue
- announcements for calls in the queue
- announcement for overflow calls
- announcement for ACD groups in night service

Announcements are on digital recorded announcement machines (DRAM).

Enter data in the following tables to provide announcements for ACD groups:

- table DRAMS
- table CLLI
- table AUDIO
- table ANNS
- table ANNMEMS
- table DRMUSERS

> ***Note:*** The following examples assume that the two switches have identical or like datafill.

Table DRAMS

Table DRAMS identifies the configuration of the DRAM hardware. Datafill for table DRAMS appears in the following example.

Table 13-8 Datafill example for table DRAMS

DRAMCARD		TMTPE	TMNO	TMCKT	CARCODE	CARDINFO
0	0	MTM	5	0	1X75BA	CNTRL DRAM0
0	1	MTM	5	2	1X79AA	EEPROM (0) $
0	2	MTM	5	4	1X79AA	EEPROM (1) $
0	3	MTM	5	6	1X79AA	EEPROM (2) $
0	4	MTM	5	8	1X79AA	EEPROM (3) $
0	5	MTM	5	10	1X79AA	EEPROM (4) $
0	6	MTM	5	12	1X79AA	EEPROM (5) $
0	7	MTM	5	14	1X79AA	EEPROM (6) $
0	8	MTM	5	16	1X79AA	EEPROM (7) $

Table CLLI

Table CLLI defines the names of the announcements for ACD. The system uses announcements when the system queues or overflows ACD calls. Table

CLLI assigns codes to trunk groups. Datafill for table CLLI appears in the following example.

Table 13-9 Datafill example for table CLLI

CLLI	ADNUM	TRKGRSIZ	ADMININF
AGTSBSYA	N250	1	ACD_QUEUE_ANNCT
AGTSTILLBSYANN	251	1	QUEUE_STILL_BUSY
MDCACDTRK	76	32	INCOMING_IBN
LONLONEOIS	435	10	ISUP_ESN
DMSNTPRA	171	48	PRA_TRUNK_TO_DMS

Table AUDIO

Table AUDIO gives the available broadcasts for calls in the ACD queues. A single broadcast can have a maximum of six elements. Datafill for table AUDIO appears in the following example.

Table 13-10 Datafill example for table AUDIO

```
AUDIOKEY
                                        ROUTES

AUDIO3  ACDQ
(ANN Y 1 AGTSBSYANN) (SILENCE 60)
 (ANN N AGTSTILLBSYANN) (SILENCE 0) $
```

Table ANNS

Table ANNS contains information about announcements on a DRAM. Datafill for table ANNS appears in the following example.

Table 13-11 Datafill example for table ANNS

CLLI	ANTYPE	TRAFSNO	MAXCONN	CYTIME	MAXCYC
AGTSBSYANN	STND	0	1	0	5
AGTSTILLBSYANN	STND	0	1	0	7

Table ANNMEMS

Table ANNMEMS contains information about announcement group units that table ANNS defines. Datafill for table ANNMEMS appears in the following example.

Table 13-12 Datafill example for table ANNMEMS

ANNMEM	HDWTYPE	CARD	MEMINFO
AGTSBSYANN1	DRAM	DRA	(0 MTM 5 2)$
AGTSTILLBSYANN1	DRAM	DRA	(0 MTM 6 2)$

Table DRMUSERS

Table DRMUSERS contains lists of phrases that constitute one announcement. Datafill for table DRMUSERS appears in the following table.

Note: The phrases in the following example are example phrases only. The phrases are not present in the switch. The operating company uses the DRAMREC facility to record announcements in this table.

Table 13-13 Datafill example for table DRMUSERS

USERANN				PHSLIST
AGTSBSYANN	1		(SILENCE)	(SALESANN1)$
AGTSTILLBSYANN	1	(SORRY)	(SILENCE)	(SALESANN2)$

Defining trunk and call routing

The following tables define routing available for incoming and outgoing calls with PRI trunks:

- table PADDATA
- table LTCINV
- table ADJNODE
- table TRKGRP
- table CAARRMTC
- table LTCPSINV
- table TRKSGRP
- table TRKMEM
- table LTGRP
- table LTDEF
- table LTMAP

- table LTDATA
- table LTCALLS
- table IBNRTE
- table NETNAMES
- table CUSTNTWK

Note: The following examples do not normally provide the datafill for the adjacent node. The document specifies if the examples provide datafill for the adjacent node.

Table PADDATA

Table PADDATA defines the loss and level plan for PRI. Datafill for table PADDATA appears in the following example.

Table 13-14 Datafill example for table PADDATA (Sheet 1 of 2)

PADKEY		PAD1TO2	PAD2TO1
PRAC	UNBAL	2L	0
PRAC	STDLN	3L	0
PRAC	LRLM	3L	0
PRAC	PPHON	0	0
PRAC	DAVLN	6L	0
PRAC	IAO	3L	0
PRAC	LCO	3L	0
PRAC	ELO	0	0
PRAC	ETLS	0	0
PRAC	ETLL	0	0
PRAC	TLA	0	0
PRAC	TLD	0	0
PRAC	CONF	0	0
PRAC	CPOS	0	0
PRAC	TPOS	0	0
PRAC	BRA	0	0

Table 13-14 Datafill example for table PADDATA (Sheet 2 of 2)

PRAC	PRAC	0	0
PRAC	RSC	3L	0
PRAC	ITT	0	0
PRAC	DTT	0	0
PRAC	SHFX	0	0
PRAC	LHFX	0	0

Table LTCINV

Table LTCINV contains a list of the peripheral modules for the digital trunk controller (DTC) and the line trunk controller (LTC). Table LTCINV identifies the following:

- the location of hardware
- the load and executive programs required
- the C-side DS-30 link connections to the network modules

Datafill for table LTCINV appears in the following example.

Table 13-15 Datafill example for table LTCINV

```
FRTYPE FRNO SHPOS FLOOR ROW FRPOS EOPEC LOAD
EXECTAB                      C7LNKTAB
OPTCARD TONESET  PECS6X45         EZLOAD
OPTATTR              PEC6X40

-----------------------------------------------------

DTCI 2

DTE 0 18 0 B 4 6X20AA DTI30BJ (PRAB DTCEX)
(ABTRK DTCEX) $ (0 3) (1 22) (1 3) (0 50) (1 59)
(0 4) (1 23) (0 19) (1 37) (0 33) (1 55) (1 7)
(0 22) (1 38) (0 58) (TONE6X79) (MSG6X69)
(ISP16) $ DEFAULT (6X45AC) (6X45AC)
```

Table CARRMTC

Table CARRMTC contains the attributes of the DS-1 links that terminate to the DTC/LTC. Table CARRMTC defines the line coding and frame formats for

the DS-1. Table CARRMTC provides maintenance control information for the links. Datafill for table CARRMTC appears in the following example.

Table 13-16 Datafill example for table CARRMTC

```
 CSPMTYPE         TMPLTNM RTSML RTSOL            ATTR

-----------------------------------------------------

DTCI DEFAULT 255 255 DTCI NT6X50AB MU_LAW SF B8ZS BPV NILDL
N 250 2500 50 50 150 1000 3 6 864 100 17 511 4 255
```

Table LTCPSINV

Table LTCPSINV contains the P-side link assignments for the DTCI and LTC. These assignments define the DS-1 links to the adjacent node.

When you enter data in DTCI/LTC in table LTCINV the system adds an entry to this table. You must edit the table to specify DS-1 link assignments, signal terminal control modules, and signaling terminal load. Datafill for table LTCPSINV appears in the following table.

Table 13-17 Datafill example for table LTCPSINV

```
 LTCNAME                                        PSLNKTAB

-------------------------------------------------------

DTCI 2                                         N
(0 DS1PRA DEFAULT N 0) (1 DS1PRA DEFAULT N 2)
(2 NILTYPE) (3 NILTYPE) (4 DS1PRA DEFAULT N 0)
(5 DS1PRA DEFAULT N 0) (6 NILTYPE) (7 NILTYPE)
(8 DS1PRA DEFAULT N 0) (9 DS1PRA DEFAULT N 0)
(10 DS1PRA DEFAULT N 0) (11 DS1PRA DEFAULT N 0)
(12 DS1PRA DEFAULT N 0) (13 DS1PRA DEFAULT N 0)
(14 NILTYPE) (15 NILTYPE) (16 NILTYPE)
(17 NILTYPE) (18 NILTYPE) (19 NILTYPE) $
```

Table ADJNODE

Table ADJNODE specifies the switching nodes adjacent to the DMS-100 switch. Datafill in table ADJNODE identifies the name and type of node that uses PRI to connect to the DMS-100. In the following examples, the adjacent node is a different DMS-100 switch.

Datafill for switch number 1 appears in the following example.

Table 13-18 Datafill example for table ADJNODE

```
 ADJNODEK    SIGDATA
                                        SIGDATA

-----------------------------------------------------

DMS01     PRA    DMS     33             $
```

Datafill for switch number 2 appears in the following example.

Table 13-19 Datafill example for table ADJNODE

```
 ADJNODEK    SIGDATA
                                            SIGDATA

-------------------------------------------------------

DMS02          PRA      DMS         33     $
```

Table TRKGRP

Table TRKGRP defines the data associated with each PRI trunk group. Datafill for table TRKGRP appears in the following example.

Table 13-20 Datafill example for table TRKGRP

```
 GRPKEY                                                GRPINFO

-----------------------------------------------------

DMSNTPRIPRA 0 PRAC NCRT ASEQ N ISDN 1008
```

Table TRKSGRP

Table TRKSGRP contains the additional information for each subgroup that the system assigns to a trunk group in table TRKGRP. Table TRKGRP defines the channel the system uses as the D-channel for each trunk group. Datafill for table TRKSGRP appears in the following example.

Table 13-21 Datafill example for table TRKSGRP (Sheet 1 of 2)

```
     SGRPKEY    CARDCODE



SGRPVAR
```

Table 13-21 Datafill example for table TRKSGRP (Sheet 2 of 2)

```
-----------------------------------------------------

DMSNTPRA 0 DS1SIG  ISDN 8 12 87Q931 2 N YIELD NETWORK PT_PT USER N N 30  DMS01
(DTCI 0 0 1 64K HCDL) (DTCI 0 1 1 64K HDLC)
```

Table TRKMEM

Table TRKMEM defines the B-channels in each trunk group. Datafill for table TRKMEM appears in the following example.

Table 13-22 Datafill example for table TRKMEM

CLLI	EXTRKNM	SGRP	MEMVAR			
DMSNTPRA	1	0	DTCI	2	0	1
DMSNTPRA	2	0	DTCI	2	0	2
DMSNTPRA	3	0	DTCI	2	0	3

Table LTGRP

Table LTGRP defines the names of all logical groups. Table LTGRP defines the options for each group. All logical terminals are units of a logical group. These logical terminals include PRI trunk groups. Datafill for table LTGRP appears in the following example.

Table 13-23 Datafill example for table LTGRP

GROUP	GROUPNO	OPTIONS
ISDN	0	SAP116
NTI	1	SAP116

Table LTDEF

Table LTDEF defines logical terminals and access privileges. For PRI, the access privilege is circuit switching. Datafill for table LTDEF appears in the following example.

Table 13-24 Datafill example for table LTDEF

```
   LTKEY  LTAP


CLASSREF

-------------------------------------------------------

ISDN 1008    B     PRA      23       23       12       11      $
```

Table LTMAP

Table LTMAP assigns each PRI logical terminal indentification to a trunk group common language location identifier (CLLI). Table LTGRP contains data for the PRI logical terminal identification. Datafill for table LTMAP appears in the following example.

Table 13-25 Datafill example for table LTMAP

```
     LTKEY             MAPPING               OPTION

 ----------------------------------------------------

 ISDN 1008     CLLI   DMSNTPRA           (  TEI 0)$
```

Table LTDATA

Table LTDATA contains information associated with a logical terminal identification. Datafill for table LTDATA appears in the following example.

Note: This table is optional for PRI.

Table 13-26 Datafill example for table LTDATA

```
LTDKEY                                              LTDRSLT

-----------------------------------------------------

ISDN 1008      DN DN       9197221234
```

Table LTCALLS

Table LTCALLS specifies the types of calls the system can route over each PRI trunk group. Table LTCALLS defines the first translations and type of call for each trunk group. Datafill for table LTCALLS appears in the following table.

Table 13-27 Datafill example for table LTCALLS

```
LTID                XLARTSEL
OPTIONS

-----------------------------------------------------

ISDN 1008     PUB      XLALEC 52 $
ISDN 1008     TIE      XLAIBN 11 MDCACD 0 0 $
ISDN 1008     PVT      RTEREF IBNRTE 20
```

Table IBNRTE

Table IBNRTE uses the integrated service access (ISA) to route outgoing calls to a PRI trunk CLLI. The ISA is a route selector. Datafill for table IBNRTE appears in the following example.

Table 13-28 Datafill example for table IBNRTE

```
RTE                                            RTELIST

-----------------------------------------------------

20      ISA   N   N   N  DMSNTPRA     PVT  PVT O $
```

Table NETNAMES

Table NETNAMES defines the logical network to which the customer group belongs. Datafill for table NETNAMES appears in the following example.

Table 13-29 Datafill example for table NETNAMES

```
NETNAME                EXTNETID   NETDIGS
                                             NETOPTS

-----------------------------------------------------

 PUBLIC                0          10
                                             $

PRIVPBX                7          7

                                  (   FACREJ )$
```

Table CUSTNTWK

Table CUSTNTWK associates a customer group with the logical networks. Table CUSTNTWK defines the customer group identification that identifies

the customer group in the network. Datafill for table CUSTNTWK appears in the following example.

Table 13-30 Datafill example for table CUSTNTWK

```
CUSTNAME  NETNAME  NETCGID
                            DNREVXLA
                            OPTIONS

-----------------------------------------------------

MDCACD   PRIVPBX       3
(PRIVATE CKARPRI 10)        (PUBLIC CKARPUB 10)
                            (CLID OFFNET) $
```

Defining ACD groups

Datafill for ACD groups CATALOG, SALES, and SUPPORT in switch number 1 appears in the following examples. Datafill for ACD groups XSUPPORT and STOREA in switch number 2 appears in the following examples.

Table OFCENG

Table OFCENG uses parameters to define how the system broadcasts the resource index (RI) of an NACD group to the network. Datafill for table OFCENG appears in the following example.

Table 13-31 Datafill example for table OFCENG

```
              PARMNAME            PARMVAL

-----------------------------------------------------

NACD_RI_DELTA_PARM                5
NACD_BRDCAST_INTERVAL             60
```

Table ACDMISPL

Table ACDMISPL establishes pools, passwords, and protocol for ACD groups that use the Automatic Call Distribution Management Information System (ACDMIS) software. Datafill for table ACDMISPL appears in the following example.

Table 13-32 Datafill example for table ACDMISPL

```
                   POOL   PASSWORD PROTOCOL OUTEVENT

-----------------------------------------------------

                  POOL1     ADMIN    BCS30      100
```

Table ACDGRP

Table ACDGRP defines ACD groups. The following examples define the ACD groups CATALOG, SALES, SUPPORT, XSUPPORT, and STOREA.

Datafill for switch number 1 appears in the following example.

Table 13-33 Datafill example for table ACDGRP (Sheet 1 of 2)

```
ACDNAME     CUSTGRP ACDRNGTH       THROUTE
NSROUTE PROPRIO DBG MAXCQSIZ MAXWAIT
ACDMIS
MSQS DISTRING  OBSWTONE
FRCNGTSV
OPTIONS
-------------------------------------------------------

CATALOG     MDCACD       30         IBNRTE  41
IBNRTE  42     0    N       9      300
               Y     POOL1    SUBPOOL1  N     $
                  N     BOTH      N
          N
( TMDELOFL 20 ALLPRIO) (ACDCPK Y 60)
(QTOMSB) (AUDIO 0 N AUDIO3)
(ACDDISP 4) ( OFLINQ OVFLIN 2 Y 5)$
```

Table 13-33 Datafill example for table ACDGRP (Sheet 2 of 2)

```
SALES     MDCACD       30         IBNRTE  41
IBNRTE  44     0    N       15        60
                Y     POOL1    SUBPOOL1  N     $
         Y  1  2  20 CALLQ  N  Y  0    BOTH      N
           N
(AUDIO 18 Y AUDIO3) (ACDDISP 4) (NONIMCUT)
( TMDELOFL 20 ALLPRIO) ( OFLINQ P0FIRST 3 Y 5)
(NONIMCUT) (OBSREST) $
SUPPORT     MDCACD       20         IBNRTE  41
 IBNRTE  42     0    N       9      180
                Y     POOL1    SUBPOOL1  N     $
                   N     BOTH      N
           N
(ACDDISP   4) ( ACDXFER 3 Y 60 ) (MAXCQLMT 25)
( TMDELOFL 20 ALLPRIO) ( OFLINQ OVFLIN 2 Y 5) $
```

Datafill for switch number 2 appears in the following example.

Table 13-34 Datafill example for table ACDGRP (Sheet 1 of 2)

```
ACDNAME     CUSTGRP ACDRNGTH       THROUTE
   NSROUTE PROPRIO DBG MAXCQSIZ MAXWAIT
                 ACDMIS
                MSQS DISTRING  OBSWTONE
     FRCNGTSV
                                          OPTIONS
```

Table 13-34 Datafill example for table ACDGRP (Sheet 2 of 2)

```
XSUPPORT     MDCACD       30         IBNRTE  41
 IBNRTE  42     0    N       9      300
                Y     POOL1    SUBPOOL1  N     $
                   N     BOTH      N
           N
( TMDELOFL 20 ALLPRIO) (QTOMSB) ( TIMECXR )
 (ACDDISP 4) ( OFLINQ OVFLIN 2 Y 5)$
STOREA     MDCACD       30         IBNRTE  41
 IBNRTE  42     0    N       9      300
                Y     POOL1    SUBPOOL1  N     $
                   N     BOTH      N
           N
( TMDELOFL 20 ALLPRIO) ( VARWRAP 25 )
 (ACDDISP 4) ( OFLINQ OVFLIN 2 Y 5)
( ACDCPK Y 30 ) ( ACDXFER 2 Y 60 ) $
```

Table ACDRTE

Table ACDRTE defines the valid routes an ACD group can use.

Datafill for switch number 1 appears in the following example.

Table 13-35 Datafill example for table ACDRTE

```
ACDGRP       OPTNAME                                OPTION

CATALOG     TABEN     TABEN  IBNRTE 41  IBNRTE 42  IBNRTE 6
CATALOG     TABEN     TABEN  IBNRTE 31
CATALOG   TMDTHRTE  TMDTHRTE   IBNRTE 6  120
CATALOG       OVFL      OVFL  (SUPPORT) (XSUPPORT) (SALES)

SUPPORT     TABEN     TABEN  IBNRTE 41  IBNRTE 42  IBNRTE 6
SUPPORT     TABEN     TABEN  IBNRTE 31
SUPPORT   TMDTHRTE  TMDTHRTE   IBNRTE 6  120
SUPPORT      OVFL      OVFL  (CATALOG) (XSUPPORT) (SALES)

SALES       TABEN     TABEN  IBNRTE 41  IBNRTE 42  IBNRTE 6
SALES        TABEN     TABEN  IBNRTE 31
SALES     TMDTHRTE  TMDTHRTE   IBNRTE 6  120
SALES         OVFL      OVFL  (SUPPORT) (XSUPPORT)(CATALOG)
SALES        AUDIO     AUDIO  (AUDIO3) (AUDIO4)
```

Datafill for switch number 2 appears in the following example.

Table 13-36 Datafill example for table ACDRTE

```
ACDGRP      OPTNAME                                OPTION

XSUPPORT    TABEN     TABEN  IBNRTE 41  IBNRTE 42  IBNRTE 6
XSUPPORT    TABEN     TABEN  IBNRTE 31
XSUPPORT  TMDTHRTE  TMDTHRTE   IBNRTE 6  120
XSUPPORT     OVFL      OVFL  (STOREA) (CATALOG) (SALES)

STOREA      TABEN     TABEN  IBNRTE 41  IBNRTE 42  IBNRTE 6
STOREA       TABEN     TABEN  IBNRTE 31
STOREA     TMDTHRTE  TMDTHRTE   IBNRTE 6  120
STOREA        OVFL      OVFL  (CATALOG) (XSUPPORT) (SALES)
```

Table REMNACD

Table REMNACD provides routing information to ACD groups on a remote node in the network.

Datafill for switch #1 appears in the following example.

Table 13-37 Datafill example for table REMNACD

```
   REMGROUP     REMOTEDN        ROUTE        OPTIONS

    STOREA   9193625000   IBNRTE  31              $
  XSUPPORT   9193625001   IBNRTE  31              $
```

Datafill for switch number 2 appears in the following example.

Table 13-38 Datafill example for table REMNACD

```
   REMGROUP     REMOTEDN        ROUTE        OPTIONS

   SUPPORT   9193624996   IBNRTE  31              $
   CATALOG   9193624998   IBNRTE  31              $
     SALES   9193624997   IBNRTE  31              $
```

Table NACDGRP

Table NACDGRP defines NACD groups. Table NACDGRP provides parameters and values to determine the other unit of the network. Table NACDGRP provides parameters and values to determine if the NACD group prefers to use any or all units of the supergroup. An NACD group does not have to include all other units of the supergroup in an overflow list.

Datafill for switch number 1 appears in the following example.

Table 13-39 Datafill example for table NACDGRP (Sheet 1 of 2)

```
  ACDGRP QTHRESH WTHRESH  PWF BESTGRP SRVRATE NUMIDLE TIMEIDLE
                                                      NTWKGRPS
               OPTIONS

CATALOG       2       19  100       Y      60      60       60
 ( LCL  SUPPORT  100) (LCL  SALES  100) $
                     $
```

Table 13-39 Datafill example for table NACDGRP (Sheet 2 of 2)

```
SUPPORT     2     13  100     Y    60    60     60
( LCL  CATALOG  100) (LCL  SALES  100)
(REM XSUPPORT 10) $
            $
SALES       2     20  100     Y    60    60     60
( LCL  CATALOG  100) (REM STOREA 10)
(LCL  SUPPORT  100) $
            $
```

Datafill for switch number 2 appears in the following example.

Table 13-40 Datafill example for table NACDGRP

```
  ACDGRP QTHRESH WTHRESH  PWF BESTGRP SRVRATE NUMIDLE TIMEIDLE
                                                        NTWKGRPS
               OPTIONS
XSUPPORT       2       18  110       Y      60      60       60
 ( REM  CATALOG  100) (LCL  STOREA  100)
( REM  SALES  100) (REM SUPPORT 100) $
                     $
STOREA         2       20   90       Y      60      60       60
 ( REM  CATALOG  100) (LCL  XSUPPORT  100)
( REM  SALES  100) (REM SUPPORT 100) $
                     $
```

Table ACDSGRP

Table ACDSGRP links supervisors with the agents in the subgroup.

Datafill for switch number 1 appears in the following example.

Table 13-41 Datafill example for table ACDSGRP

ACDGROUP	SUBGROUP	RECORDER
CATALOG	1	NONE
SALES	2	NONE
SUPPORT	3	NONE

Datafill for switch number 2 appears in the following example.

Table 13-42 Datafill example for table ACDSGRP

ACDGROUP	SUBGROUP	RECORDER
STOREA	2	NONE
XSUPPORT	3	NONE

Table DNROUTE

Table DNROUTE defines primary and additional directory numbers (DN) for ACD groups.

Datafill for switch number 1 appears in the following example.

Table 13-43 Datafill example for table DNROUTE

AREACODE	OFCCODE	STNCODE	DNRESULT
919	362	4996	FEAT ACD SUPPORT PRIM 0 1 $
919	362	4000	FEAT ACD SUPPORT SUPP 1 $
919	362	4997	FEAT ACD SALES PRIM 0 1 $
919	362	2000	FEAT ACD SALES SUPP 1 $
919	362	2001	FEAT ACD SALES SUPP 2 $
919	362	4998	FEAT ACD CATALOG PRIM 0 1 $
919	362	4999	FEAT ACD CATALOG SUPP 0 $

Datafill for switch number 2 appears in the following example.

Table 13-44 Datafill example for table DNROUTE

AREACODE	OFCCODE	STNCODE	DNRESULT
919	362	5000	FEAT ACD STOREA PRIM 0 1 $
919	362	0000	FEAT ACD STOREA SUPP 1 $
919	362	5001	FEAT ACD XSUPPORT PRIM 0 1$

Table ACDLOGIN

Table ACDLOGIN assigns valid ACD logins. Table ACDLOGIN can assign passwords to the login indentifications. This table assigns a variable wrap-up

time for separate agents. Datafill for table ACDLOGIN appears in the following example.

Table 13-45 Datafill example for table ACDLOGIN

```
LOGINID         CUSTGRP    PSWD              OPTIONS

1234          Y MDCACD   Y 2238                  $

8888                 N   Y 9876                  $
```

Table DNATTRS

Table DNATTRS stores attributes of lines. If an ACD group has the feature ACDDISP assigned, table DNATTRS must store the attribute. If table DNATTRS does not store the attribute, the system does not deliver the visual name. The system does not deliver the visual name on agent telephones when the user answers a call from the specified DN.

Datafill for switch number 1 appears in the following example.

Table 13-46 Datafill example for table DNATTRS

```
KEY                                DATA
                                OPTDATA

919 362 4996

(PUBLIC  NAME  SUPPORT)
                                      $

919 362 4997

  (PUBLIC  N

AME  SALES)
                                      $

919 362 4998

  (PUBLIC  NAME  CATALOG)
                                      $
```

Datafill for switch number 2 appears in the following example.

Table 13-47 Datafill example for table DNATTRS

```
KEY                                DATA
                                OPTDATA

919 362 5000
  (PUBLIC  NAME  STOREA)
                                      $
919 362 5001
  (PUBLIC  NAME  XSUPPORT)
                                      $
```

Table MPC

Table MPC identifies a multiprotocol controller (MPC) card to the central control. The table helps to establish a data link between the switch and the customer site that uses ACDMIS. Datafill for table MPC appears in the following example.

Table 13-48 Datafill example for table MPC

```
MPCNO  MPCIOC  IOCCCT      EQ    DLDFILE

   0       0      32   1X89AA    MPC31AB
```

Table MPCLINK

Table MPCLINK makes sure that the system establishes and maintains a data link. This data link is between the switch and the customer site that uses ACDMIS. Datafill for table MPCLINK appears in the following example.

Table 13-49 Datafill example for table MPCLINK

```
LINKKEY
                                            PRTCLDAT

   0  3
X25ORIG 0 0 (L7WINDOW 7) (NUMSVCS 1)
(STANDARD CCITT80) $ (EXINFSEL SVCDNA)
(DIGITS 12345678) (SVCTYPE DATAPAC) $
```

Table GDLADEV

Table GDLADEV associates data transmission devices with specified remote polling system applications for use in data transfer. This table helps to

establish a data link between the switch and the customer site that uses ACDMIS. Datafill for table GDLADEV appears in the following example.

Table 13-50 Datafill example for table GDLADEV

```
APPLN   DEVICE

 NOP      MPC
```

Table NOPADDR

Table NOPADDR establishes the addresses the switch accepts. The table helps to establish a data link between the switch and the customer site that uses ACDMIS. Datafill for table NOPADDR appears in the following example.

Table 13-51 Datafill example for table NOPADDR

```
INDEX  UNIT   LINK    ADDRESS   PROTOCOL

   0     0      3   12345678    0 0 0 0
```

Table NOPAPPLN

Table NOPAPPLN controls the applications that remote users can access. An example of a remote user is an ACDMIS user. Datafill for table NOPAPPLN appears in the following example.

Table 13-52 Datafill example for table NOPAPPLN

```
  DNAKEY   APPLNS

12345678   ONLY         (ACDMIS_APPL) $
```

NACD overflow formulas

The sum of the RI and preference weighting factor (PWF) determine the most appropriate group in the network to receive a networked/overflowed call.

The RI is a continuously calculated figure that the system computes with two methods:

- When idle agents are present in the ACD group, the algorithm is:

  RI = 2500 + (NUMIDLE × no. of idle agents) + queue size + (no. of active agents ÷ 26) + (idle time x TIMEIDLE)

- When idle agents are not present in the ACD group, the algorithm is:

  RI = 2500 - [(waiting calls × SRVRATE) ÷ no. active agents] - SRVRATE

  Values NUMIDLE, TIMEIDLE, and SRVRATE are set in Table NACDGRP. You can alter these values.

The PWF is a value the customer assigns to each group in the network.

The best group to receive a call from the network has the highest desirability measure.

Call flow

The following steps describe an example of how calls flow in the NACD network. The datafill in this appendix defines this NACD network.

1. A customer on DMS-100 switch number 1 with a DN of 555-1991 dials 555-4998, which is the ACD group CATALOG.
2. The ACD group CATALOG does not have idle agents. The group CATALOG has WTHRESH (wait threshold timer) set to zero in table NACDGRP. The call receives immediate network treatment. The call goes to the most idle agent in the network.
3. The switch determines the best group to handle the call. The NACD formulas determine this group. Refer to the the following example.
   a. Group SALES has:
      - three waiting calls
      - value SRVRATE set to 60 in table NACDGRP
      - a total of 16 agents
      - a PWF of 100 set in table NACDGRP
   b. Group CATALOG has:
      - five waiting calls
      - value SRVRATE set to 60 in table NACDGRP
      - a total of 25 agents
      - a PWF of 100 set in table NACDGRP
   c. Group SUPPORT has:
      - two waiting calls
      - value SRVRATE set to 60 in table NACDGRP

- a total of five agents
- aPWF of 100 set in table NACDGRP

d. Group XSUPPORT has:

- zero waiting calls
- a total of ten agents
- value NUMIDLE set to 60 in table NACDGRP
- six active agents
- queue length of nine set in table ACDGRP
- value TIMEIDLE set to 60 in table NACDGRP
- PWF of 110 set in table NACDGRP

4. The specified information determines that XSUPPORT has the highest desirability measure.
5. The call overflows to the adjacent node that uses PRI trunks. The call enters the overflow in queue of XSUPPORT.

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DMS-100 Family

North American DMS-100

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