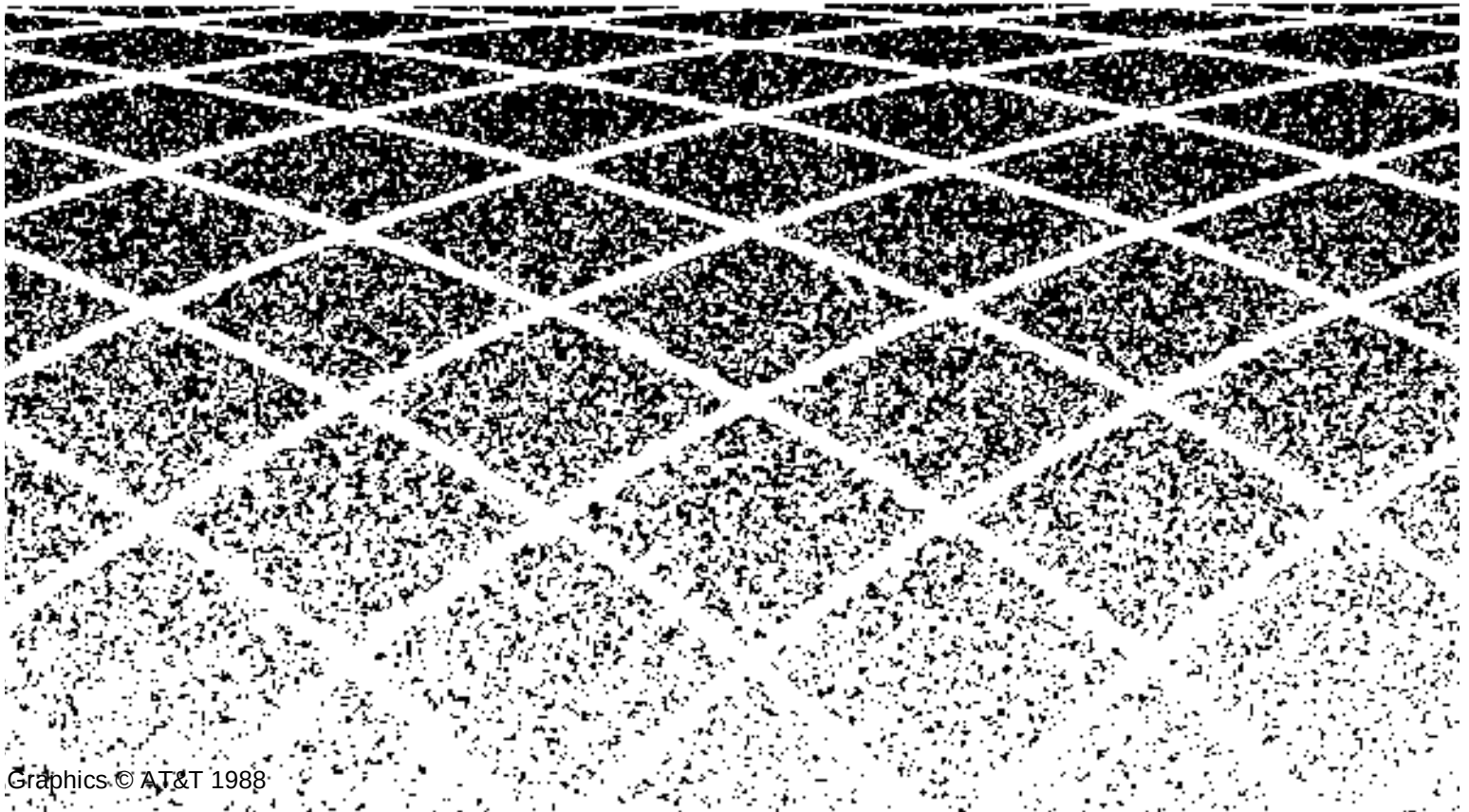




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Release 3 Version 2

Administration

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General Information

The AT&T 585-215-521, *Call Management System Administration*, document was written primarily for the Call Management System (CMS) administrator who has access to all parts of the CMS, and secondarily for administrators (such as split supervisors) who have limited access to the CMS.

Note

Read Chapter 1, "Introduction", Chapter 2, "User Basics" and Chapter 3, "Getting Started and Using CMS Daily" to learn more about the R3 Call Management System. If you are unfamiliar with the Automatic Call Distribution (ACD) feature, see Appendix D, "ACD Basics".

Organization and Use of This Document

The following list describes the contents of each chapter and appendix in this document..

Chapter 1 **"Introduction"** describes the CMS, ACD/CMS parameters, terminals and printers, menus and submenus, terminal refresh rates for real-time reports, and escalation procedures.

Chapter 2 **"User Basics"** describes the R3 CMS user interface and gives you the necessary information for completing any action using this interface.

Note

It is extremely important that you read this chapter before trying to complete any CMS task.

Chapter 3 **"Getting Started and Using CMS Daily"** is for new CMS Administrators and is presented in a step-by-step sequence with worksheets, a checklist, and procedures to help you through the beginning phase of CMS administration. It also provides information on daily maintenance and use of CMS.

Chapter 4 **"Real-Time Reports"** tells you how to order standard real-time reports on call center activity and describes every item contained in each report.

- Chapter 5* **"Historical Reports"** tells you how to order standard historical reports on call center activity and describes every item contained in each report.
- Chapter 6 **"Timetables and Shortcuts"** tells you how to schedule the execution of tasks (such as forwarding calls, printing reports, or archiving data) for times convenient for you and your call center using Timetable. Shortcut is similar to timetable except that a shortcut happens immediately and is a fast, easy way to select windows that you might look at every day or several times during the day.
- Chapter 7 **"Dictionary"** tells you how to assign agent names to login IDs and how to name and describe your splits/skills, trunk groups, ACDs, VDNs, and Vectors, all of which make your reports easier to read. You can access and modify database items that contain the names for specific information stored in the CMS database like Agent String Values. You can globally search for anything in the Dictionary subsystem and obtain a report on most parts of the Dictionary subsystem. The chapter also tells you how to access and administer the data elements you use in custom reports. Finally, the chapter tells you how to create special agent reporting groups within splits/skills.
- Chapter 8 **"Exceptions"** tells you how to specify exception conditions for agent, split/skill, trunk group, VDN, and Vector activity so that CMS notifies you when an unusual call-handling event occurs. The chapter also describes the Real-Time Exceptions Log, the historical exception reports, and how to monitor real-time agent exceptions on your terminal.

- Chapter 9 **“ACD Administration”** allows you to change and view certain ACD administration on your switch from CMS. You are able to move extensions between splits; set a maximum acceptable service level for calls to wait in queue before being answered; start an Agent Trace; generate a report showing extensions that are members of a specific split and a report showing trunk members and their equipment locations for a trunk group; view trunk group assignments for DEFINITY® Communications System Generic 3 Vectoring; view and move trunk groups from one split to another, set the delay time for prerecorded announcements, and forward calls from splits to other destinations with Generic 2 and System 85; and define call work codes.
- Chapter 10 **“User Permissions”** tells you how to assign specific CMS user data like user ID, a default printer, the maximum number of open user windows, etc. You can also grant user access permissions for the CMS subsystems (for example, Reports) and certain SLK menu items (for example, Timetable) along with split/skill, trunk group, ACD, VDN, and Vector access permissions within your call center.
- Chapter 11 **“System Setup”** displays how your CMS was set up during installation. These items include the amount of storage to be used for collecting historical data, allocated free space, and your storage interval size (15, 30, or 60 minutes).
- You will also use this chapter for CMS administration activities like changing the CMS state from single-user to multiuser mode; turning data collection on or off; archiving data on demand for daily, weekly, and/or monthly summaries; creating a pseudo-ACD that where previously backed-up historical data is stored; specifying what agent data and how much agent data will be stored for later use in the historical Agent Trace report; adding Main Menu items; and migrating data from R2 CMS to R3V2 CMS and R3.0 CMS to R3V2 CMS.
- Chapter 12 **“Maintenance”** tells you how to back up and restore CMS data, assign backup and restore devices, assign printer names and options, monitor the data link to the switch, view various items which CMS is measuring for the selected ACD, and view the Error Log report.

Chapter 13	“wUNIX/Solaris 2.2 System” tells you how to access the UNIX operating system to perform various tasks associated with CMS.
Chapter 14	“Forecasting” tells you how to order forecast reports on future call traffic and future agent and trunk requirements. The chapter also tells you how to set parameters to be included in the forecasts. CMS forecasts are based on historical data from your call center.
Appendix A	“Database Items and Calculations” contains a list of all CMS database items and standard calculations that may be used in reports.
Appendix B	“Call Vectoring and Related Generic 3 Features” describes how the Vectoring feature of CMS works with the Call Vectoring and Call Prompting features on Generic 3 switches.
Appendix C	“Call Vectoring and Related System 85/Generic 2 Features” describes how the Vectoring feature of CMS works with the Call Vectoring feature on Generic 2 and System 85 R2V4 switches.
Appendix D	“ACD Basics” overviews the ACD environment. This appendix contains descriptions of concepts, such as call routing, agent states, call processing, and switch administration that should be understood by all CMS administrators.
Appendix E	“CMS and the Expert Agent Selection Feature” describes the Expert Agent Selection (EAS) feature for the Generic 3 Version 2 and Generic 2.2 switches. This appendix also describes what your call center should do before activating the EAS feature and how CMS tracks this feature.
Glossary	Defines important terms used in this document

Note	For a description of the R3V2 CMS Custom Reports Creation subsystem, see the AT&T 585-215-523, <i>Call Management System Custom Reports</i> , document.

Other R3V2 CMS Publications

The following documents, relevant to R3V2 CMS, have also been published.

- AT&T 585-215-523, *Call Management System Release 3 Version 2 Custom Reports*
 - AT&T 585-215-122, *Call Management System Release 3 Version 2 Installation and Maintenance*
 - AT&T 585-215-113, *Call Management System Release 3 Version 2 Migration, Issue 2*
 - AT&T 585-215-421, *Call Management System Release 3 Version 2 Change Description*
 - AT&T 585-215-114, *Call Management System Release 3 Megaplex[®] 96 Board Installation*.
-

Other Necessary or Useful Publications

At times you may need to reference other documents. You need to know where the documentation that was sent with the following is kept:

- Switch
- Terminals
- Printers
- UNIX system.

General Information

This book gives you the information you need to administer the Release 3 Version 2 (R3V2) Call Management System (CMS) software package.

This chapter outlines:

- The CMS software package
- ACD/CMS parameters
- How CMS stores and tracks data
- Supported CMS user hardware
- The CMS Main Menu and screen-labeled keys
- Available CMS training.

Also included is information about the CMS Helpline and other CMS documents that are available to you.

Description of CMS

The Release 3 Version 2 Call Management System (R3V2 CMS) is a software product used by business customers that have an AT&T telecommunications switch and receive a large volume of telephone calls that are processed through the Automatic Call Distribution (ACD) feature of the switch. The R3V2 CMS collects call-traffic data, formats management reports, and provides an administrative interface to the ACD feature in the switch.

The CMS administrator can access the CMS database, generate reports, and also monitor call activities to determine the most efficient service possible for the calling customers.

Note

Read this chapter and Chapter 2, "User Basics" to familiarize yourself with the R3 CMS user interface and the basic procedures. If you are unfamiliar with the Automatic Call Distribution (ACD) feature, see Appendix D, "ACD Basics".

CMS interfaces with the UNIX operating system of the R3 CMS supported computer and uses several UNIX system utilities to communicate with terminals and printers, log errors, execute processes, and so forth. CMS works with the INFORMIX^{*} database management system which provides an interface to the CMS historical database.

The R3V2 CMS software can run on the following computers: the 6386 Work Group Station (WGS) Model 25S and Model 33S, StarServer S, and 3332 computers. These computers connect to the following AT&T switches:

- DEFINITY Communications System, Generic 3vs, 3s, 3i, and 3r (These switches are referred to as Generic 3 throughout this document unless an area applies to one switch in particular.)
- DEFINITY Communications System, Generic 2 all versions (hereafter referred to as Generic 1)
- DEFINITY Communications System, Generic 2 all versions (hereafter referred to as Generic 2)
- System 85, Release 2, Version 4 (R2V4).

^{*}Trademark of INFORMIX

Single and Multiple ACDs

Depending on which computer you have and how the CMS software was installed, the CMS software can communicate with up to four ACDs. If your system was configured with more than one ACD, a separate copy of the CMS file structure under different UNIX system directories was established for each ACD. These CMS file structures are */cms/acd1*, */cms/acd2*, */cms/acd3*, and */cms/acd4*.

References to multiple ACDs in this document refer to multiple-switch configurations. If you have only one switch, you can ignore multiple-ACD considerations because your data is always be under */cms/acd1*.

ACD Administration

Your switch administrator can specifically add or remove measured splits/skills from your system, add announcements, add agents to the system, terminate trunk groups to splits, and specify that they be measured (see Appendix D, "ACD Basics").

Note

The primary CMS administrator should coordinate with the switch administrator to be sure that the needed ACD/CMS configuration is understood by both.

CMS Vectoring Feature

The CMS software also provides an administration interface to the Call Vectoring feature that is available with the Generic 2, System 85 Release 2 Version 4 (R2V4), and Generic 3 switches. Call Vectoring is a flexible and sophisticated way of routing and processing incoming calls to the switch.

The R3 CMS Vectoring feature allows you to create, copy, and edit Call Vectors (vector tables). Call Vectors are user-definable, multistep routing tables. These programmable call vectors direct calls to specified on-network or off-network destinations, to queues in ACD splits, or to treatments such as forced first announcements, multiple recorded announcements, forced disconnect, forced busy, or delay.

On both the switch and CMS, the Call Vectoring feature is a separately purchased feature. A description of Generic 3 Vectoring is in Appendix B, "Call Vectoring and Related Generic 3 Features" and Generic 2/System 85 vectoring is in Appendix C, "Call Vectoring and Related System 85/Generic 2 Features". All vectoring windows are described in this document.

Expert Agent Selection (EAS)

Expert Agent Selection (EAS) is an optional feature that builds on the power of the Call Vectoring and ACD features of the switch by routing incoming calls to the correct agent on the first try. By using the ACD queuing and the vector commands *Queue-to-Main* and *Check-Backup*, a call routes to an agent that has the **skills** required to handle that call.

With EAS, call distribution is based on **skill** hunt groups. Calls are queued to skill hunt groups and handled by an agent who is a member of at least one of the skill hunt groups associated with the skills that a caller requires.

Note The EAS feature requires extensive planning before implementing, and Generic 2.2 EAS and Generic 3 Version 2 EAS have different capabilities. See Appendix E, "CMS and the Expert Agent Selection Feature", in this document for a more in-depth description.

Graphics Package

Graphics is an optional software package that uses bar graphs to graphically represent real-time or historical data for various agent, split, vector directory number, or system activities such as ACD calls, calls abandoned, average speed of answer, etc. The bar graphs can be customized and are most useful as a quick reference on ACD activity.

The graphics package works on monochrome or color terminals with three levels of color/intensity indicators for normal, caution, and warning situations. The reports can be printed in black and white.

The graph reports are described in Chapter 4, "Real-Time Reports" and in Chapter 5, "Historical Reports".

Forecasting

Forecasting is an optional feature that allows you to generate forecasting reports which predict both future call traffic and the resources required to meet call-handling objectives. See Chapter 14, "Forecasting".

Terminology

The following terms are used throughout this book. For additional CMS definitions, please refer to the *Glossary*.

Call Management System (CMS)	The AT&T software package that collects call-traffic data, formats management reports, and provides an administrative interface to the ACD switch feature.
Current Interval	Represents the current intrahour interval which can be 15, 30, or 60 minutes. The current interval is part of the real-time database.
Custom Reports	Real-Time or historical reports that have been customized from standard reports or created from scratch. See the AT&T 585-215-523, <i>Call Management System Custom Reports</i> , document for more information.
Daily Data	Interval data that has been converted to a 1-day summary.
Exception Reports	Display occurrences of unusual call-handling events.
Forecast Reports	Display expected call traffic and agent/trunk group requirements for your call center for a particular day or period in the future.
Historical Database	Contains intrahour records for up to 62 days in the past, daily records for up to 5 years in the past, and weekly/monthly records for up to 10 years for each CMS-measured agent, split/skill, trunk, trunk group, vector, and VDN.
Historical Reports	Display past ACD data for various agent, split/skill, trunk, trunk group, vector, or VDN activities.
Monthly Data	Daily data that has been converted to a monthly summary.
Previous Interval	Represents one intrahour interval and is part of the real-time database. At the end of each intrahour interval, the contents of the current intrahour interval are copied to the previous intrahour interval portion of the real-time database.

Real-Time Database	Consists of the current and previous intrahour data on each CMS-measured agent, split, trunk, trunk group, vector, and Vector Directory Number (VDN).
Real-Time Reports	Display current ACD call activity on agents, splits/skills, trunks, trunk groups, vectors, and VDNs.
Subsystem	Each CMS Main Menu selection (for example, Reports, Dictionary, System Setup, Exceptions, etc.), along with Timetable and Shortcut, is referred to as a subsystem of the Call Management System throughout this document.
Weekly Data	Daily data that has been converted to a weekly summary

ACD/CMS Parameters

Table 1-1 shows the maximum values of the Automatic Call Distribution (ACD) split parameters supported by the AT&T switches. Table 1-2 shows the maximum values of the ACD split parameters supported by CMS. Table 1-3 shows the skill and CMS parameters..

Table 1-1: ACD Split Parameters Supported by AT&T Switches

Host Switch	ACD Parameters						
	Splits	Agents	Trunk Groups	Trunks	Vectors	VDNs	Call Arrivals (Per Hour)
Generic 1	99 [*]	400	99	400	na	na	4,000 [†] or 5,500 [‡]
Generic 3vs ABP/PBP [§]	12/24	150	16/32	50/100	na/48	na/100	7,000
Generic 3s ABP/PBP [§]	12/24	150	16/32	50/100	na/48	na/100	7,000
Generic 3i	99	500	99	400	256	500	7,000
Generic 3r	255	5,200	665	4,000	512	3,000	70,000
System 85	60	1,024	18-999 ^{**}	6,000	128	32,000	25,000 (Vectoring)
R2V4							32,000 (No Vectoring)
Generic 2.1	60	1,024	18-999 ^{**}	6,000	128	32,000	25,000 (Vectoring)
							32,000 (No Vectoring)
Generic 2.2	60	2,048	18-999 ^{**}	6,000	511	32,000	25,000 (Vectoring) 32,000 (No Vectoring)

* 99 splits are available only on the generic 1.1 load 5.0 switch. For earlier versions of Generic 1, the number of available splits is 32.

§APB/PBP = Advantage Business Package/Premier Business Package.

**The switch can have a maximum of 999 trunk groups, but CMS can only measure 238 trunk groups. In addition, to be measured, a trunk group must be assigned a trunk group number from 18 50 255.

†These rates assume an ideal ACD scenario in which incoming ACD calls comprise 100% of call traffic on trunks to the switch, and the calls are equally divided between two general types of splits, each with the following call flow:

- For the first type of split, calls receive a forced first announcement and are then answered immediately.
- For the second type of split, calls go into queue, where half of the calls receive a first announcement and are then answered immediately, and the other half receive a first announcement, a second announcement, and are then answered immediately.

If other applications or other types of call flow are involved with the switch, call arrivals are lower.

‡The 5,500 call arrival rate on Generic 1 applies **only** to the Generic 1.1 Load 5.0 switch. For earlier versions of the Generic switch, the call arrival rate is 4,000.

Table 1-2: ACD Split Parameters Supported by AT&T Switches and CMS

Item	Generic 3vs Version 2 PBP (Note 1)	Generic 3s Version 2 PBP (Note 1)	Generic 3i Version 2	Generic 3r Version 2	Generic 2.2	CMS
VDN Skill preferences	3	3	3	3	3	3
Agent Skill assignments	4	4	4	4	5 (default [†])	5
Skills queued to simultaneously	3	3	3	3	3	3
Skills	24	24	99	255	600	600
Agent/Skill combinations*	150	150	500	5,200	5,115	5,200
Agent Login IDs	450	450	1,500	10,000	10,000	10,000
Vectors	48	48	256	512	511	2,048
Vector Steps per vector	32	32	32	32	15	32
VDNs	100	100	512	20,000	32,000	NA
Measured VDNs	100	100	512	2,000	2,000	2,000
Note 1: PBP = Premier Business Package. * This is the maximum number of agent/skill combinations supported by the switch and CMS. An agent logged into multiple skills counts as multiple agent/skill combinations. For example, you can have 5,200 agents with 1 skill, but you can only have 1,300 agents if each agent is assigned the maximum of 4 skills. You can have any combination as long as the total does not exceed the maximum allowed for your switch. [†]The agent can be logged into four skills plus the default skill.						

Table 1-3: ACD Skill Parameters Supported by R3V2 CMS

Host Switch	ACD Entities Measured by CMS						
	Splits/Skills Note 1	Agents	Trunk Groups	Trunks Note 2	Vectors	VDNs	Call Arrivals
Generic 1.1	99	400	99	200/100	n/a	n/a	5,700
Generic 3vs	24	150	32	50/100	48	100	7,000
Generic 3s	24	150	32	50/100	48	100	7,000
Generic 3iV1	99	400	99	400/100	256	500	7,000
Generic 3iV2	99	500	99	400/100	256	500	7000
Generic 3rV1	99	1023	255	4,000/100	512	2000	40,000
Generic 3rV2	255	5,200	665	4,000/100	512	2,000	40,000
System 85 R2V4	60	1,024	238*	4,000/100	128	2,000	25,000 (Vectoring) 32,000 (No Vectoring)
Generic 2.1	60	1,024	238*	4,000/100	128	2,000	25,000 (Vectoring) 32,000 (No Vectoring)
Generic 2.1	60/600	1,023	238*	4,000/100	511	2,000	25,000 (Vectoring) 25,000 (No Vectoring)
1. In Generic 1 and Generic 3 switches (without EAS), an agent can be assigned to as many splits as desired. Of those assigned splits, an agent can log into up to three splits at the same time. Each split an agent is assigned to counts as another “agent” regardless of whether the agent is logged into the split(s). For example, if the maximum measured agent capacity for your call center is 400 and each agent is assigned to four splits, the actual agent capacity is reduced to 100 even though each agent can only log into a maximum of three splits each. See Table 1-2 for EAS capacities on CMS and your switch. 2. These numbers are for measured and unmeasured trunks. 100 unmeasured trunks must be set aside for use with transfers, conference calls, and other calls internal to the switch. * Measured trunk groups must be numbered between 18 and 255.							

Note

Your switch and CMS are probably be configured differently than the maximum values shown in Table 1-1 and Table 1-2. Make note of these differences. You need to know your particular CMS values to start administering CMS.

Also, if you have multi-ACDs, you cannot exceed the maximum parameters supported for all ACDs.

Measured Extensions Assigned to Multiple Splits (Non-EAS)

On Generic 1 and Generic 3, the customer can assign an agent extension to as many splits as desired. Multiple split assignments are commonly used in one or both of the following scenarios:

- The customer has agents who log into multiple splits.
- The customer has more than one shift of agents, where the shifts use the same set of phones, but **do not** work in the same set of splits.

However, each extension-split assignment requires additional storage in CMS. Therefore, assigning extensions to multiple splits can quickly consume the agent storage capacity on CMS. For example, on a Generic 3i, if you assign each of 50 agent extensions to six splits, the switch sends 200 extension-split assignments to CMS. In this case, CMS creates space in real-time data storage for 300 agent splits, even if the number of agents logged in is less than 100.

If the maximum number of agent splits CMS can measure (as defined at installation or in the Data Storage Allocation window) is fewer than the split-extension assignments it receives from the switch, the link between the switch and CMS fails to come up. Thus, if CMS allows up to 400 measured agent splits, but the Generic 3i switch has 450 split-extension assignments, the link fails to come up.

Note

Do not confuse “agent extensions assigned to multiple splits” and “agents logged into multiple splits.” Even if an agent’s extension is assigned to six splits, the agent can only be logged into four splits simultaneously. CMS always creates space in real-time data storage for six agent splits (one for each split), even though the agent is not logged into all six splits.

On Generic 2 with the EAS feature, the default skill assignment is set when the link to CMS is brought up. As agents add skills, CMS dynamically allocates additional space.

On Generic 3 with the EAS feature, CMS dynamically allocates space as agents log in, depending on the number of skills the agent is assigned.

Measured and Unmeasured Trunks

The entries for trunks in Table 1-2 are measured and unmeasured trunks. A minimum of 100 unmeasured trunks is provided by default. This number of unmeasured trunks is required for:

- Internal calls (intraswitch) to a measured split or agent
- Internal calls to any VDN
- Calls made by an agent to an internal destination or using a trunk group that is not measured
- Transfers and conferences until the transfer/conference is complete.

If more than 100 unmeasured trunks are needed for an ACD, the maximum number of measured trunks decreases accordingly. For example, if you have a Generic 3i switch and choose to have 200 unmeasured trunks, 300 trunks are available for measurement.

Note

A switch can actually support many more unmeasured trunks than shown in Table 1-4 — **without affecting the available number of measured trunks**. However, these additional trunks can only be used for non-ACD purposes. Using additional unmeasured trunks for ACD **always reduces** the available number of measured trunks.

The measured trunks available can be determined as follows:

$$t = m - \max(u - 100, 0)$$

Where t is the number of measured trunks, m is the maximum number of measured trunks possible, and u is the number of unmeasured trunks.

For example, R3 CMS is used to monitor a Generic 3i ACD with 150 unmeasured trunks. The maximum number of measured trunks that the R3 CMS is able to monitor can be determined as follows:

$$t = 400 - \max(u - 100, 0)$$

$$t = 400 - \max(150 - 100, 0)$$

$$t = 400 - 50$$

$$t = 350$$

For this example, R3 CMS is only able to monitor 350 measured trunks.

How CMS Stores and Tracks ACD Data

How CMS Stores Interval Data

CMS stores the ACD data (Figure 1-1) received from the switch in the real-time and historical database. Within each of these databases, CMS stores the specific ACD data for agents, splits/skills, trunks, trunk groups, vectors, and VDNs in separate database tables. Call work codes (CWC) also have separate database tables in the real-time and historical database.

The real-time database includes tables for the **current intrahour interval** data and the **previous intrahour interval** data. An interval can be 15, 30, or 60 minutes (selected in the Storage Intervals window in the System Setup subsystem).

The historical database includes tables for the **intrahour historical**, **daily historical**, **weekly historical**, and **monthly historical** data. CMS can store intrahour data for 62 days, daily data for 5 years, and weekly/monthly data for 10 years.



You can use historical data from your call center to predict future call traffic and future agent and trunk requirements. See Chapter 14, "Forecasting", for more information.

As CMS collects the real-time data from the ACD, the data is stored in the current intrahour interval tables (agent, split/skill, trunk, trunk group, vector, and VDN) until the end of the interval. (An interval can be 15, 30, or 60 minutes.) At the end of the current intrahour interval, data is archived to the previous intrahour interval tables and to the intrahour historical tables. At your designated data summarizing time, the historical intrahour data is summarized into daily data. At the end of your designated week (as specified on the System Setup subsystem Storage Intervals window), the daily data is summarized into weekly data. On the first day of a new month, monthly summaries are generated from the daily data for the previous month.

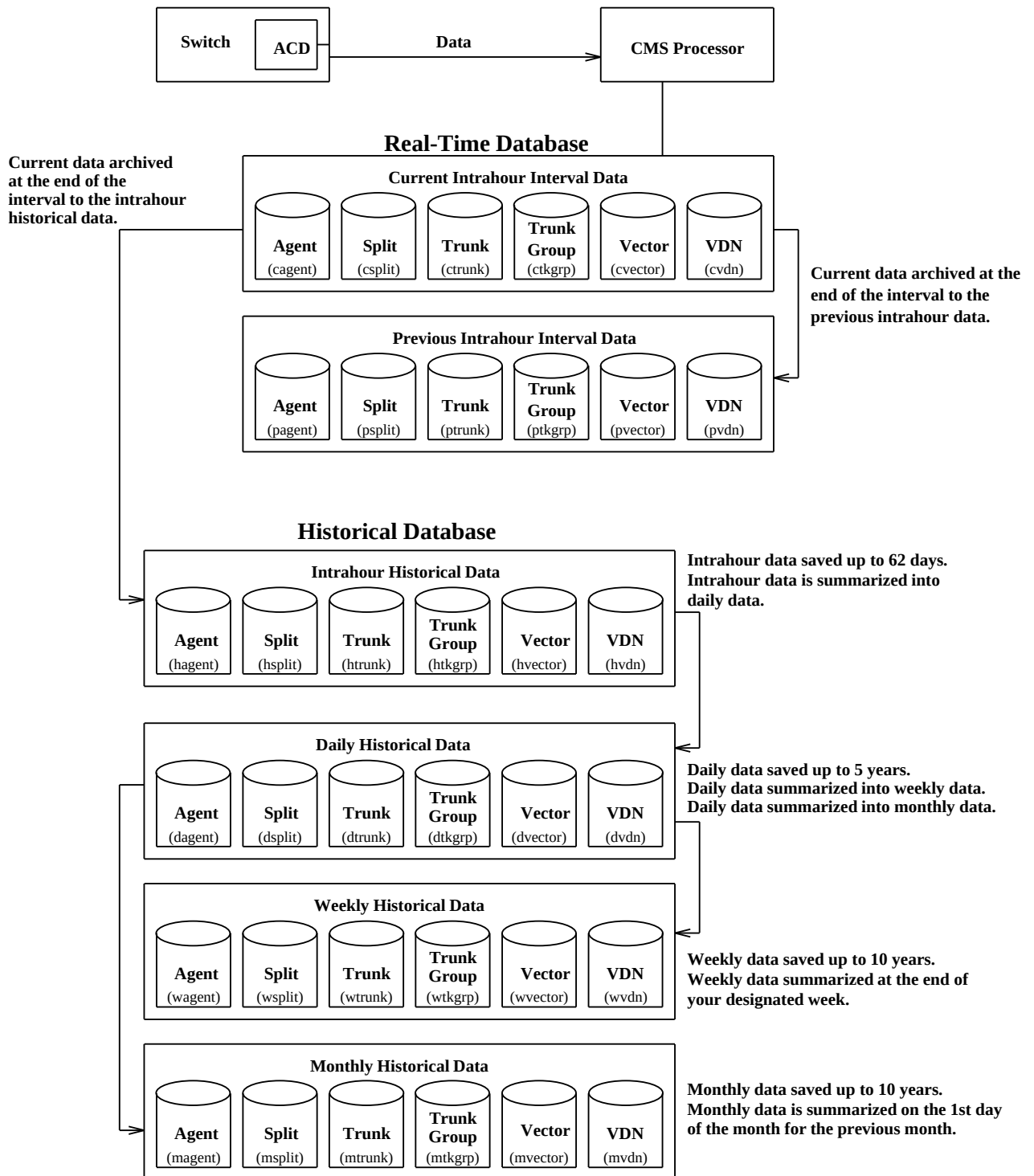
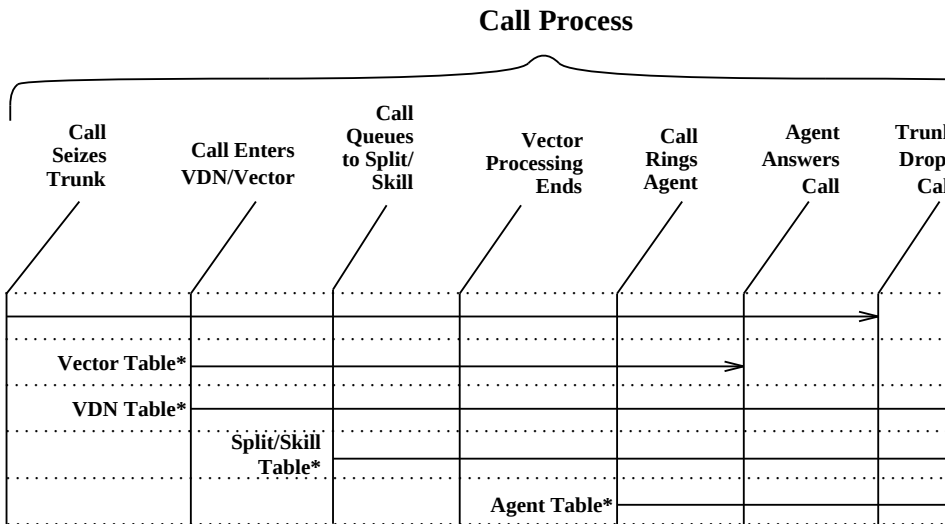


Figure 1-1: How CMS Stores Data

How CMS Tracks ACD Data

Using the data in the real-time and historical databases, CMS can generate standard reports which allow you to track your call center's activities. CMS tracks the various agent, split/skill, trunk, trunk group, vector, and VDN activities at different points in the call process.

Figure 1-2 shows how CMS tracks these call activities from the time the call seizes a trunk until an agent ends after call work (ACW) activity.



*The CMS database table that stores the call data. This is also the point at which CMS starts collecting call data, and the arrow is the point at which CMS stops collecting data. Also, with vectoring, the "Stop" command stops the processing of vector commands. The data is not recorded in the tables until the call and any ACW are complete.

Figure 1-2: How CMS Tracks a Call

The agent table starts tracking non-ACD calls when the agent answers or completes dialing.

The split/skill table ends processing when ACW for a completed call ends, the call abandons, or the call leaves the queue and is forwarded to another destination (e.g., intraflow).

Vector processing continues until the caller is sent to an ACD agent, abandons, or routes to a station, trunk, or another VDN or vector. Calls that route to a split or skill do not leave vector processing (Generic 3 only).

VDN processing ends when ACW for an ACD completed call ends, the call abandons, the call routes to a trunk or VDN, or the call is transferred.

CMS User Hardware

Terminals

Display terminals connected to your computer can be used to administer the Call Management System. In addition, the UNIX system can be accessed by these terminals. If terminals incompatible with the CMS application are used, if terminals are not properly identified within the CMS environment, or if terminal options are not properly set up, the terminals do not operate correctly. The following terminals have been approved for use with the R3V2 CMS software application:

- 615 Multitasking Color (CMT) Terminal
- 620 Multitasking Graphics (MTG) Terminal
- 705 Multitasking Terminal
- AT&T 6500 Display Terminals (6528, 6529, 6538, and 6539) with vt220 terminal emulation.
- 605 Business Communications Terminal (BCT)
- 610 BCT
- 615 Multitasking (MT) Terminal
- AT&T DATASPEED* 4425 Terminal.

Note

If the screen on a 4425 terminal becomes garbled or confused, redraw the screen by using a **Ctrl L** or the Redraw menu selection from the **Window** SLK.

See AT&T 585-215-122, *Call Management System Installation and Maintenance*, document for information about other terminal requirements and for troubleshooting.

CMS supports a combination of up to 60 terminals and printers.

*Registered trademark of AT&T

Console Terminal

One system terminal must be set up as the Console Terminal.

Printers

All CMS sites require at least one system printer. Printers are used to print CMS historical, forecasting, and exception reports; error logs; etc. All printers are named during CMS installation. The CMS administrator should know the names of these printers. One printer is identified during CMS installation as the **default printer**. When you execute a CMS print request, the print job is normally routed to the default printer, unless the printer destination has been changed.

CMS supports a combination of up to 60 printers and terminals.

CMS Main Menu With Subsystem Menus

Reports

Real-time
Split/Skill
Status
Report
Call Profile
Agent Report
Agent Group Report
Queue/Agent Status
Queue/Agent Summary
Trunk Group Report
Event Count Summary
Multi-ACD Report
Graph
Split/Skill
Queue
Split/Skill Call Profile
VDN Call Profile
Vector Report
VDN
Report
Call Profile
Skill Preference Report

Historical
Agent
Summary
Split/Skill
Attendance
Group Attendance
Login/Logout (Split & Skill)
Trace
Event Count
Group Summary
In/Outbound Call
Split/Skill
Status
Reports
Summary
Call Profile
Outbound
Forecast Summary
System
System
Multi-ACD
Multi-ACD by Split
Trunk/Trunk Group
Trunk
Trunk Group
Trunk Group Summary
Busy Hour
Graph
Split/Skill Call Profile
Split/Skill Service Level
Split/Skill Avg Speed Answer
VDN Call Profile
VDN Service Level

Reports (cont)

Historical (cont)
Call Work Code
VDN
Status
Report
Skill Preference Report
Call Profile
Busy Hour
Multi-ACD Flow
Vector
Call Records

Dictionary

Login Identifications
Agent Groups
Calculations
Constants
Database Items
Agent String Values
Split/Skill String Values
Trunk String Values
Standard CMS Items
Custom Items

ACDs

Splits/Skills
Trunk Groups
Global Search
Report
Call Work Codes
VDNs
Vectors

Exceptions

Real-time Exception Log
Historical Reports
Agent Exceptions
Split/Skill Exceptions
Trunk Group Exceptions
Vector Exceptions
VDN Exceptions
Other Exceptions
Malicious Call Trace
Data Collection
Administration
Agent Exceptions
Split/Skill Exceptions
Trunk Group Exceptions
Vector Exceptions
VDN Exceptions

Forecasting

Reports
Longterm
Financial
Current Day
Intraday
Special Day
Agent Positions Required
Trunks Required
Trunk Performance
Hypothetical
Data
Copy Historical Data
Edit Values
Report
Financial Report
Administration
Call Handling Profiles
Costs Profiles
Trunk Group Profiles
Current Day Configuration
Special Days
Data Storage Allocation
Forecast Manager

ACD Administration

Generic 2
Move Agent Extensions
Trunk Group Assignments
Split Parameters (No Vectoring)
Split/Skill Call Profile Setup
Activate Agent Trace
List Agents Traced
Configuration Reports
Split Members
Trunk Group Members
Vector
Call Work Codes
VDN Assignments
Change VDN Skill Preferences
VDN Assignments
Change VDN Skill Preferences
VDN Call Profile Setup
Vector Contents
Split References in Vectors
(Not available with EAS)
G3V2 EAS
Change Agent Skills
Trunk Group Assignments
Split/Skill Call Profile Setup
Activate Agent Trace
List Agents Traced

ACD Administration (cont)

G3V2 EAS (cont)
Configuration Reports
Trunk Group Members
Vector
Call Work Codes
VDN Assignments
Change VDN Skill Preferences
(EAS only)
VDN Call Profile Setup
Vector Contents

Custom Reports

Real-time
Historical
Edit Report

User Permissions

User Data
Feature Access
Main Menu Addition Access
Split/Skill Access
Trunk Group Access
ACD Access
Vector Access
VDN Access

System Setup

Switch Setup
Pseudo-ACD Setup
Load Pseudo-ACD
Data Storage Allocation
Free Space Allocation
Storage Intervals
Agent Trace Record Contents
Main Menu Addition
CMS Status
Data Summarizing
Data Collection
R3 Migrate Data
R2 Migrate Data

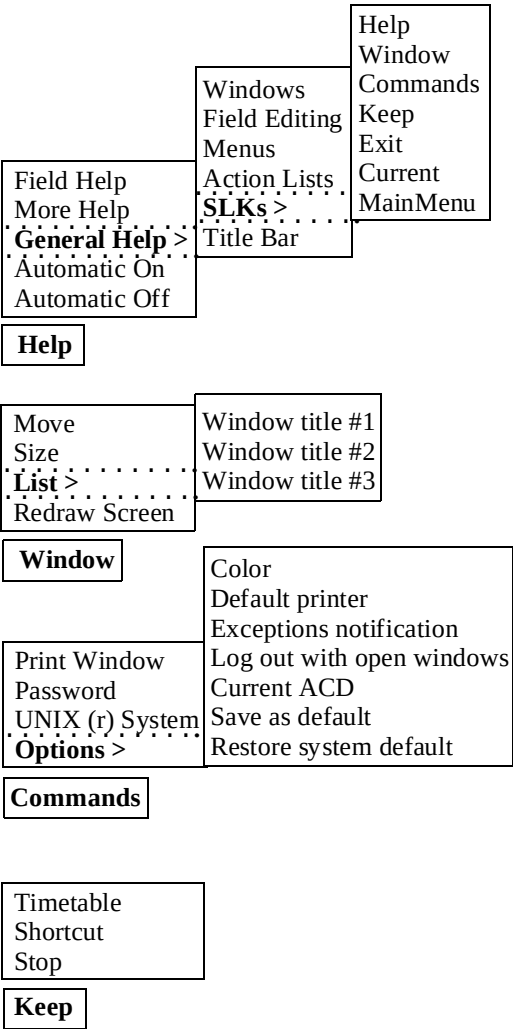
Maintenance

Back Up Data
Restore Data
Backup/Restore Devices
Printer Administration
Connection Status
ACD Status
Archiving Status
Error Log Report
Forecast Manager

****This listing assumes you have purchased the Vectoring, Graphics, and Forecasting features of CMS and the Expert Agent Selection (EAS) feature on your switch ****

Screen-Labeled Keys With Menus and Submenus

The following pictorial listing shows the screen-labeled keys (SLKs) with menus and submenus. Each SLK is described in Chapter 2, "User Basics". The `Exit`, `Current`, `Scroll` and `MainMenu` SLKs do not have menus.



Helpline/Escalation

Who to Contact

If the problem is with the CMS software, call the **AT&T ACD/CMS Help Line on 1-800-344-9670** to report the problem and obtain a trouble ticket number to escalate the problem through the services organization.

Note

The ACD/CMS Help number is staffed by trained CMS engineers located at the Technical Service Center (TSC). The engineers at the TSC will try to fix the problem in a timely manner. If they cannot fix the problem, they will escalate the problem to a higher level of customer support.

Be prepared to give the following information:

- Your full name, your organization, and a phone number where AT&T can contact you concerning the trouble
- The problem as a “R3V2 Call Management System problem”
- The Installation Location (IL) number

This is a 10-digit number from an AT&T database that helps service personnel look up the details of your CMS installation and environment.

- The phone number that off-site technicians can use to remotely dial into your system
- The password for the *root* login ID
- The R3 CMS version (load) number

This number appears in the form of a digit, a decimal point, and another digit, and is pronounced as “x dot x.” For example, 3.0 is pronounced “three dot O” (not zero).

- Your computer model, switch model, and any unique characteristics of your computer-switch environment you think might be relevant.
- The type and symptoms of the problem — describe exactly.
- The type of service contract your organization has with AT&T, if any.

If the trouble report is not covered by warranty or service contract, you will be invoiced for the work done to troubleshoot your system. Service contracts can be for business hours only or 24-hours a day, 7 days a week, or they can provide a dedicated technician for your installation.

After the Initial Contact

When you report the trouble to AT&T, you should receive a **trouble-ticket number**. Be sure to get this number from the person you are talking to. Use this number when you talk to an AT&T representative about the problem after the initial report.

According to AT&T's internal rules, the trouble ticket must be *cleared*. This means that *you* must receive notification that the trouble has been cleared up, and agree that it has. If you receive no such notification in a reasonable period, call 1-800-344-9670 again and ask for a resolution on your trouble ticket number.

CMS Training Classes

- I Training for two persons on CMS administration and custom reports is included with the price of the CMS software (not per ACD). Your AT&T Project Manager should call 1-800-255-8988 to schedule the appropriate classes for you.

The available CMS training courses are shown in the following list. The Price Elements Codes (PECs) shown should be used only to enroll additional persons (those who are **not** the two persons to receive training at no charge).

Upgrade or New Customers

The following courses are available if you are upgrading from R2 CMS to R3V2 CMS or if you are a new R3V2 CMS customer.

Table 1-4: R2 CMS to R3V2 CMS Upgrade Customers or New Customers

Course Number	PEC	Course Name	Description
BC1054A	1426-011	R3V2 CMS Administration	A 4.5-day course which provides training on the tasks required to set up a CMS call center application, administer CMS, interpret reports on ACD activity, and use the Vectoring and Forecasting features.
BC1055A	1426-012	R3V2 CMS With G3V2 EAS	A 4.5 day course which provides training on the tasks required to setup a CMS call center application with the Generic 3 Version 2 switch and the EAS feature, administer CMS, interpret reports on ACD activity, and use the Vectoring and Forecasting features.
BC1056A	1426-013	R3V2 CMS With G2.2 EAS	A 4.5 day course which provides training on the tasks required to setup a CMS call center application with the Generic 2.2 switch and the EAS feature, administer CMS, interpret reports on ACD activity, and use the Vectoring and Forecasting features.
BC1057A	1426-014	R3V2 CMS Custom Reports	A 3-day course which provides training on the tasks required to develop CMS custom reports.



When enrolling for training, make sure you enroll in the correct course. That is, whether or not you have the EAS feature on a Generic 3 or Generic 2 switch is an important factor in determining the course in which to enroll.

The CMS Graphics feature is covered in all of the Administration courses, even if you have not purchased the feature. Also, the last lesson (the last half-day) in the Administration course covers the Forecasting feature. If you have not purchased the Forecasting feature, you may wish to leave before this lesson starts.

R3.0 CMS to R3V2 CMS Upgrade Training

If you are upgrading from R3.0 CMS, you will receive an EAS self-paced training package called “Designing a Call Center with EAS.” The AT&T 585-215-421, *Call Management System Change Description*, document is also sent and covers all other differences between R3.0 CMS and R3V2 CMS.

Other CMS- Related Training

You may benefit by taking additional courses (available at additional charges) in the following subject areas:

- UNIX System
- INFORMIX
- Traffic Theory/Data Analysis
- Host Computer Administration (e.g., 386, 486, 3332 processors).
- Switch Administration.

You automatically receive the following Individualized Learning Programs (booklets) after one of your call center's employees is enrolled in the CMS Administration course. These programs include:

- ACD Fundamentals
- Call Vectoring.

General Information

This chapter explains the CMS user interface and provides you with the necessary information for completing any CMS action. The following information is covered in this chapter:

- Necessary terms for using R3 CMS
- The R3 CMS User Interface
- Moving through CMS
- Menu information and selection procedures
- User window information and associated procedures
- Changing your password
- Changing the text and background colors on your terminal.
- Modifying your default printer
- Selecting your ACD (real or pseudo)
- Saving and restoring default values
- Logging into CMS
- Logging out of CMS.

Note

It is extremely important that you read this chapter before logging into CMS and trying to complete any task.

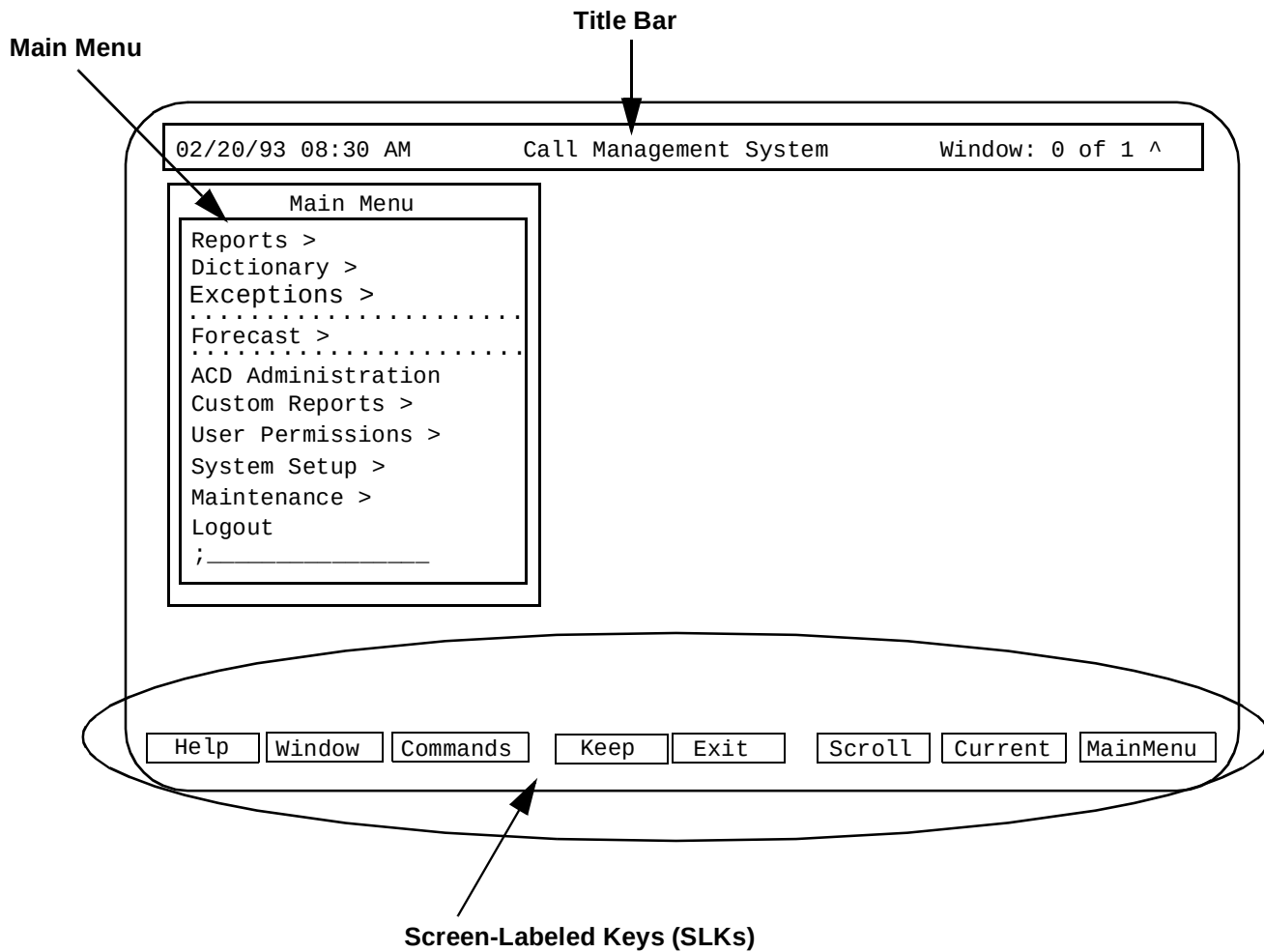
Terminology

Before you begin using CMS, you need to know the meaning of several terms. These terms are also defined in the *Glossary*.

Acknowledgment	A window that requires you to confirm an action or to acknowledge a system message (e.g., warning or fatal error for the user window). This window cannot be moved, sized, or scrolled and disappears only when you confirm the message. This window does not count in the user window count.
Action List	A menu in the upper right corner of most user windows. The menu lists the actions available for that particular user window (e.g., add, modify, delete, etc.). You select an action after entering necessary data in the user window.
Current Window	The user window in which you are currently working.
Grayed Out	When you do not have access to a menu or action list item, it is grayed out (that is, dimmed or displayed in a different color from the rest of the menu or action list).
Menu	A list of items from which you can select. A menu cannot be moved or sized and does not count in the user window count.
Messages	Temporary windows used only for displaying information like “field help” and syntactical field errors. Message windows cannot be moved, sized, or scrolled and do not count in the user window count. Message windows are automatically removed when you correct the error or move to the next field.
Name (Synonym) Fields	Fields in which you may enter a name (synonym) that has been entered in the Dictionary subsystem (for example, names of agents, splits/skills, agent groups, trunk groups, vectors, VDNs, and ACDs).

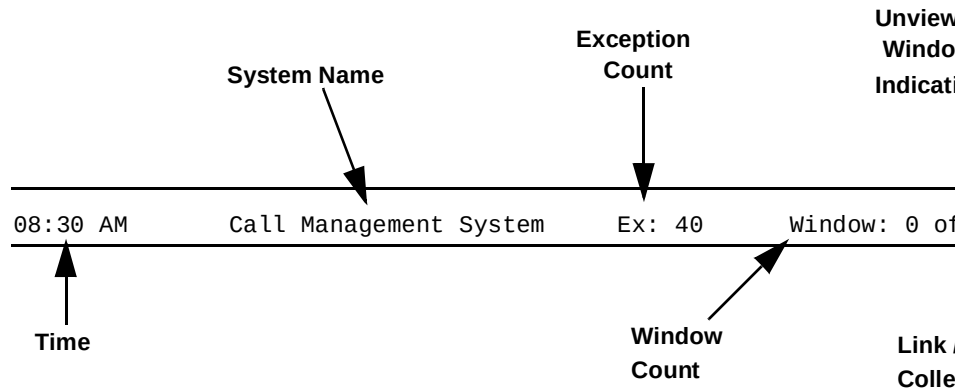
Open Window	A user window that remains open because you have not yet closed it with the Exit SLK. An open window becomes the current window when it initially displays on the screen or when you make it the current window using the Current SLK.
Primary Window	The first window opened in response to a menu selection. A primary window may also generate another user window (secondary window). A primary window can be moved, sized, or scrolled, and counts in the window count.
Screen-Labeled Key (SLK)	The first eight function keys at the top of your keyboard that correspond to the screen labels at the bottom of your terminal screen. The screen labels indicate the function each key performs.
Secondary Window	A user window that is generated from a primary window. Secondary windows can be moved, sized, or scrolled and do not count in the user window count.
Submenu	A menu that displays as a result of a menu selection. All menu selections followed by an ">" have submenus.
User Window	A window you can move, size, or scroll. It may contain input fields, reports, or help information.
Window	Any rectangle on your screen that encloses a menu, data entry fields, reports, or messages.
Window Count	The number of primary windows that can be open at any one time.

Basic CMS Screen



Title Bar

The title bar is a single line at the top of the screen. Windows cannot overlap the title bar.



The title bar displays the following information.

Date	The current month, day, and year
Time	CMS time, which is the switch time of the master ACD in hours and minutes. The time is updated every 60 seconds.
System Name	Call Management System
Exceptions Count	The current exceptions count from the beginning of the intrahour interval (see Chapter 8, "Exceptions", for more information.)
Window Count	The first number is the number of primary windows currently open, and the second number is the maximum number of primary windows you are allowed.

Note There is a maximum limit of 12 open primary windows per CMS user at one time. You, as the CMS administrator, can limit the number of windows open at any one time (1 to 12) for each user. See Chapter 10, "User Permissions" — "User Data" for more information.

***** An unviewed window indication. An asterisk appears any time a newly opened window is not made current using the **Current** SLK or **Window** SLK — List menu item. The asterisk serves as a reminder that the new window has arrived, but may not be visible.

**Link Status
/Data
Collection**

A “^” displays if data collection is on, and the link is up.
A “v” displays if data collection is turned off or the link is down for some other reason. CMS updates the link status every minute with the current status. With multi-ACD, you could have up to four characters (e.g., ^^^^).

Main Menu, Submenus, and SLK Menus

Menu Characteristics

The following items are common for all menus (Main Menu, submenus, and SLK menus).

- Menus guide you through the Call Management System and cannot be moved, sized, or scrolled.
- An ">" after **any** menu selection indicates that, when the item is selected, more options (a submenu) are available.
- Some SLK menu items bring up primary windows which count in the user window count and act as any other user window.
- If you turn off read permission (see Chapter 10, "User Permissions") to a particular subsystem for a user, that subsystem not shown on the menu for that user.
- Menu selections that do not make sense at the moment (for example, Color if you are using a monochrome terminal) are grayed out, and the cursor jumps over these choices.
- Menu selection is not case-sensitive (either upper- or lower-case work.)

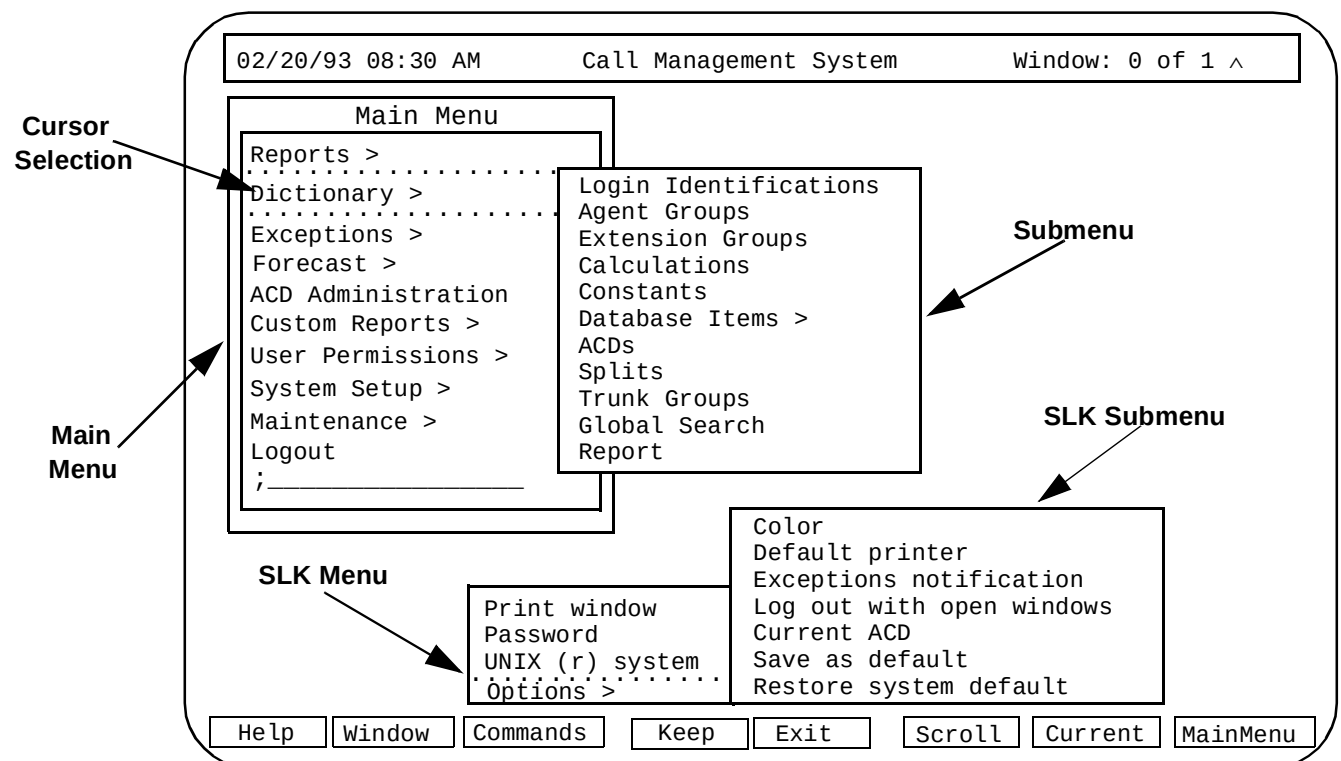


Figure 2-1: Main Menu/Submenu Example

Default Choice for All Menu Items

When you first log into CMS, the top entry of any menu/submenu (including SLK menus/submenus) is the default choice.

After you make a menu/submenu selection, that selection then becomes the default choice. The last selection you make from any menu/submenu remains the default choice for the particular menu/submenu until you log out of CMS or make another selection. CMS always returns to your last selection during the current login session.

Making a Menu Selection

There are three ways you can make a menu selection:

- Typing the first unique letter(s) of the menu item (for example, **D** for Dictionary) and pressing **Return**. Either upper- or lower-case letters work. (For clarity, menu selections are shown in this document as upper-case.)



The letter search starts from the next menu item and goes down the menu. If necessary, the search wraps around to the top of the menu and continues down until a match is found. In this process, the cursor may bounce between similar menu items (for example, Agent Report and Agent Group Report) until a unique letter is identified. If no match is found, a beep sounds. The cursor's position indicates what letter from the menu is currently being selected.

- Using the up or down arrow keys to make your selection, and then pressing **Return** or using the **Tab** or **Shift Tab**.



When two keys are shown side by side, as here with **Shift Tab**, press the first key **and hold it**, then press the second key. This convention is used throughout this document.

- Combining both letters and arrows.
-

When Menus Disappear

When a user window is selected from any menu/submenu/SLK menu, all menus disappear.

If you press the **Current** SLK when you are in any menu, all the menus disappear and the previous window in the window stack becomes the current window.

If you return to the Main Menu using the `MainMenu` SLK, all submenus and SLK menus disappear.

User Windows

Common Characteristics

Windows with data entry fields and reports and some help windows are user windows. You can move, size, and scroll all user windows (unless there is nothing to scroll).

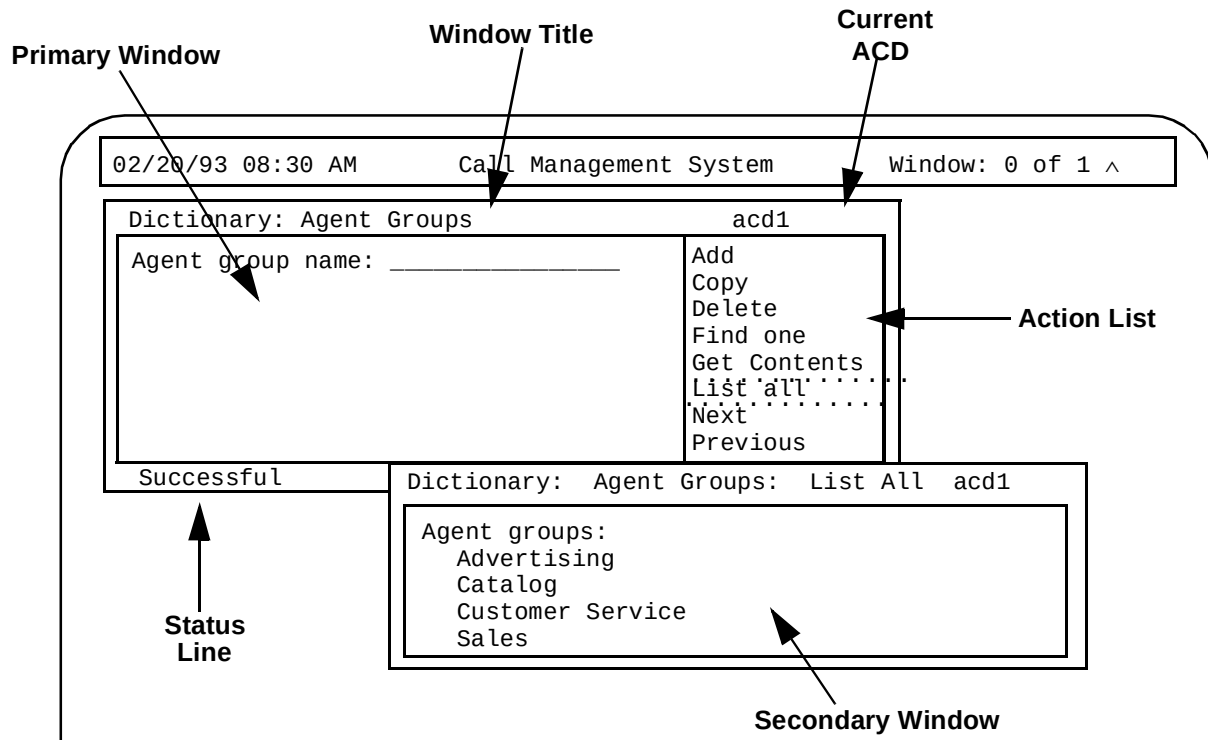


Figure 2-2: User Windows Example

There are two different types of user windows:

Primary windows: are used to complete or specify a task and may generate another user window (secondary window). These windows can be moved, sized, or scrolled and count in the user window count. A primary window is generated from the last in a series of menu selections or from certain SLK menu selections.

Secondary windows: are generated by a primary window. These windows display the data requested from the primary window or allow additional tasks to be completed. They can be moved, sized, or scrolled but do **not** count in the user window count.

User Window Count

Each CMS user can have up to **12** *open* primary windows at any one time. The actual number of open windows permitted for each CMS user is administered through User Permissions (see Chapter 10), and the window count is displayed on the title bar. If you attempt to exceed your user window limit, an error appears in a Message. You can not open more windows until you have closed at least one window.



The number of open user windows directly affects processor resources.

Closing User Windows

User windows remain open until closed by the **Exit** SLK or by logging out. The Copy windows in Timetable and Shortcuts and some custom report user windows close automatically when you select an action item that completes a task. See Chapter 6, "Timetables and Shortcuts", for information and the AT&T 585-215-523, *Call Management System Custom Reports*, document for the custom report user windows.]

Window Title

The window title indicates which CMS subsystem you are in and the ACD (real or pseudo) to which the window applies. If you make a change in the window, the change is for the ACD indicated in the window title unless the title shows "All ACDs" or you entered an ACD number in the window's field.

Messages

In conjunction with user windows, Message windows can display information like field help and error messages. Message windows are display-only windows and cannot be moved, sized, or scrolled, do not count in the user window count, and are never the *current* user window.

Messages you receive because of an error automatically disappear when the error is corrected and you leave the input field. If you exit the user window, the error message also disappears.

Acknowledgments

Acknowledgment windows also display in conjunction with user windows to inform you that what you are currently doing is potentially hazardous or to notify you of errors you have made. Some Acknowledgment windows require that you respond to a yes or no question before you can proceed with any other work in the current window, while others require only a

Return.

Moving Through CMS

Special Keys

Before you can make any menu selection or enter anything in an input window, you need to know how the special keys work.

Down Arrow	The down arrow moves the cursor down to the next menu item (SLK menus included), action list selection, or input field. The down arrow is also used to page or scroll output (like reports), see "Paging and Scrolling Data" after the "Special Keys" description.
Up Arrow	The up arrow moves the cursor to the previous menu item (SLK menus included), action list selection, or input field. The up arrow is also used to page or scroll output (like reports), see "Paging and Scrolling Data" after the "Special Keys" description.
Right Arrow	Moves the cursor one position to the right in an input field and stops when you reach the end of the field. This movement is nondestructive (that is, any information in the field is not changed). The right arrow can also select menu items and can be used to scroll horizontally.
Left Arrow	Moves the cursor one position to the left in an input field and stops when you reach the beginning of the field. This movement is nondestructive (that is, any information in the field is not changed). The left arrow can also exit submenus and can be used to scroll horizontally.
Tab/Shift Tab	Pressing the Tab key moves the cursor to the next field or menu selection. The Shift Tab keys move the cursor to the previous field or menu selection. Note Not all terminals support Shift Tab.
Enter/Return	Pressing the Enter or Return key indicates that you want CMS to act on what you entered or selected (for example, entered data, made a menu selection).

Back Space	The   or the  key erases the previous character in an input field (destructive backward space).
Space Bar	Pressing the Space Bar erases the next character (destructive forward space).

Paging and Scrolling Data

For output-only windows (like reports or list all windows), the arrow keys can be used to page or scroll the contents of the window. Using the arrows by themselves shows the next page of data in the direction of the arrow. For example, pressing the down arrow in a list all window shows the next page of data. See Chapter 6, "Timetables and Shortcuts", for details about scroll key operations for input and input/output windows. You can scroll the data by preceding the arrows with a number indicating how many lines or columns to scroll. For example, entering a "10" followed by the down arrow scrolls the window contents by 10 lines.

Note

The arrows (<, >, ^, v) display in the lower right corner of the window's border to indicate in which direction more data exists.

Status Line and Status Messages

The status line on a user window shows the condition for a given process and can display any one of the following messages:

Working	Displays until the action is complete. The window is locked during this time.
Successful	Displays when an action completes without errors.
Error	Displays when a syntactical error is found in a field. An error message with field help also appears.
Failed	Displays when an action request cannot complete. An Acknowledgment window explains why the request cannot complete.
Does not exist	Displays when a record you are trying to modify or delete is <i>not</i> found in the database.
Already exists	Displays when a record you are trying to add <i>is</i> found in the database. This message also displays when you attempt to add a range of items, some of which exist and some of which do not. The ones that do not exist are added to the database; the ones that exist are left unchanged.

Cancelled	Displays when you cancel a potentially destructive action in an Acknowledgment window.
Inserting	Displays when a field is being edited using Ctrl e to insert characters.
N matches found	Displays when a Find one action is complete.
N matches found; permitted ones displayed	Indicates the number of matches found by the List all and serves as a reminder that you may not have permission to view or modify all matches found.
No permission	Displays if you do not have read permission for the match or matches found in the search. This could occur on the first match found doing a Find one or on any match when stepping through the Find one matches doing a Next or Previous.
Updating translations	Displays when the link to the switch is busied out and released by CMS. If this message appears, your real-time reports are be updating because CMS is in the process of receiving translation data from the switch. Reports will resume updating once the link is up completely.
Data collection off	Displays on real-time reports when data collection has been turned off.
Switch link down	Displays on real-time reports when the link between the switch and CMS is down.
See status window	Displays when a status window appears to further explain the condition.

Common Rules for Field Entry Items

When you are entering data into fields, the following rules apply.

- Names (synonyms) must begin with an alphabetic character and are case-sensitive.
- Names may be from 1 to 20 characters (alphanumerics, underscore, blank, comma, period, and plus accepted).

Note

For names to fit on standard reports, consider using short names (i.e., six characters or less).

- Field descriptions may be from 1 to 50 characters. All typewriter characters are allowed except the backslash (\), grave accent (`), tilde (~), double quotes ("), pipe symbol (|), asterisk (*), and question mark (?).
- Numeric ranges may be entered by placing a hyphen between entries (for example, Login IDs: 1000-1053), and you may enter a list by separating the individual items with a semicolon (for example, Login IDs: 1002;1100;2022). You can also use a combination of ranges and lists (for example 1000-1002;1100;2022).

Note

A numeric range cannot span more than 1000 numbers (for example, 1000-1999, 1050-2049, 2000-2999). You receive an error message if your range is greater than 1000 or you mistakenly leave out a semicolon that separates the range from other list items or ranges.

- Pattern searching is allowed for string fields — that is, if you know your field entry begins with the letters “ac”, you can enter “ac*” in the field. The asterisk (*) matches any number(s) or character(s) that follows the “ac”. You might have several matches, no match, or only one match. If you enter the “*” in the field and nothing else, you get a list of everything that matches that particular field.

A question mark (?) searches for a single number or character to match the search pattern. You can enter “ac?” in the field. The (?) will match only the character or number immediately preceding the “C.”

You can also leave the field blank to get a list of everything that matches.

Note

You cannot enter patterns in name (synonym) fields, except in the Dictionary subsystem. For example, in a report input window with a Split(s)/Skill(s): field, you can enter a list of splits/skills or a range of numeric splits/skills, but you cannot enter **Sa***.

- You must press **Return**, **Enter** or an SLK before an action will occur.

Field Editing

You can edit a field at any time by using:

- The arrow keys and overtyping.
- The **Back Space** or **Ctrl H** key and overtyping.
- The Space Bar and overtyping.
- **Ctrl E** key for inserting text.

Note

To stop your insert, press **Ctrl E** again, or you can use the **Tab** or arrow key to go to the next field.

- **Ctrl X** to erase the field *from the cursor to the end*.
- **Ctrl Y** to erase the *entire field*.
- **Ctrl Z** to erase *all field inputs and the status line* in the window.
- The cursor returns to the first field in the input window.

Note

Overtyping is the default edit mode.

- **Ctrl C** or left arrow to move from the action list back to an input field without selecting an action.

Moving and sizing can also be canceled in this way prior to completing the move or resizing. You can also cancel block-oriented activities in custom reports. See the AT&T 585-215-523, *Call Management System Custom Reports*, document for any custom report information.

Searching for an Entry in the CMS Database

From the action list, you can select **Find one** or **List all**. **Find one** searches the database and displays the first occurrence that matches the searched field(s). You can then use **Next** and **Previous** to view all the other matches, one at a time. **List all** brings up a secondary window that displays all occurrences that match on the searched field(s).

Note

CMS searches the database for anything that matches any entries left in the fields on the window. If you do a **List all**, CMS finds only the items that match what is left in the fields and then displays those items in the **List All** window.

For example, if you want a list of all splits and left the name of split 1 in the **name** field on the window, you only get split 1 displayed in the **List All** window. If you want to search on all fields in a window, use **Ctrl Z** to clear all fields. Then select **Find one** or **List all** to display all matches

Pattern searching is allowed for string fields — that is, if you know your field entry begins with the letters “ac”, you can enter “ac*” in the field. The asterisk (*) matches any number of characters that follows the “ac”. You could have several matches, no match, or only one match. If you enter the “*” in the field and nothing else, you get a list of everything that matches that particular field. (You can also leave the fields blank and get the same results.)

Note

You cannot enter patterns in name (synonym) fields, except in the Dictionary subsystem. Name (synonym) fields are designated by “(s).” For example, in a report input window with a **Split(s)/Skill(s):** field, you can enter a list of splits or a range of numeric splits, but you cannot enter **5a***. Also, the numeric range cannot span more than a 1000 numbers (for example, 1000-1999, 1050-2049, 2000-2999).

Action Lists

Action lists display the different actions that can be performed in user windows and are attached to the inside upper right corner of user windows in a menu format. Action lists are always visible; you cannot size or scroll a window to cover its action list.

Note

The action list procedures in this section apply to all subsystem windows within CMS. A few windows have unique action items, and the procedures for those action items are described with those particular windows.

The default entry in any action list is the top entry when you first enter the window. After you select an action, that action becomes the default selection until you close the window or make another selection.

Action List Entries

From an action list, you can do the following (if the item appears in the action list):

Add	Adds the inputs on the current user window as an entry to the database. If an entry already exists, the entry is not added to the database and <code>Already exists</code> appears on the status line.
Delete	Removes the entry on the current user window from the database. If the database entry does not exist, <code>Does not exist</code> appears on the status line.
Find one	Searches the database for entries that match the values in the fields. The values for first match found are displayed in the fields. The total number of matches found is displayed on the status line. The matches are displayed in numeric order. You can also use pattern searching (that is, if you know your field entry begins with the letters "ac", you can enter "ac*" in a field and select <code>Find one</code>). You cannot use an * or ? in synonym fields marked with (s), for example, Split(s).
Get contents	Provides access to the members of an agent group and the tasks associated with a timetable or shortcut.

List all Brings up a secondary user window that lists all the entries that matched the current field values. The secondary window becomes the current user window. To make a change to the search fields, you must go back to the primary (original) window. You must do a **List all** again to see the change.

Note

If you want a listing of everything pertinent to the window, leave all fields blank.

Modify Changes the database entry on the current user window to reflect the new data entered on the user window. If the database entry does not exist, **Does not exist** appears on the status line.

Note

If you leave any fields blank with **Modify**, those blank fields blank out (nullify) the data currently in the database. Do a **Find one** first to view the data, and then do the **Modify** after updating the values you want to change.

Next Displays the next match found after doing a **Find one**.

Note

Next only works with **Find one**, **Next**, and **Previous**. It is grayed out otherwise.

Previous Displays the previous match found after doing a **Find one**.

Note

Previous only works with **Find one**, **Next**, and **Previous**. It is grayed out otherwise.

Run Runs the process (for example, report) for the current window.

Making an Action List Selection

1. After completing all required field entry items, press **Return**. → *The cursor automatically moves to the action list.*
2. Type the first character of the action list item you want (for example, **D** for Delete), or press the down or up arrow keys to move the cursor to your selection.
3. Then press **Return** to make your action list selection. → *Appropriate status line messages appear, and the cursor returns to the previous location in an input field.*

Note

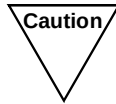
Use the left arrow or **Ctrl C** to return to field entry items at any time without selecting an action.

Adding an Entry to CMS

1. Make a selection from the CMS Main Menu or subsystem menu by typing the first unique character(s) of the entry (for example, **D** for Dictionary) and pressing **Return**. → *The appropriate user window displays.*
2. Enter the appropriate data in the input field(s) on the user window.
3. Press **Return**, then press **A** (or use the arrow keys) to move your cursor to **Add** on the action list, and press **Return** again. → ***Add** is highlighted, and **Working** appears on the status line until the action completes. Then **Successful** appears to indicate that the information has been added to the CMS database.*

Note If the entry you are trying to add already exists, **Already exists** appears on the status line, and the “Add” fails.

Deleting an Entry From CMS



You may delete records in the database using pattern searching. If you do, an Acknowledgment appears warning you that more than one record may be deleted if you continue. The Acknowledgment allows you to back out without deleting the records.

1. Make a selection from the CMS Main Menu or subsystem menu by typing the first unique character(s) of the entry (for example, **U** for User Permissions) and pressing **Return**. → *The appropriate user window displays.*

2. Enter the appropriate data in the input field(s) on the user window.



You may want to do a Find one to ensure you are deleting the right entry.

3. Press **Return** then press **D** to move your cursor to Delete on the action list, and press **Return** again.

Working appears on the status line until the action completes. Then Successful appears to indicate that the information has been deleted from the CMS database.



If the entry you are trying to delete does not exist, Does not exist appears on the status line.

Finding One CMS Database Entry

Note

With **Find one**, CMS searches for records that match the data entered in all fields. With searching, fields left blank match everything in the database table. You can also use ranges for numerical fields and the asterisk (*) or question mark (?) for name/text fields [(but not synonym fields, designated by (s), such as Split(s)]. Numeric ranges cannot span more than a 1000 numbers at one time (for example, 1000-1999, 1050-2049, 2000-2999).

1. Make a selection from the CMS Main Menu or subsystem menu by typing the first unique character(s) of the entry (for example, **D** for Dictionary) and pressing **Return**. → *The appropriate user window displays.*
2. Enter the appropriate data in the input field(s) on the user window.
3. Press **Return** then press **F** to move your cursor to **Find one** on the action list, and press **Return** again. → *Working appears on the status line until the action completes. Data from the first entry that matched displays in the fields, and the total number of entries that matched is displayed in the status line.*

Finding the Next CMS Database Entry

Note

Next is grayed out until you select Find one.

If you do a Find one that found only one match, Next is still grayed out.

If the search is on the last match and you select Next again, Next starts over with the first match found.

1. After completing a Find one, Next or Previous, press **Return**. → *Cursor moves to the action list.*
2. Press **N** to move your cursor to Next on the action list, and press **Return** again. → *Working appears on the status line until the action completes, then Successful appears. The next match found displays in the input fields.*

Finding the Previous CMS Database Entry

Note

Previous is grayed out until you do a Find one.

If you do a Find one that found only one match, Previous is still grayed out.

If the search is on the first match, and you select Previous, Previous displays the last match that was found.

1. After completing a Find one, Next, or Previous, press **Return**. → *Cursor moves to the action list.*
2. Then press **P** to move your cursor to Previous on the action list, and press **Return** again. → *Working appears on the status line until the action completes, then Successful appears. The previous match found displays in the input fields.*

Listing All CMS Database Entries

Note

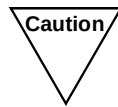
With `List all`, CMS searches for records that match the data entered in all fields. With searching, fields left blank match everything in the database table. You can also use ranges for numerical fields and the asterisk (*) or question mark (?) for name/text fields. Numeric ranges cannot consist of more than a 1000 numbers at one time (for example, 1000-1999, 1050-2049, 2000-2999).

1. Make a selection from the CMS Main Menu or subsystem menu by typing the first unique character(s) of the entry (for example, **D** for Dictionary) and pressing `Return`. → *The appropriate user window displays.*
2. Enter the appropriate data in the input field(s) on the user window.
3. Press `Return`, then press `L` to move your cursor to `List all` on the action list, and press `Return` again. → *List all is highlighted and Working appears on the status line until the action completes, then Successful appears. A secondary user window displays with the List all information*

Note

To make a change to any entry that appears in the List All window, you must go back to the primary (original) window, make the change, then do a `List all` again to see the change.

Modifying a CMS Entry



You can modify records in the database using pattern searching. If you do, an Acknowledgment appears warning you that more than one record may be changed if you continue. The Acknowledgment allows you to back out without changing the records. You should do a `Find one` before making changes.

1. Make a selection from the CMS Main Menu or subsystem menu by typing the first unique character(s) of the entry (for example, `D` for Dictionary) and pressing `Return`. → *The appropriate user window displays.*
2. Enter the appropriate data in the input field(s) on the user window.
3. Do a `Find one` to view values that you want to modify. → *Current window values display.*
4. Press `Return`, then press `M` to move your cursor to `Modify` on the action list, and press `Return` again. → *Modify is highlighted, and Working appears on the status line until the action completes. Then Successful appears to indicate that the information has been modified in the CMS database.*



If you leave any fields blank with `Modify`, those blank fields blank out (nullify) the data currently in the database. Do a `Find one` first to view the data, and then the `Modify`.

If the entry you are trying to modify does not exist, `Does not exist` appears on the status line. You must add the entry instead of trying to modify it.

Running All Reports

1. Make a selection from the appropriate menu(s). → *The report input window displays.*
2. Enter appropriate data in the report input window, and press **Return**. → *Cursor moves to action list.*
3. Press **Return** again. → *Working appears on the status line until the report displays on screen. When the report displays, the input window then disappears. It will reappear when you exit the report window.*

Sending Historical Reports to Alternate Destinations

With all historical reports (including exceptions and configuration), you can select your report destination within the report input window and then **Run** the report.

Note

You do not have to select your report destination each time you run a report — only when you want to change your destination from what is shown in the report input window. **Terminal** is the default destination.

06/03/93 03:30 PM Call Management System Window: 1 of 4 ^

Reports: Historical: Agent Summary: Interval acd1

Agent: Smith, H

Date: 1/15/93

Times: 11:05AM-12:05PM

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File, File name: _____

1. Make a selection from the Historical reports menu.

→ *The report input window displays.*

2. Enter the appropriate data in the report input window.

If you want to change the report destination, enter an **x** next to terminal, printer, or file.

Note

If you selected **Printer** and want to use a printer other than your default printer, enter the printer name.

If you selected **File**, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (`/usr/<your login ID>`) unless you specify a full path name to another directory.

3. Press **Return**. → *The cursor moves to the action list.*
4. Press **Return** again to select the Run action item to print the report, display the report, or send the report to a file. → *Working appears on the status line until the action completes. For printed reports, Successful means the report has been queued for the printer. It does **not** mean the report has printed.*

Screen-Labeled Keys

The first eight “F” (function) keys at the top of your keyboard correspond to the screen labels (in reverse video) at the bottom of your terminal screen. The screen labels indicate the function each key performs (See Figure 2-3). A description follows for each SLK and its menus.

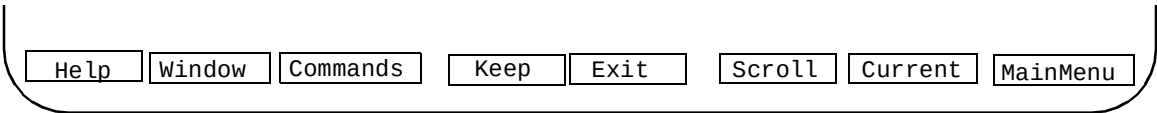


Figure 2-3: CMS Screen-Labeled Keys

Help SLK

The **Help** SLK brings up the Help SLK menu (Figure 2-4) that allows access to the basic CMS user information. For example, if you need help with a particular entry in a field, you can select `Field help` and get information pertaining to that particular field. If you need help on how to size or move a user window, again you can select the appropriate help menu item and get the information.

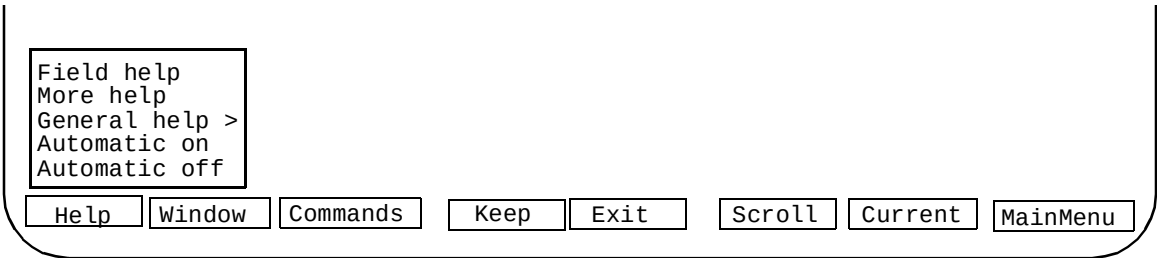


Figure 2-4: Help SLK Menu

Field Help

Field help messages are available for all data input fields and menu items (General help provides these). These messages list the valid input information and a short description of the field. Field help messages remain on the screen until you leave that field. If you go to another window without leaving the field, the help message remains and might be overlapped by the new current window.

Using Field Help

To use field help, select `Field help` from the **Help** SLK menu.

More Help

More help displays a user window containing expanded information about the current primary user window or menu selection. More help is for **primary** windows only, not output windows (like list all windows).

Using More Help

To use More help, select More Help from the **Help** SLK menu.

General Help

The General help submenu (Figure 2-5) gives information about the CMS user interface itself, such as how to make a menu selection, how to access an action list, what SLKs do, etc. The information is displayed in user windows, and user windows can be moved, sized, and scrolled.

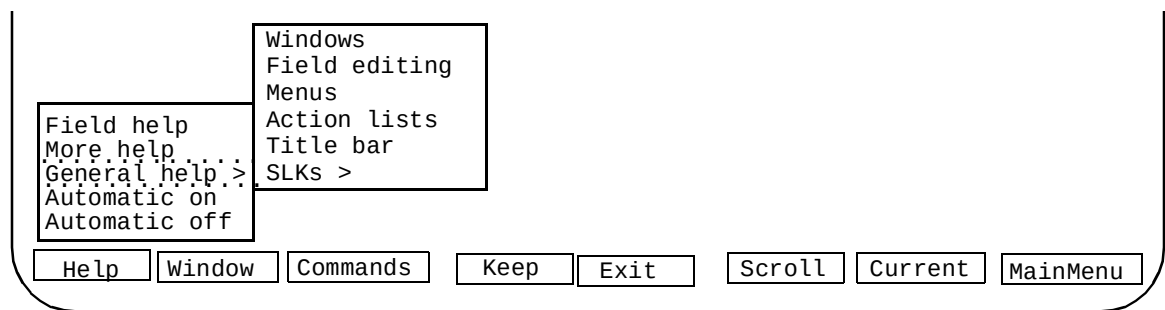


Figure 2-5: Help SLK — General Help Menu

Windows

Provides you with general information on windows.

Field Editing

Gives you the commands for inserting, overtyping, and clearing field contents using the cursor, and how to move between fields.

Menus

Gives general information on menus. Descriptions include making a menu selection and getting out of a menu.

Action Lists

Tells you how to make selections in an action list.

Title Bar Gives you information about the content and location of the CMS title bar. This information includes the time of day, number of open windows, exception count, etc. See the Title Bar section earlier in this chapter.

SLKs > Tells you how to select screen-labeled keys (SLKs) and briefly what each SLK does. The SLKs menu is shown in Figure 2-6.

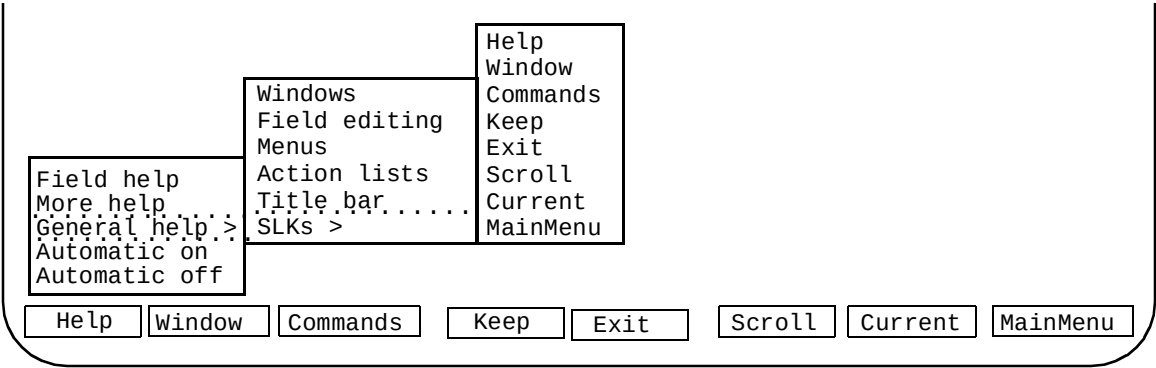


Figure 2-6: Help SLK — SLKs Menu

Automatic On Automatic on provides a Field Help message for each field or menu item as you step through CMS. Automatic help messages display for every field/menu until you select the Automatic off mode.

Automatic Off Automatic off turns off the Automatic on help messages.

Window SLK

The **Window** SLK is used to list, move, and size windows. The Window menu (Figure 2-7) follows.

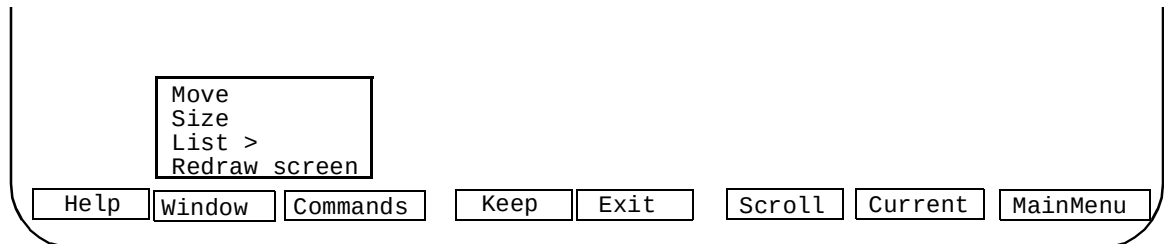


Figure 2-7: Window SLK Menu

Move

This menu item allows you to move the current window. You cannot move a window off the screen.

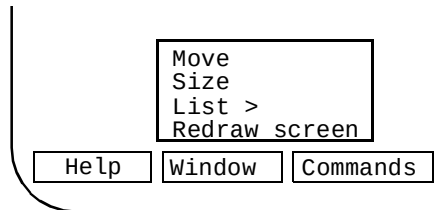
Things to Know About Move

- **Ctrl C** cancels a move.
- You can precede the arrow keys with a number that represents the number of rows or columns to move (for example, 7 ↓ moves seven rows down).
- You must complete or cancel a move before you can use any other SLK. If you do select an SLK before completing the move, a beep sounds. Press **Return** to complete the move.

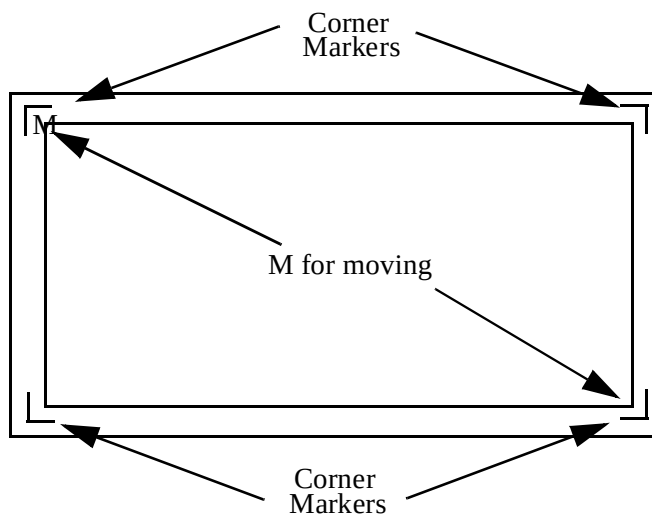
Moving a Window

To move open windows, do the following:

1. Press the **Window** SLK. → *The Window menu displays.*



2. Select Move and press **Return**. → *Corner markers appear on the window.*



3. Using numbers and/or the up, down, left, or right arrows, move the corner markers where you want the window placed, and press **Return**. → *The window moves to the corner markers. Corner markers disappear, and the cursor returns to the window.*

Size

This menu item allows you to change the size of the current window. You can size report windows so that you only see what you are interested in.

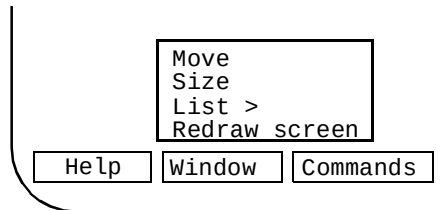
Things to Know About Size

- You cannot size a window smaller than its action list, and you cannot size an input window horizontally (that is, smaller than the default size).
- **Ctrl** **C** cancels a size.
- The upper left corner of any window is fixed. You can only size by moving the lower right corner down and right or up and left.
- You can precede the arrow keys with a number that represents the number of rows or columns to move (for example, 7 ↓ moves seven rows down).
- You must complete or cancel sizing a window before you can use any other SLK. If you do select an SLK before completing the size, a beep sounds. Press **Return** to complete sizing the window.

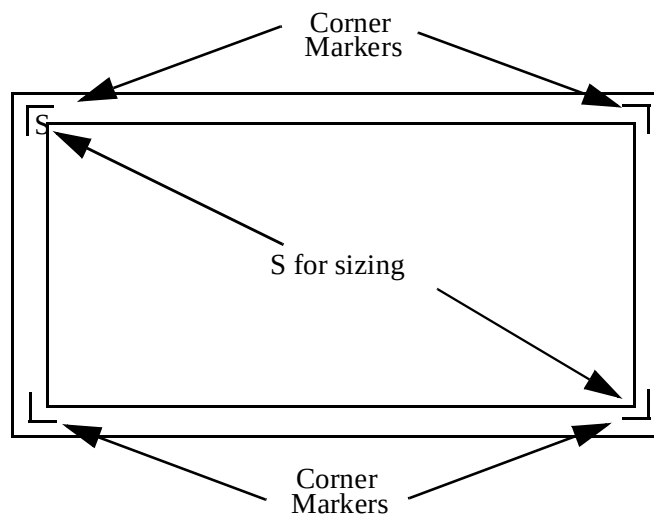
Sizing a Window

To size the current window, do the following:

1. Press the **Window** SLK. → *The Window menu displays.*



2. Select **Size** and press **Return**. → *Corner markers appear on the window.*



3. Using numbers and/or the up, down, left, or right arrows, move the bottom-right corner marker to your desired size and press **Return**. → *The window moves to the corner markers. The corner markers disappear, and the cursor returns to the window.*

List >

The **List** submenu displays a menu of titles for all the active windows. You can select any one of the active window titles from the list and that window automatically becomes the current window. Figure 2-8 shows the List menu; the procedures follow Figure 2-8.

Things to Know About List

- If no windows are open and you select **List**, an Acknowledgment window displays **No menu items**. This submenu is currently empty. Press **Return** to continue.
- An asterisk (*) next to the window title indicates a window that has not yet been viewed. For example, you are in the process of bringing up a window and press the **MainMenu** SLK, and select another window. That first window has never been viewed and would then be listed with an asterisk next to it in the List menu. You can make any window with an asterisk current by selecting the appropriate menu item or using the **Current** SLK and rotating through the windows.

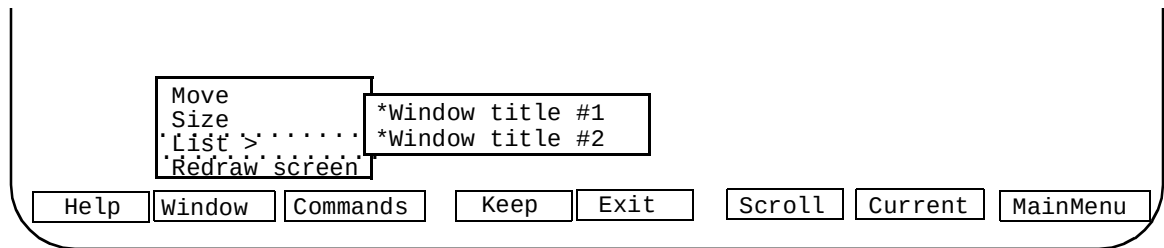


Figure 2-8: Window SLK — List Menu

Listing Open Windows

To list open windows, do the following:

1. Press the **Window** SLK. → *The Window menu displays.*
2. Select **List** and press **Return**. → *A menu displays listing all your open windows.*
3. From the List menu, choose the window title you want and press **Return**, or press the **Exit** SLK to close the menu without selecting a window. → *The selected window displays as the current user window.*

Redraw screen

This selection automatically redraws your terminal's screen. You can do this at any time to refresh the screen. **Ctrl** plus the **L** key can also be used to redraw the screen.

Note If a UNIX system error message displays on the CMS console terminal, redraw the screen to clear this message from the screen. Also, if the screen becomes garbled or confused, redraw the screen.

Commands SLK

The **Commands** SLK allows you to print the current window, create and change passwords, access the UNIX System, select color and video attributes, select a default printer, change your ACD (real or pseudo), save your own default values, restore the system default values, set the type of exception notification you receive, and receive a warning when you log off with open windows. The Commands menu (Figure 2-9) follows.

Note

Access to the UNIX system requires feature permission. This selection is not displayed if permissions are not granted. See Chapter 10, "User Permissions", for more information on granting user permissions.

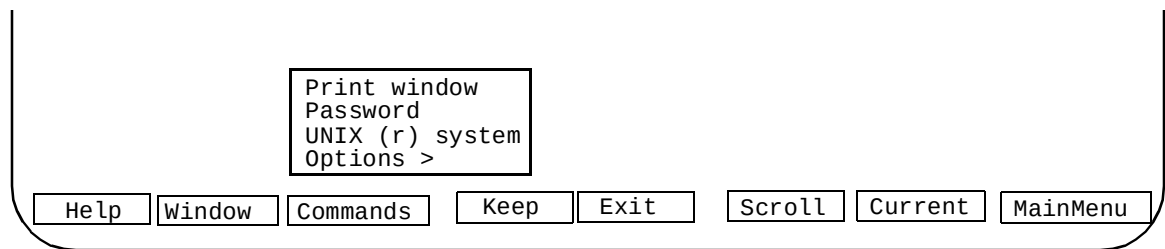


Figure 2-9: Command SLK Menu

Print Window

This selection prints the text and data (not the action list) of the current user window including multiple pages if applicable. You cannot print any menu.

Things to Know Before You Start

- If your printer jams, you may have to resubmit print requests that did not print. Laser printers usually hold the print jobs in the printer queue, but dot matrix printers usually do not hold the print jobs in the printer queue.
- You must have a printer assigned to your user ID. Use the User Permissions: User Data window to assign a printer. .

Note

All user IDs (except `cms` and some `cms`svc) must have a printer assigned to their login.

- If a print window doesn't work, go the `Maintenance: Printer Administration` window and do a `Modify` on the printer name.

Printing a Window

To print an open window, do the following:

1. Press the **Commands** SLK. → *The Commands menu displays.*
2. Select Print Window and press **Return**. → *An appropriate message appears on the status line when spooling completes.*

Password

This selection allows you to enter and change **your** password. Changing a forgotten password for a CMS user must be done from the UNIX system. See Chapter 13, "wUNIX/Solaris 2.2 System" — "Changing a User's Password", for the procedures.

Note For system security, passwords are recommended for all CMS user login IDs.

Passwords have the following restrictions:

- A password must have at least six characters.
- A password must have at least one number or special character and at least two alphabetic characters.
- When changing a password, the new password must be at least three characters different from your previous password.

Changing Your Password

To change your password, do the following:

1. Press the **Commands** → *The Commands menu displays.*
2. Select **Password** and press **Return**. → *The Password screen displays.*
3. Follow the directions on the screen.

Note

To change a forgotten password for a user, see Chapter 13, "wUNIX/Solaris 2.2 System" — "Changing a User's Password", for the procedures.

UNIX (r) System

This selection takes you to a UNIX shell in the UNIX operating system and leaves CMS. The shell takes over the entire screen and keyboard (that is, all windows, SLKs, and the title bar disappear). For the procedures, see "Accessing the UNIX or Solaris 2.2 System" in Chapter 13, "wUNIX/Solaris 2.2 System".

Note

To return to CMS from the UNIX system, type `exit` or **Ctrl D**.

Options >

From the **Options** menu (Figure 2-10), you can do any one of the following.

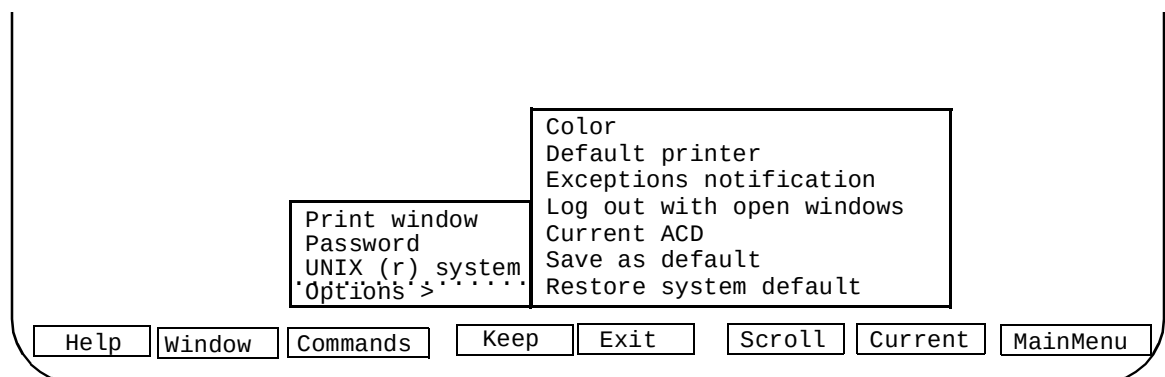


Figure 2-10: Options Menu

Color

From **Color**, you can change the colors used for menus, user windows, current window border, other window borders, title bar, etc. This menu item is only available if you have a color terminal.

A change affects windows or menus opened **after** the color change. The only way to change the colors on all windows (including those open before the color change) is to log out and back in. You then have to reopen all previously opened windows to see the new colors.

Default Colors

R3 CMS has the following system default colors:

Window Object	Text Color	Background Color
Menus and user windows	white	black
Current window border	black	cyan
Other window borders	black	white
Title bar	black	blue
Exceptions on real-time reports	black	yellow
Grayed-out items	cyan	black

Note

The Screen Painter window in the Custom Reports subsystem has its own, predefined colors. You cannot modify the colors for the Screen Painter window.

Graphics Package Default Colors

The intensity/color of the bars on a graph report depends on whether the data has crossed either the *first* or *second* threshold limit. For monochrome terminals, three levels of intensity are used to display the bars. For color terminals, you can select your own colors to display the three levels of intensity. You could use the three levels of intensity/color to designate **Normal**, **Caution**, and **Warning** conditions. The following table shows the three intensity/color levels.

Condition	Monochrome Terminal	Color Terminal	Default Colors
Normal	Dim reverse video	First color choice	Green
Caution (<i>First threshold</i>)	Bold reverse video	Second color choice	Yellow
Warning (<i>Second threshold</i>)	Blink reverse video	Third color choice	Red

Modifying Your Colors

To modify your colors, complete the following procedures.

1. Press the **Commands** SLK. → *The Commands menu displays.*
2. Select **Options** and press **Return**. → *The Options menu displays.*
3. Select **Color** and press **Return**. → *The Color window displays.*

Color		All ACDs			
		Modify			
Input number from the legend below					
	Text	Background			
Menus and user windows:	-	-			
Current window border:	-	-			
Other window borders:	-	-			
Title bar:	-	-			
Grayed-out menu items:	-	-			
For graphics users:					
Normal bar: _	1	2	3	4	
Exceeds first threshold: _	5	6	7	8	
Exceeds second threshold: _					

4. Select your text and background colors for each field by entering the legend number in the text and background fields, and then pressing **Return**. → *Cursor moves to the action list.*
5. Select **Modify** and press **Return**. → *Modify is highlighted, and Working appears on the status line until the action completes, then Successful appears.*
6. Press **Exit** to return to another open window. → *The Color window disappears.*

You can restore the system default colors at any time by bringing up this window and selecting the **Restore system default** option from the **Commands** SLK, **Options** selection and selecting **Modify**.

Default printer

At any time, you can change your default printer name and see a list of all available printers. Also, a default printer was assigned when your CMS login was added (see Chapter 10, "User Permissions" — "User Data", for more information). Your default printer name is displayed in the Default printer name: field input field when you first open the window.

See Chapter 12, "Maintenance" — "Printer Administration" if you want to change the paper length, paper width, or font.

Changing Your Default Printer

To change your default printer, use the following procedures.

1. Press the **Commands** SLK. → *The Commands menu displays.*
2. Select Options > and press **Return**. → *The Options menu displays.*
3. Select Default printer and press **Return**. → *The Default Printer window displays.*

Default Printer		acd1
User ID: cms Default printer name: printer1_____		Find one List printers Modify Next Previous

4. Enter the name of your new default printer and press **Return**. → *The cursor moves to the action list.*
5. Select Modify and press **Return**. → *Working appears on the status line until the action completes, then Successful appears.*
6. Press **Exit** to close the window and return to another open window. → *The Default Printer window disappears.*

Exceptions notification

You can select whether you want your terminal to *beep*, *flash*, *beep and flash*, or *not beep* and *not flash* when you receive an exception. See Chapter 8, "Exceptions" — "Selecting Your Exception Notification," for the procedures and more information on exceptions.

Log out with open windows

This option allows you to receive a warning if you try to log out of CMS with open windows.

To be notified if you try to log out of CMS with an open window, complete the following procedures.

1. Press the **Commands** SLK. → *The Commands menu displays.*
2. Select **Options >** and press **Return**. → *The Options menu displays.*
3. Select **Log out with open windows** and press **Return**. → *The Log Out With Open Windows message displays.*

Log Out With Open Windows	
Do you wish to be notified when you log out with windows open: n_	Modify

4. Enter **y** for yes and press **Return**. The default value is no. → *Cursor moves to the action list.*
5. Press **Return** again to modify. → *Working appears on the status line until the action completes, then Successful appears.*
6. Press **Exit** to return to another open window. → *The Log Out With Open Windows message disappears.*

Current ACD

At any time, you can change which ACD (real or pseudo) you want to get information on. In most cases, the window you are viewing is for a specific ACD (that is, the current ACD). You may change the ACD you normally track, but only for the current login session. .

Note

To change your **login** ACD, your CMS administrator must change it in the User Data window in the User Permissions subsystem.

Changing Your Current ACD

To change the current ACD, complete the following procedures.

1.

Press the **Commands** SLK.

→ *The Commands menu displays.*
2.

Select **Options >** and press **Return**.

→ *The Options menu displays.*
3.

Select **Current ACD** and press **Return**.

→ *The following window displays.*

Current ACD	Chicago
User ID: cms Current ACD: Chicago	Find one List ACDs Modify Next Previous

4.

Enter the ACD name or number you want to work in or change to, and press **Return**.

→ *Cursor moves to the action list.*
5.

Select **Modify** and press **Return** again to modify.

→ *Working appears on the status line until the action completes, then Successful appears.*
6.

Press **Exit** to close the window.

→ *You return to your previously opened window, or if there is no open window, the Main Menu.*

Save as default

This option tells CMS to save the current input window entries as defaults for that window. When you reopen that window later, the entries you saved as defaults display. These are saved until you change them or restore the system defaults. The defaults saved are only for *your* login ID, no one else's ID on the system.

Note

The first field on a window with a **Find one** action list item is not saved when you do a "Save as default."

Saving Your Default Entries

To save your entries as defaults, complete the following procedures.

1. Press the **Commands** SLK. → *The Commands menu displays.*
2. Select **Options >** and press **Return**. → *The Options menu displays.*
3. Select **Save as default** and press **Return**. → *Your defaults for this window are saved.*

Restore system default

This option removes your entered defaults from the current window and restores the system defaults. Fields that do not have system defaults are cleared.

Restoring Your System Defaults

You must be in an input window that has system defaults or defaults you have previously saved. To restore the system defaults, complete the following procedures.

1. Press the **Commands** SLK. → *The Commands menu displays.*
2. Select **Options >** and press **Return**. → *The Options menu displays.*
3. Select **Restore system default** and press **Return**. → *The system defaults are now used and displayed for the current open window.*

Keep SLK

From the **Keep** SLK menu (Figure 2-11), you can create, modify, view, or delete timetables and shortcuts.

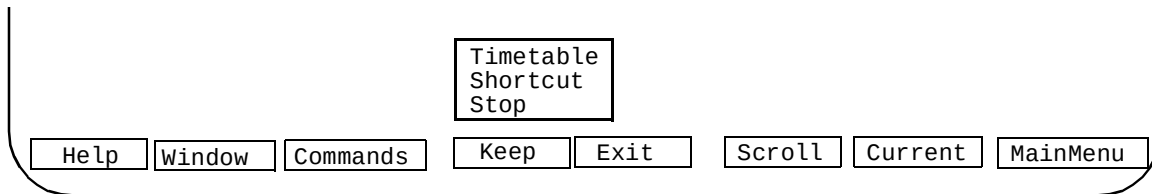


Figure 2-11: Keep SLK Menu

Timetable

Timetable allows you to schedule tasks for completion at a time convenient for you (for example, doing your daily backups at a low traffic time or running a report) on a timetable.

A **task** is a combination of entries on a user window (like a report input window) and the completed action list selection **Add**, **Modify**, **Delete**, **Run**, or **List all** which, when executed, performs an operation (for example, filling in a report input window and then running the report).

Shortcut

A shortcut is a series of tasks saved by CMS. Shortcuts happen immediately and are a fast, easy way to select windows that you might look at every day or several times during the day. For example, you might have a particular set of reports that you view every day. You could create and name a "shortcut" and let CMS save the tasks you used to get to those reports. Then you only type the shortcut name on the Main Menu blank line to see the reports.

See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

Stop

Takes you out of the add or edit mode and displays an Acknowledgment window asking you whether to save the changes. You must be in the **Keep** mode. Otherwise, this selection is grayed out. See Chapter 6, "Timetables and Shortcuts", for more information.

Exit SLK

The **Exit** SLK works as follows:

- With **user windows**, the **Exit** SLK allows you to close the current window and move to the previously opened window, or if no other windows are open, returns you to the Main Menu. Any secondary windows associated with the current window disappear.
- With **menus/submenus**, pressing **Exit** moves the cursor to the previous menu or submenu selection (the current submenu selection (the current submenu disappears).
- With **SLK menus**, if the cursor is on the first SLK menu (not an SLK submenu) and you press **Exit** the cursor returns to the previous position in the current open window or to the Main Menu if there are no open windows.

Scroll SLK

The **Scroll** SLK allows you to toggle between field traversal (input mode) and paging/scrolling.

Note

The **Scroll** SLK is not necessary in output windows, since you are in scroll mode in these windows.

The **Scroll** SLK works as follows:

- With the up and down arrow keys you can move between fields.
- With the arrow keys you can page (or scroll) the contents of the window. You can also precede the arrow keys with numbers to scroll the window.
- With the left and right arrow keys you can move within a field.

To end the paging/scrolling mode, do one of the following:

- Press the **Scroll** SLK twice to exit and revert the arrow to input mode.
- Press the **Return** SLK to move to the action list. The arrows revert to the input mode and the cursor moves to the action list.
- Press the **Exit** SLK to close the window. The paging mode defaults to the normal default for the newly current window (if any).

Current SLK

The Current SLK allows you to rotate through the open windows. Any displayed menus and SLK menus disappear.

MainMenu SLK

This selection displays the CMS Main Menu but leaves the current window open. Any displayed submenus or SLK menus disappear.

Logging Into CMS

CMS is a menu-driven system that is operated through a series of interactive windows. To use CMS, you must first log in.

You are given an ID during the initial CMS installation. (Get this information from the “Pre-CMS Login Information Worksheet.”)

Note

If CMS is in the single-user mode and you are the “single user,” when you log out you must wait at least 10 seconds before trying to log in again.

To log into CMS, do the following:

1. Turn on your terminal or press the **Return** key if your terminal is already on. The following prompt appears:

```
login:
```

Note

When you turn the terminal on, it may display a string of characters (for example, a string of x's) instead of the login prompt.

If this happens, press the **Break** key, then the **Return** key, then the **Break** key again. Continue to alternately press these two keys until the login prompt appears.

2. Type your login ID and press **Return**

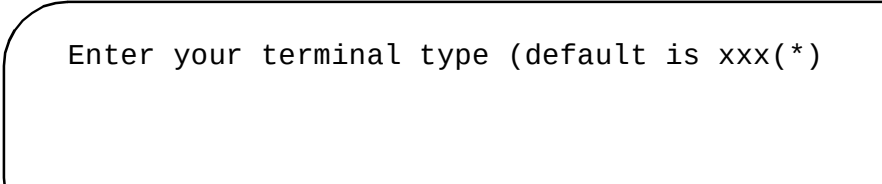
```
Password:
```

- Your password must contain at least six characters. Also, at least one character must be a number or special character, and at least two characters must be alphabetic

3. Type your password (it does not display on the screen) and press

Return again.

The following window displays.



```
Enter your terminal type (default is xxx(*))
```

4. Enter your terminal type. If the default terminal is the type of terminal you have, press **Return**.
You then see the CMS Main Menu.
5. If your system is in working order, but your login attempt was unsuccessful, you may have entered your user ID or password incorrectly. Try logging in again.
6. If a \$ or # displays instead of the terminal type prompt, type "CMS" and press **Return**.

Logging Out of CMS

1. Select **Logout** on the Main Menu and press Return

→ *All windows are closed, and the login prompt displays. If you asked to be notified of open windows when logging out and you have open windows, you receive an Acknowledgment message that allows you to remain logged in until you close all open windows.*

Getting Started

General Information

This chapter helps you become familiar with your call center's objectives if you complete the appropriate worksheets before you log into CMS. This chapter does not tell you how to use your CMS. The information is presented in a step-by-step sequence with worksheets and a checklist to help you through the **beginning** phase of CMS administration, and then onto the daily maintenance and use of CMS.

This chapter also refers you to the appropriate chapter, Main Menu item, and submenu item when completing any given task.

The information covered includes:

- Information required before you log into CMS
- A "Getting Started Checklist" and worksheets to help you administer the CMS
- Information on generating reports, configuring splits, administering CMS users, and maintaining CMS
- Agent login/logout procedures. .

Note

If you have purchased the Expert Agent Selection feature on the Generic 2.2 or Generic 3 Version 2 switch, see Appendix E, "CMS and the Expert Agent Selection Feature" for more EAS information and worksheets.

Computer Worksheet

The information from this worksheet is be helpful when you call the ACD/CMS Helpline or for your own routine maintenance.

What kind of computer is running your CMS software?
Where is the computer and system console located?
Have you identified the link cable between the computer and the switch?
What is the serial number on your computer?
Where is the on/off switch on your computer?
What is the dial-up number assigned for off-site technicians to dial into your system?
Does your system have remote alarming?

Switch Worksheet

You need to coordinate with the switch administrator when new agent sets, splits, trunk groups, vectors, and VDNs are added; you also need to identify and resolve link down conditions. .

Who is the Switch Administrator?
Will you coordinate any changes with the Switch Administrator?

Login/Password Worksheet

After your system has been installed by an AT&T technician, complete the following worksheet before you begin administering CMS. If you have questions, contact the AT&T technician who installed your system and get the needed information.

For system security, **passwords should not be written down**. If they are, put them in a secured area.

Who has the password for the *root* login ID. (Also passwords for the system login IDs if they were assigned.) 1. _____

Who has the CMS administrator login ID and password. (This login ID is *cms*.) 2. _____

Additional CMS-administrator login IDs and owner's name 3. _____

Split Objectives Worksheet

By answering the following questions, you will have a better idea of your call center's objectives for each split. Copy the worksheets as needed. It is helpful to have this information before using CMS.

1. How many splits were assigned when your CMS was installed?
2. What are the hours each split will take calls?

Split Name/Number	Time	Time	Time
Sales	7AM - 3PM	3PM - 11PM	11PM - 7AM

3. What are your call center's objectives for each split? Review the Engineering Guidelines in Appendix D, "ACD Basics". Make as many copies of this as needed.

Split Name/Number _____
What kind of calls does your call center handle?
Service Level (How quickly should calls be answered?)
What is the Average ACD Talk Time for this split/
What is the Average After Call Work Time for this split?
What is the Abandoned Calls objective for this split?
How many agents will be assigned to this split?
What is your expected call rate per hour?
What is your expected busiest call hour?
How many calls do you expect to handle in a day?

Split Intraflow/Interflow Worksheet

Fill out the following worksheet if your switch does **not** have vectoring. Make as many copies as necessary.

Enter your split name or number.
What intraflow/interflow will be set up for this split?
What is your inflow threshold?
What is your outflow threshold?
Where will calls go after hours for this split?

Enter your split name or number.
What intraflow/interflow will be set up for this split
What is your inflow threshold?
What is your outflow threshold?
Where will calls go after hours for this split?

Agent Sets/Voice Terminals Worksheet

If you are responsible for agent voice terminals or training agents to use their voice terminals, this worksheet can be used to gather helpful information.

What types of sets/voice terminals will the agents be using?

[(2500 sets, 7303S/7305S, 7406D with/without displays, 7410, 7405D with/without displays, 7407D, 7434 with/without displays, CALLMASTER or BRI terminals (Generic 2 only)).

What ACD buttons were assigned to agent sets (AUTO-IN, MANUAL-IN, AUX-IN, etc.)

Will agents be using headsets?

Will agents have ACD User Instruction booklets for their agent sets/voice terminals?

Who is responsible for training agents on sets/voice terminals?

Who do agents contact if their agent set is not working?

Split Supervisors Worksheet

Objective	Answer
How many split supervisors will have terminals?	
Do split supervisors have Supervisor Console User Instruction Booklets?	
What kind of terminal training is needed for split supervisors?	
What kind of CMS training is needed for split supervisors? For example, will the split supervisor(s) be: • creating shortcuts or timetables? • viewing only the reports subsystem? • using the dictionary or exceptions subsystem? • trained in Forecasting? • trained as backup CMS administrator(s)?	
Who will train split supervisors on their terminals/CMS?	
Have you filled out the “CMS Supervisor Login IDs/Access Permissions/Printer Worksheet”? Note: Before you fill out this worksheet, you will need to know what CMS functions each supervisor will be performing. This will determine what access permissions you grant each split supervisor. You should be familiar with what functions are performed in each subsystem before granting any permissions.	

CMS Split Supervisor Login IDs/Access Permissions/Printer Worksheet

Split Supervisor Name:		
CMS User ID:		
Room Number:		
Telephone Number:		
Printer Name:		
System Access	Read?	Write?
Reports:		
Dictionary:		
Exceptions:		
ACD Administration:		
Forecast:		
Custom Reports:		
User Permissions:		
System Setup:		
Maintenance:		
Timetable:		
UNIX System:		
Main Menu Addition:		
Which Split(s) Access:		
Which Trunk Group(s) Access:		
Which ACD(s) Access:		
Which VDN(s) Access:		
Which Vector(s) Access:		

Trunks and Trunk Groups Worksheet

How many trunk groups were assigned during installation?	
How many trunks were assigned?	
Will all trunk groups be measured by CMS?	
List your measured trunk groups	

VDNs and Vectors Worksheet



VDNs and Vectors only apply if you have purchased the CMS Vectoring feature.

How many VDNs were assigned?	
How many Vectors were assigned?	
Who is responsible for designing, programming, and changing vectors?	
Do you have a printout of assigned Vectors?	

Vector Design Worksheet

Note

Vectors and VDNs only apply if you have purchased the CMS Vectoring feature.

It is recommended that you create vectors on paper before administering the vectors on your system.

Vector #: _____ **Name:** _____ **Description:** _____

Assigned VDN(s): _____ **Assigned Trunk Group(s):** _____

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____

Vector Design Worksheet (Contd)

17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____
26. _____
27. _____
28. _____
29. _____
30. _____
31. _____
32. _____

Terminals Worksheet

You may be responsible for terminal maintenance, training, or problems. This worksheet can provide some basic information.

Who do you contact for terminal problems? _____

Terminal Type	Location
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Printers Worksheet

To print CMS reports and printers, you need to know where the CMS printers are located and how these printers were administered.

Printer Type	Name	Location	Printer Administered in CMS?

Night Service Worksheet

Your call center may require special arrangements for calls after normal working hours. If so, you need to know what the night service arrangement is for each split.

Split Name/Number	Night Service Arrangement

Split Announcements Worksheet

Split Name/Number: _____
How many announcements were assigned to this split?
How long does each announcement last?
What does each announcement say?
If a split has a second delay announcement, does it repeat?
Does your system have music-on-hold?
Who is responsible for recording and changing announcements?
Will an emergency announcement be used?
What will the emergency announcement say?

CMS Agent Login ID/Extension Worksheet

Agent Name	Login ID	Extension

Tape Backups Worksheet

Where are the backup tapes located?
Do you have enough tapes to rotate the tapes daily?
Note: Do not leave the same tape in the machine permanently.

Power Failure Worksheet

You may be responsible for CMS in the event of a power failure. If so, the following worksheet could help you.

Where are the power failure extensions located?
Does your system have an Uninterrupted Power Supply (UPS)? If yes, how long will your system operate without power?
If power fails, what do you do to your system?

Emergency Conditions Worksheet

In an emergency situation, you may be responsible for redirecting CMS calls, recording special announcements, be aware of your call center's special procedures. The following worksheet could help you with this information.

What do you do when the link or CMS goes down?
What do you do when the switch goes down?
What do you do if you have a fire drill?
What do you do if you evacuate the building?
What do you do if you have unusual weather conditions?
What do you do if you have any other emergency?
Will you have an appropriate emergency announcement? What will the announcement say?
What are your disaster recovery procedures?

Other Items Worksheet

Do you have a printed copy of output* from a command called *df -t*

*The printed output contains the names of disk partitions on which different portions of the UNIX system and CMS files reside. It also contains information on the number of blocks being used and blocks still available in given areas of the UNIX system and CMS file structure. You should keep this information for reference.

Have you determined the refresh rates for terminals?

Have you set realistic exceptions?

Set exceptions that you will act on when CMS notifies you of an exceptional condition.

Has the current interval length been set (15, 30, or 60 minutes)? (System Setup — Storage Intervals window)

If you are using Forecasting, have you started the Forecast Manager?

Getting Started Checklist

Use this checklist as a guide when you first use your CMS. This checklist gives you the task to be completed and the appropriate chapter, Main Menu item, and submenu item to select. The submenu item is in italics.

√	Task	Chapter	Main Menu Item and <i>Submenu</i> Item
	1. Have you completed all the appropriate worksheets?	3	
	2. Do you know how to log in?	3	
	3. Have you changed your password?	2	
	4. Is the link between the CMS processor and the switch up?	12	Maintenance <i>Connection Status</i>
	5. Have you verified the number of measured splits, agents, trunks, trunk groups, VDNs, and Vectors?	11	System Setup <i>Free Space Allocation</i>
	6. Did the AT&T technicians back up the UNIX file system before turning the system over to you?		
	7. Have you assigned agent names to agent login IDs? <i>Using zero-length IDs (possible for G1 and G3) prevents the collection of agent data from the switch.</i>	7	Dictionary
	8. Have you assigned CMS user IDs and access permissions for split supervisors?	10	User Permissions <i>User Data</i> <i>Feature Access</i> <i>Main Menu Addition</i> <i>Access</i> <i>Split/Skill Access</i> <i>Trunk Group Access</i> <i>ACD Access</i> <i>VDN Access</i> <i>Vector Access</i>

Getting Started Checklist (Contd)			
✓	Task	Chapter	Main Menu Item and Submenu Item
	9. Have you made sure your free space parameters match your system design? If disk space is expected to be a problem, consider changing the Data Storage Allocation.	11	System Setup <i>Free Space Allocation</i>
	10. Send a report to each CMS printer to verify that the printer is working. See Chapter 2, "User Basics", for the procedures.	1	
	11. Schedule CMS timetables. <i>Optional:</i> Assign responsibility for manual daily CMS backups.	6	Timetables and Shortcuts
	12. Train Agents on voice terminal login procedures.	3	
	13. Give agents their assigned login IDs.		
	14. Train split supervisors and other CMS users on CMS.		
	OPTIONAL TASKS		
	15. Schedule an incremental backup.	6	Timetables and Shortcuts
	16. Schedule a full backup.	6	Timetables and Shortcuts
	17. Schedule the daily historical reports.	6	Timetables and Shortcuts
	18. Schedule the weekly/monthly historical reports.	6	Timetables and Shortcuts
	19. Assign names for splits, trunk groups, ACDs, VDNs, and Vectors.	7	Dictionary
	20. Assign agents to Agent Groups.	7	Dictionary
	21. Create desired shortcuts.	6	Timetables and Shortcuts
	22. Define your acceptable service level.	9	ACD Administration <i>VDN Call Profile Setup</i> <i>Split/Skill Call Profile Setup</i>

Using CMS Daily

Although CMS is divided into subsystems, you use the subsystems to perform four overall functions:

1. Generating reports from call data collected from your call center's ACD(s)
2. Configuring the splits in your call center
3. Administering the access permissions for CMS users, usually split supervisors or telecommunications managers. Each CMS user must have a login ID and (optionally) a password for increased security.
4. Maintaining the CMS.

Generating Reports

CMS collects data from ACD activity and stores it in one of the CMS databases. The data reflects the activity involving your splits, trunks, trunk groups, agents, agent groups, VDNs, and vectors. You can view this data by accessing the various CMS reports:

Reports	Subsystem	Administered
Standard Real-Time	Reports	ACD Administration (Split/VDN Call Profile Setup)
Standard Historical	Reports	ACD Administration (Split/VDN Call Profile Setup)
Custom Real-Time	Reports	Custom Report Creation Dictionary (Calculations, Constants)
Custom Historical	Reports	Custom Report Creation Dictionary (Calculations, Constants)
Exceptions	Exceptions	Exceptions
Forecast	Forecast	Forecast

Note

See the AT&T 585-215-523, *Call Management System Custom Reports*, document for information on Custom Reports.

The screens in various CMS subsystems are used to administer data and generate reports. Administering your reports comprises a major portion of the CMS procedures. The procedures can be categorized as:

- Administering collection and storage of report data
- Ordering and scheduling report output

- Assigning names to agent login IDs, splits, trunk groups, ACDs, and Vectors/VDNs (if you have the Vectoring feature) to replace numeric values in reports for more meaningful displays.

Configuring Splits

Splits, extensions, and trunk groups are initially created and assigned at the switch. However, once they have been created, you can control the configuration of your splits in CMS by performing the following tasks:

If you want to:	Select Main Menu Item	Then Submenu Item/Window
Move extensions to other splits.	ACD Administration	Move Extensions Between Splits
Move trunk groups to other splits. Note: Not available on Generic 1.	ACD Administration	Trunk Group Assignments
Set up call forwarding (intraflow) from a split to other destinations. Note: Not available on any switch with Vectoring	ACD Administration	Split Parameters
Set up delay times for announcements for calls queued to a split. Note: Not available on any switch with Vectoring.	ACD Administration	Split Parameters
Change the number of measured splits. Note: Not available on Generic 1 and Generic 2.2.	Maintenance	ACD Status
Create special reporting groups — Agent Groups that are reported independently of existing split assignments.	Dictionary	Agent Group

Administering CMS Users

CMS provides you with a User Permissions subsystem that you can use to limit access by CMS users on a need-to-know or need-to-do basis. To control user access, do the following from the User Permissions subsystem.

To Control user access for:	Select User Permissions Menu Item
Create CMS login IDs	User Data
Create CMS login IDs	User Data
Set open window limit	User Data
Set minimum refresh rate	User Data
Set read and write permissions for CMS subsystems	Feature Access
Set read/write permissions for splits and exceptions	Split Access
Set read/write permissions for trunk groups and exceptions	Trunk Group Access
Set read/write permissions for ACD access and exceptions	ACD Access
Set read/write permissions for VDN access and exceptions	VDN Access
Set read and write permissions for vector access and exceptions	Vector Access

Maintaining CMS

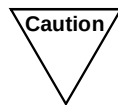
CMS provides additional tools with which to maintain your system (including tools to protect your data and software). Using the Maintenance subsystem or UNIX system, you can perform the following tasks.

If you want to:	Select Main Menu Item	Then Submenu Item/Window
Create backup copies of CMS data files	Maintenance	Back Up Data
Restore lost CMS data to the system	Maintenance	Restore Data
Create backup copies of CMS software	Commands SLK	UNIX system
Investigate system errors	Maintenance	Error Log
Connect and disconnect the link to the switch before making configuration changes	System Setup	Data Collection
Administer the connection of printers and terminals to the system	Commands SLK	UNIX system

Agent Login/Logout Procedures

Considerations

Agents in a call center handle calls using voice terminals that are connected to the switch. For CMS to record agent activity, agents must log into their voice terminals using login IDs assigned to them by the CMS administrator. The CMS administrator can determine what agent login IDs are available from the Dictionary subsystem. Also in the Dictionary subsystem, the CMS administrator can assign agent names to login IDs.



Agents should avoid logging in and out other than at the beginning and end of their shifts. Agents should use AUX WORK for short periods away from their positions. This alternative keeps the intrahour agent table files from becoming overfilled with logout/login pegs, and saves disk space.

Login Procedures for Generic 2/ System 85

To log into an ACD agent position, follow these steps on the voice terminal:

1. Press any idle call-appearance button.
[You hear a dial tone.]
2. Dial the agent login access code number, or press the LOGIN button. The login access code is available from the switch administrator.
[You hear a dial tone.]
3. Dial your login identification number twice. Any 4-digit number — where the first digit is not zero — is valid, but the login ID assignment is a CMS responsibility.
[You hear a confirmation tone if successful, or an intercept tone if unsuccessful because:
 - Login ID is not the same both times.
 - Login ID is already in use.
 - Login ID is out of range.]
4. Press the appropriate button to disconnect your voice terminal from the line.
[Your position is now in the AUX state.]

With EAS on Generic 2.2, agents can add skills.

Logout Procedures for Generic 2/ System 85

To log out from an agent position:

1. Go off-hook on an idle appearance.
[You hear a dial tone.]
2. Dial the logout access code (this is also available for switch administration), or press the LOG-OUT button.
[You hear a confirmation tone. An intercept tone means the position was already logged out.]
3. Press the RELEASE button or go on-hook.
[Your position is now in the UNSTAFFED state.]

Inadvertent logging off could result in unstaffing the position. You could unstaff the position by:

- Pressing the STAFF button
- Dialing the staff access code
- Going on-hook during the AUTOMATIC ANSWERING operation
- Disconnecting the headset during AUTOMATIC ANSWERING operation.

Login Procedures for Generic 1 and Generic 3 (Non- EAS)

To log into an ACD agent position, follow these steps:

1. Go off-hook on an idle appearance.
[You hear a dial tone.]
2. Dial the agent login access code number, or press the LOGIN button. The login access code is available from the switch administrator.
[You hear a dial tone.]
3. Dial the split number.
4. Dial your login identification number.
[You hear a confirmation tone.]
 - Any 1- to 9-digit number is valid for CMS. A 0-digit login, which means that no login IDs are required, may be specified at the switch, but CMS is not able to collect data for these agents.
5. Press the RELEASE button or go on-hook.
[The agent position is not in the AUX state.]

Login Procedures for Generic 3 With EAS

To log into an ACD agent position, follow these steps:

1. Go off-hook on an idle appearance.
[You a hear dial tone.]
2. Dial the agent login access code number, or press the LOGIN button. The login access code is available from the switch administrator.
[You hear a dial tone.]
3. Dial your login identification number. The number must be the 1- to 5-digit login ID administered.
[If you hear dial tone or confirmation tone, go to Step 5.]
4. Optional: Dial your 1- to 9-digit password.
[You hear a confirmation tone.]
5. Press the RELEASE button or go on-hook.
[The agent position is now in the AUX state.]

Logout Procedures for Generic 1 and Generic 3

To log out from an agent position:

1. Go off-hook on an idle appearance.
[You hear a dial tone.]
2. Dial the log-out access code (this is also available from switch administration), or press the LOG-OUT button.
3. Dial the split number. (Skip this step for EAS.)
[You hear a confirmation tone. The intercept tone means the agent was already logged out.]
4. Press the RELEASE button or go on-hook.
[The agent position is now in the UNSTAFFED state.]

Inadvertent logging off could result in unstaffing the position. You could unstaff the position by:

- Going on-hook during the AUTOMATIC ANSWERING operation
- Unplugging a headset during the AUTOMATIC ANSWERING operation.

Temporarily Leaving a Headset- Equipped Position

If you want to leave your position temporarily, taking your headset with you, follow this procedure.

1. Press AUX WORK.
2. Pull out your headset from the voice terminal.
[This places the position in AUX WORK, and no ACD calls will be distributed there.] .

Note

Unstaffing the position or pulling the headset out without going into AUX WORK are not recommended procedures. The first action creates an unnecessary record in the agent file; the second can leave the position available.

General Information

Standard real-time reports:

- Show the current status of ACD activity. The types of data for real-time reports are status, cumulative, and administrative. See Appendix A, "Database Items and Calculations", for a description of these data types.
- Display data for the current interval for the various agent, split/skill, trunk/trunk group, vector, and VDN activities, such as number of ACD calls, abandoned calls, average talk time, and so on.

You assign the length of the current interval for real-time ACD data in the System Setup: Storage Intervals window. (See Chapter 11, "System Setup"—Storage Intervals.”).

Note You cannot put a real-time report on a timetable. You can, however, use a shortcut to display a real-time report. For more information and the procedures on shortcuts, see Chapter 6, "Timetables and Shortcuts".

The Expert Agent Selection (Skill), Vectoring, and Graphics reports are included in this chapter. If you do not have the Expert Agent Selection feature, Vectoring feature, or Graphics package, those report items do not appear on your menu.

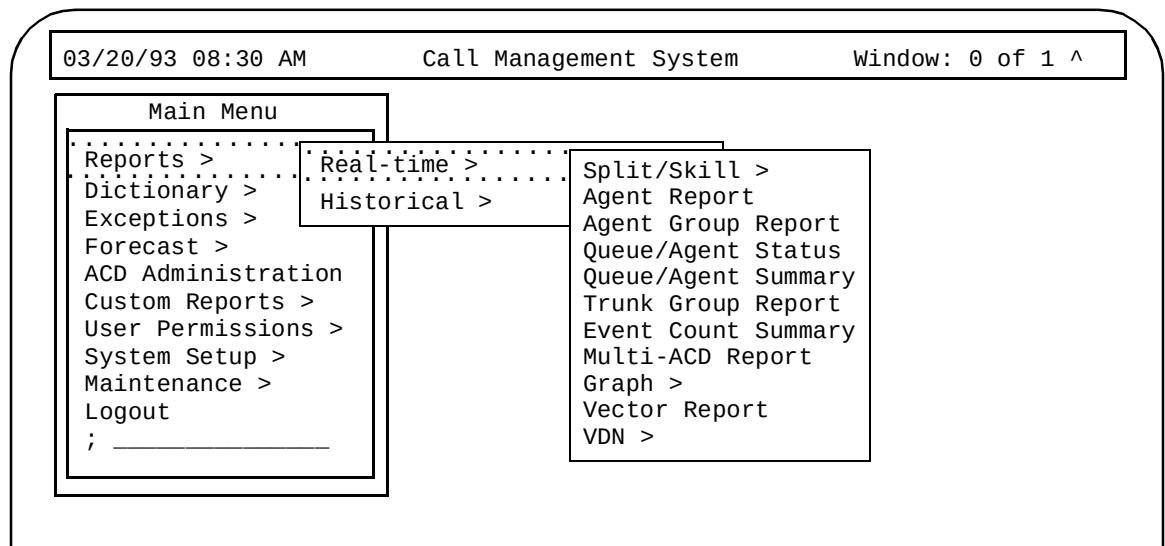


Figure 4-1: Real-Time Reports Menu

Exceptions in Real-Time Reports

An exception is a condition that falls outside of the limits you have defined. When an exception occurs, CMS notifies you in three ways:

- The terminal beeps, flashes, or beeps and flashes at the same time—unless you have disabled both the beep and flash (see Chapter 13, "wUNIX/Solaris 2.2 System"). See Chapter 8, "Exceptions"—Selecting Your Exception Notification," to turn on or off the beep and/or flash.
- The `Ex` field on the CMS title bar shows a running count of current exceptions. Whenever an exception occurs within the current interval, the count increases by one.

Note

Exceptions are cleared at the end of your designated interval. The title bar count starts at zero (0) when you log in or change your current ACD. To be notified of exceptions, you must have exception permission turned on for the specific split(s)/skill(s), trunk group(s), ACD(s), VDN(s), and vector(s). You assign exception permissions in the User Permissions subsystem. (See Chapter 10, "User Permissions", for more information.)

- Exceptions are entered in the real-time exceptions log. See Chapter 8, "Exceptions", for more information on the real-time exceptions log.

Refresh Rate in Seconds for Real-Time Reports

When you order a real-time report, you must specify a refresh rate for the report. This rate determines how often the report is updated to display new data.

Your fastest allowable refresh rate is defined in the User Permissions — User Data window as minimum refresh rate (see Chapter 10, "User Permissions"). For any user, the fastest rate that may be defined is every 3 seconds. However, the actual speed at which a report refreshes may be slower than the defined speed, since the number of active terminals, the number of active windows, and the number of real-time reports can have an impact on refresh rates.

The default refresh rate when you bring up the report input window is your minimum refresh rate **plus** 15 seconds. The default refresh rate can be changed at any time.

If you want to calculate the shortest refresh rates you can get in CMS real-time reports for your configuration, go to the CMSADM Menu in the UNIX system and select menu item 6) `realtime`. The Real-Time Refresh program calculates the best (shortest) refresh rates you can get in CMS real-time reports. The program bases its calculations on your computer type, your ACD configuration, and the ways in which you use CMS reports.

Current Interval

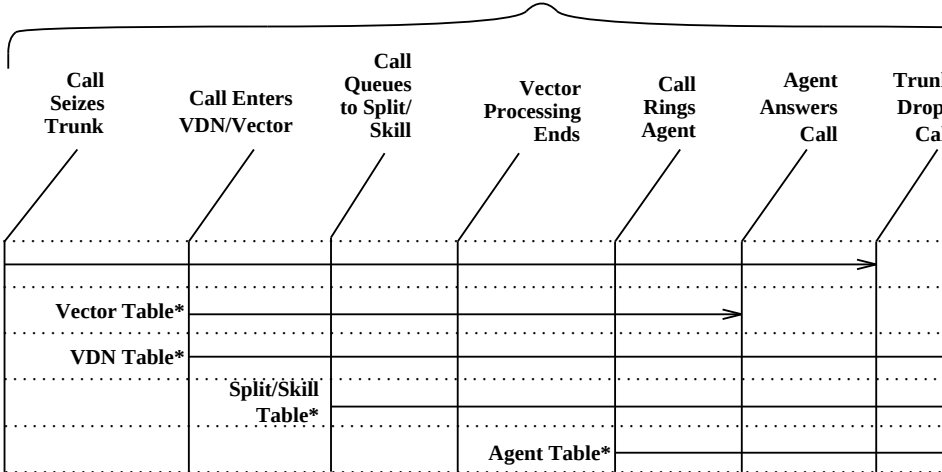
The current interval is a set number of minutes (15, 30, or 60). CMS starts collecting ACD cumulative data at the beginning of the interval (on the hour, half-hour, or quarter hour) and continues collecting ACD cumulative data until the end of the interval. When the current interval changes, all ACD cumulative data are cleared, and CMS begins counting cumulative data again starting from zero. The length of the interval is set in the System Setup — Storage Intervals window and is called the *intrahour interval*. The intrahour interval can be set at 15, 30, or 60 minutes. (See Chapter 11, "System Setup"—Storage Intervals," for more information.)

Interactions With Switch Features

See Appendix A, "Database Items and Calculations", for the interactions with switch features.

How CMS Tracks ACD Data

Using the data in the real-time and historical databases, CMS can generate standard reports which allow you to track your call center's activities. CMS tracks the various agent, split/skill, trunk, trunk group, vector, and VDN activities at different points in the call process. Figure 4-2 shows how CMS tracks these call activities from the time the call seizes a trunk until an agent ends after call work (ACW) activity.



*The CMS database table that stores the call data. This is also the point at which CMS starts collecting call data, and the arrow is the point at which CMS stops collecting data. Also, with vectoring, the “Stop” command stops the processing of vector commands. The data is not recorded in the tables until the call and any ACW are complete.

Figure 4-2: How CMS Tracks a Call

The agent table starts tracking non-ACD calls when the agent answers or completes dialing.

The split table ends processing when ACW for a completed call ends, the call abandons, or the call leaves the queue and is forwarded to another destination (e.g., intraflow).

Vector processing continues until the caller is answered by an ACD agent, abandons, or routes to a station, trunk, or another VDN or vector. Calls that route to a split do not leave vector processing (Generic 3 only).

VDN processing ends when ACW for an ACD completed call ends, the call abandons, the call routes to a trunk or VDN, or the call is transferred.

Agent States

Status changes sent from the switch are the source of all ACD data (for splits/skills and trunk groups, as well as agents and trunks). As a result, the states of agent extensions and trunks form the basis of all other data. The following list explains what the agent states are. These states appear on CMS standard real-time reports as CMS records the current status of the ACD. The trunk states are described with the Trunk Group Report.

ACD	The extension is engaged on an ACD call (with the agent either talking to the caller or for Generic 2.1, System 85 R2V4, and Generic 1, the call waiting on hold).
Available (AVAIL)	The extension is able to accept an ACD call. An extension is AVAIL in AUTO-IN or MANUAL-IN work modes any time a station does not have a call active or on hold.
After Call Work (ACW)	The agent is engaged in bookkeeping, data entry, or other work related to the previous call, and is not available to receive another call. The extension enters after-call work after an ACD call in MANUAL-IN completes. On a Generic 3/Generic 1, the agent can select the state with the AFTER CALL WORK key in order to have the ACW time associated with the call mode. An agent's time in ACW includes time an agent is on incoming or outgoing calls while in ACW, as well as time in ACW when the agent is not connected to any calls.
Auxiliary Work (AUX)	The agent is engaged in non-ACD work, is on break, in a meeting, or at lunch. The agent presses the AUX WORK key, when the agent wants CMS to recognize the extension as staffed, but does not want the ACD to distribute calls to the voice terminal. An agent's time in AUX includes time an agent is on incoming or outgoing calls while in AUX, as well as time in ACW when the agent is not connected to any calls.
Unstaffed (UNSTAF)	The agent is not logged in and is not being tracked by CMS.

Direct Agent ACD (DACD)	The agent is on a direct agent ACD call.
Direct Agent ACW (DACW)	The agent is in the after call work state for a direct agent ACD call.
OTHER	The agent is doing other work. For <i>Generic 3</i>, while in Auto-In or Manual-In: — The agent put any call on hold and has performed no further action. — The agent is on a direct agent call or in ACW for a direct agent call. — The agent is dialing to place a call or to activate a feature. — A personal call or a direct agent ACD call is ringing with no other activity. For <i>Generic 3</i> and <i>Generic 1</i> without EAS, agents are logged into multiple splits and doing work for a split other than this one (on an ACD call, in ACW or on a personal call attributed to a split other than this one). For <i>Generic 3</i> Version 2 and <i>Generic 2.2</i> with EAS, agents are logged into multiple skills and doing work for a skill other than this one (on an ACD call, in call-related ACW or on a personal call attributed to a skill other than this one). Agent positions show up in OTHER directly after the link to the switch comes up and directly after the agents log in before the CMS is notified of the agent's work state.
UNKNOWN	CMS does not recognize the current state. UNKNOWN remains until the condition is cleared (e.g., error is corrected) and/or the agent completes the current ACD call and any associated ACW, or a current agent state message is sent to CMS from the switch.

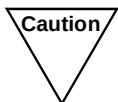
RING

The time a call rings at an agent's voice terminal after leaving the queue and before the agent answers the call. With this state, you can actually determine how long a call rings before an agent answers, and thereby determine the actual time a caller waits in queue and waits while the call is ringing to better analyze your call center's performance. Available with Generic 3, Generic 2, and System 85 R2V4.

Items That Can Affect Real-Time Report Data

Switch Clock

At times your report data could look peculiar or be missing data. Any of the following items could cause this.



If at all possible, **do not** change the switch clock unless data collection is off. If you change the clock while data collection is on, interval data is marked as incomplete.

If you cannot turn off data collection before changing the switch clock, adhere to the following guidelines.

- Small changes (several minutes forward or backward) should be done in the middle of the data collection interval so the change does not cross different intervals. Data for that interval(s) are marked as incomplete, and depending on agent activity prior to the clock change, interval times may not add up as expected on the Historical Summary by Interval reports.
- Larger time changes (such as daylight savings time) that cross interval boundaries should be done with extreme care and at the **beginning** of the interval. For example, if you need to make a 1-hour adjustment, make it from 8:01 to 9:01. If you make it at the end of the interval (7:59 to 8:59), you may inadvertently cause two data archives to occur at the same time, which may cause loss of interval data.

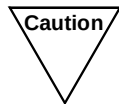
Agents in Multiple Splits/Skills

- If an agent is logged into multiple splits, in the AUTO-IN mode, and is available (AVAIL) in the three splits, the split names or numbers

could appear in any order on the report (e.g, Split/Skill 3, Split/Skill 1, Split/Skill 2).

- If you display several real-time reports on your screen and have agents available in multiple splits, agent time on the reports may seem to be wrong, but it is **not**. Reasons for this are:
 - The refresh rate is different between the reports. For example, one report has a refresh rate of 30 seconds and the other may have a refresh rate of 35 seconds—a difference of 5 seconds. When the report is updating, the difference of these few seconds could make the reports seem to not add up.
 - You are using same refresh rate but bring the reports up at different times.

Service Level Increments for Call Profile Reports



If you change the increments, data will be distorted for the interval in which you made the change. CMS deletes the split call profile data already collected for that interval and only keeps the split call profile data that occurred in that interval after the change. Then CMS tries to combine the split/VDN call profile data gathered both before and after the change into a single daily record of split call profile data. As a result, some data is placed in the wrong service level increments. See the appropriate Split/Skill or VDN Call Profile Report for more information.

Split/Skill >

From the Split/Skill > menu (Figure 4-3 and Figure 4-4) you can select Status, Report, or Call Profile. The Split or Skill Status report shows the status of one split or skill. If you have the Expert Agent Selection (EAS) feature, your system displays the Skill Status report (Figure 4-4). If you do not have EAS, your system displays the Split Status report (Figure 4-3). The Split and Skill reports show the status of up to six splits/skills. The Call Profile report shows the wait times for incoming calls handled and abandoned in a split/skill during the current interval. Each report is described in this chapter.

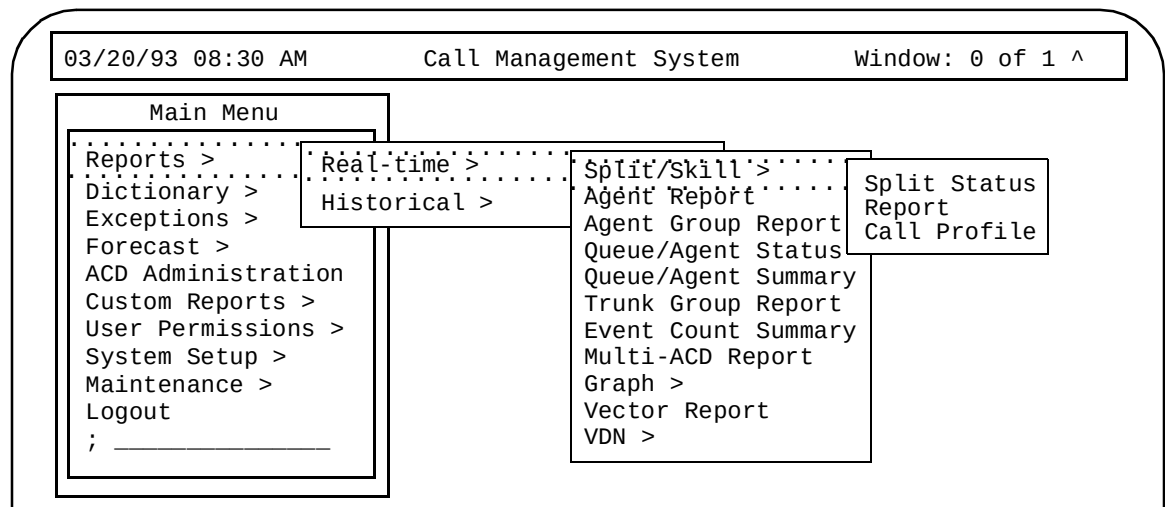


Figure 4-3: Split Reports Menu

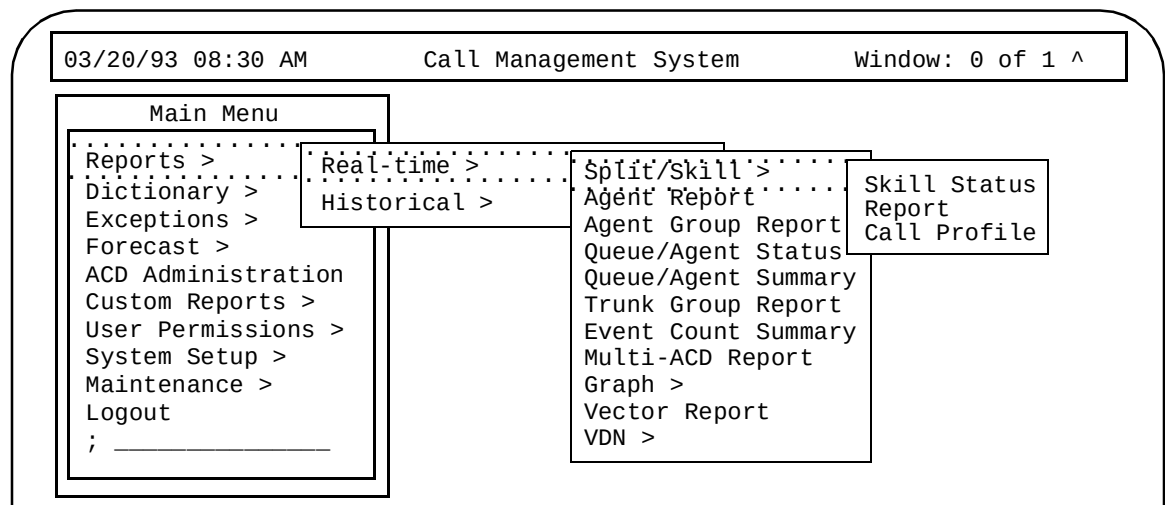


Figure 4-4: Skill Reports Menu

Split Status Report

The Split Status report shows for a selected split how long the oldest call in queue has been waiting, how many calls are currently waiting to be answered, agent names, agent states, the length of time an agent has been in the displayed state, and the split associated with the call the agent is currently handling.

Things to Know About This Report

- All agents who are logged into the selected split are displayed. You can page or scroll to view agents not shown in this report.
- If an agent is on an ACD call or in ACW, a single split is displayed that corresponds to the split for which the agent is on the ACD call or in ACW.
- If the agent is available, all splits in which the agent is available are displayed.
- If the agent is in AUX in all splits, all splits are displayed.
- An agent can be logged into up to three splits on a Generic 3 or Generic 1 switch and logged in up to four splits on a Generic 3 Version 2 switch without the Expert Agent Selection (EAS) feature.
- See Chapter 2, "User Basics", for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.

Prerequisite System Administration

- You must have **read** permission for the report subsystem and the particular split you are viewing in this report. See Chapter 10, "User Permissions"—Feature Access and Split/Skill Access."

Relationships to Other Subsystems

User Permissions

The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window.

Dictionary

For split names to appear on this report, names must be defined and entered in the Dictionary subsystem.

Split Status Input Window

You must fill in the report input window to run the report. Field descriptions for the window follow.

The screenshot shows a window titled 'Call Management System' with a status bar at the top displaying '03/20/93 08:30 AM' and 'Windows: 1 of 1'. The main area contains a form with the following fields and controls:

Rpts: Real: Split/Skill: Split Status Input		ACD1
Split: _____		Run
Refresh rate in seconds: ____		

Figure 4-5: Split Status Input Window Example

Field Descriptions

Split

Enter the split name or number you want to view. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

Split Status Report Example

A description of each report item follows the report example.

```

Split:  Ordering

Calls Waiting                25
Oldest Call Waiting          1:08

Agent      State      Split(s)      Time      VDN
Jones, M   ACD IN     7           1:40      10000
Garcia, J   ACD IN     7           1:35      10001
Masters, K  ACD IN     7           1:29      10000
Tenneyson, A ACD IN     7           1:23      10001
Watson, T   ACD IN     7           1:06      10000

```

Figure 4-6: Split Status Report Example

Note

The database items and calculations for the report headings **Split**, **Calls Waiting**, and **Oldest Call Waiting** apply to the `csplit` table for the current interval. All other database items and calculations in this report apply to the `cagent` table for the current interval.

Table 4-1: Split Status Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Split	Name or number of the split selected for this report.	SYN(SPLIT)
Calls Waiting	The number of split ACD calls waiting to be answered. This includes calls that are in queue and calls that are ringing at an agent voice terminal. It does not include direct agent calls (Generic 3).	INQUEUE+INRING
Oldest Call Waiting	The number of seconds the oldest ACD call has waited in queue or ringing before being answered. This does not include direct agent calls.	OLDESTCALL
Agent	Names (or agent IDs if the names have not been assigned in Dictionary) of the agents assigned to this split and logged in.	SYN(LOGID)

Table 4-1: Split Status Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
State	The current work mode (state) the agent is in (AVAIL, ACD, ACW, AUX, DACD, DACW, RING, UNKNOWN, OTHER, UNSTAFF) and the call direction (NULL, IN or OUT).	WORKMODE and DIRECTION
Split(s)	When an agent is on a split or direct agent call or in the ACW (After Call Work) mode, this is the split associated with the call or the ACW. If an agent puts an ACD call on hold and makes or receives an AUX call, this is split of the ACD call on hold. When an agent is available, this is the last split in which the agent became available. For agents in multiple splits (Generic 3 and Generic 1), all of the splits the agent is available in are listed.	WORKSPLIT WORKSPLIT2 WORKSPLIT3 WORKSPLIT4 (G3V2 only)
Time	The amount of time the agent has been in the current work mode (AVAIL, ACD, etc.) and the call direction. Time is zeroed whenever the work mode or call direction changes. That is, if the agent goes from ACD-IN to AVAIL, time starts over.	AGTIME
VDN (shows data only if you have purchased the Vectoring feature)	The vector directory number (VDN) associated with the ACD call in progress.	VDN

Skill Status Report

The Skill Status report shows for a selected skill how long the oldest call in queue has been waiting, how many calls are currently waiting to be answered, agent names, agent states, and the skill associated with the call the agent is currently handling.

Note

This report is available only if you have purchased the Expert Agent Selection (EAS) feature on the Generic 3 Version 2 switch or the Generic 2.2 switch.

Things to Know About This Report

- All agents who are logged into a particular skill are displayed. You can page or scroll to view agents not shown in the window.
- With Generic 3 Version 2, all the skills the agent is logged into are shown in the `Login Skills` column of the report. Also, these skills are designated with a “p” or “s” to indicate whether the skill is a primary or secondary skill.
- With Generic 2.2, the default skill and up to three other skills the agent is logged into are shown in the `Login Skills` column of the report.

Note

Since only four skills are displayed in this report and Generic 2.2 agents are active in the default skill (skills ending in “0”) as well as up to four other skills, you may want to customize this report to add a fifth skills column.

- |
- See Chapter 2, “User Basics”, for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.

Prerequisite System Administration

|

You must have **read** permission for the report subsystem and the particular skill you are viewing in this report. See Chapter 10, “User Permissions”—Feature Access and Split/Skill Access.”

Relationships to Other Subsystems

User Permissions

The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window.

Dictionary

For skill names to appear on this report, names must be defined and entered in the Dictionary subsystem.

Skill Status Input Window

You must fill in the report input window to run the report. Field descriptions for the window follow.

03/20/93 08:30 AM		Call Management System	Window: 1 of 1
Rpts: Real: Split/Skill: Skill Status Input			ACD1
Skill:			Run
Refresh rate in seconds:			

Figure 4-7: Skill Status Input Window Example

Field Descriptions

Skill:

Enter the skill name or number you want to view. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

Skill Status Report Example

A description of each report item follows the report example.

```

Skill:   Ordering

Calls Waiting          25
Oldest Call Waiting    1:08

Agent      --Login Skill(s)--  State   Skill   Time   VDN
Jones,M    p17 p16 p11 s10  ACD IN   17     1:40   10000
Garcia,J                    ACD IN   10     1:35   10001
Masters,K                    ACD IN   11     1:29   10000
Tenneyson,A                    ACD IN   17     1:23   10001
Watson,T                    ACD IN   11     1:06   10000
  
```

Figure 4-8: Skill Status Report Example

Note

The database items and calculations for the report headings **Skill**, **Calls Waiting**, and **Oldest Call Waiting** apply to the `csplit` table for the current interval. All other database items and calculations in this report apply to the `cagent` table for the current interval.

Table 4-2: Skill Status Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Skill	Name or number of the skill selected for this report.	SYN(SPLIT)
Calls Waiting	The number of skill ACD calls waiting to be answered. This includes calls that are in queue and calls that are ringing at an agent voice terminal. It does not include direct agent calls (Generic 3).	INQUEUE+INRING
Oldest Call Waiting	The number of seconds the oldest ACD skill call has been waiting in queue or ringing before being answered. This does not include direct agent calls.	OLDESTCALL
Agent	Names (or agent IDs if the names have not been assigned in Dictionary) of the agents logged into this skill.	SYN(LOGID)
Login Skill(s)	The skill numbers with which the agent logged in. LOGINSKILL5 is only for Generic 2.2.	LOGINSKILL LOGINSKILL2 LOGINSKILL3 LOGINSKILL4 LOGINSKILL5

Table 4-2: Skill Status Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
[Login Skill(s)] Type	The type (p=primary or s=secondary) for each skill the agent logged into (Generic 3 Version 2 only).	SKILLTYPE SKILLTYPE2 SKILLTYPE3 SKILLTYPE4
State	The current work mode (state) the agent is in (AVAIL, ACD, ACW, AUX, DACD, DACW, RING, UNKNOWN, OTHER, UNSTAFF) and the call direction (NULL, IN or OUT).	WORKMODE and DIRECTION
Skill	When an agent is on a skill or direct agent call or in the ACW (After Call Work) state, this is the skill associated with the call or the ACW. If an agent puts an ACD call on hold and makes or receives an AUX call, this is skill of the ACD call on hold. (for Generic 2.2, this is always the default ["0"] skill). When an agent is available, in AUX or in OTHER, this is null because there is not skill associated with these states.	WORKSKILL
Time	The amount of time the agent has been in the current work state (AVAIL, ACD, etc.) and the call direction. Time is zeroed whenever the work state or call direction changes. That is, if the agent goes from ACD-IN to AVAIL, time starts over.	AGTIME
VDN (shows data only if you have purchased the Vectoring fea- ture)	The vector directory number (VDN) associated with the ACD call in progress.	VDN

Split/Skill Report

The Split/Skill report displays real-time call-handling information on a number of splits or skills simultaneously. It allows the supervisor to evaluate and compare each split's/skill's workload and call-handling performance and to determine agent reassignment or other ACD configuration alternatives to balance workloads and/or reduce abandoned calls.

Things to Know About This Report

- You can enter a range or list of splits/skills. If you only want to view one split or skill, you may size the window smaller.
- In this report, the OTHER state displays for agents who answer calls for other splits or skills.
- See Chapter 2, "User Basics", for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.

Prerequisite System Administration

You must have **read** permission for the reports subsystem and all splits/skills that you want to view. See Chapter 10, "User Permissions"—Feature Access and Split/Skill Access."

Relationships to Other Subsystems

User Permissions

The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window.

Dictionary

For split/skill names to appear on this report, names must be defined and entered in the Dictionary subsystem.

Split/Skill Input Window

You must fill in the report input window to run the report.

Figure 4-9: Split/Skill Input Window Example

Field Descriptions

Split(s)/Skill(s):

Enter the split/skill name(s) or number(s) that you want to view in this report. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

Split/Skill Report Example

A description of each report item follows the report example.

Splits/Skills:	Orderin	Purcha	Billin	Credit	Travel	Maint
Calls Waiting	21	21	21	20	20	1
Oldest Call Waiting	:54	:54	:54	:57	:57	:02
Avg Speed of Answer	1:02	1:01	1:02	1:01	1:01	:02
ACD Calls	174	174	174	171	171	34
Avg ACD Talk Time	4:00	4:00	4:00	4:00	4:00	2:00
Abandoned Calls	36	35	36	20	20	0
Avg Time to Abandon	1:08	1:10	1:08	1:07	1:07	
Agents: Available	0	0	0	0	0	0
Ringing	0	0	0	0	0	0
ACD Calls	70	70	70	70	70	6
After Call Work	0	0	0	0	0	7

Other	0	0	0	0	0	0
Aux Work	0	0	0	0	0	0
Staffed	70	70	70	70	70	15

Figure 4-10: Split/Skill Report Example**Note**

All database items and calculations apply to the `csplit` table for the current interval.

Table 4-3: Split/Skill Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Splits/Skills	Name or number of the split(s)/skill(s) selected for this report.	SYN(SPLIT)
Calls Waiting	For each split/skill in this report, the total number of ACD calls waiting to be answered. This includes calls that are in queue and ringing at an agent voice terminal and outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only). It does not include direct agent calls (Generic 3 only).	INQUEUE+INRING
Oldest Call Waiting	For each split/skill in this report, the number of seconds the oldest call in queue or ringing at an agent voice terminal has waited. This does not include direct agent calls.	OLDESTCALL
Avg Speed of Answer	The average time calls waited in queue or ringing before an agent answered. This does not include direct agent calls, but it does include outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only).	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED>
ACD Calls	The queued ACD calls to the split/skill that were answered by an agent. This does not include direct agent calls, but it does include ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway or Generic 3 with ASAI only).	ACDCALLS
Avg ACD Talk Time	The average talk time (does not include hold time) for all ACD calls to this split. This does not include direct agent calls, but it does include talk time of all ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only).	ACDTIME/ACDCALLS <AVG_ACD_TALK_TIME>

Table 4-3: Split/Skill Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Abandoned Calls	The total number of queued calls for each split/skill that abandoned before an agent answered. This includes calls that are ringing at a voice terminal but does not include direct agent calls. It also includes the number of out-bound calls for each split/skill that abandoned at the far end before an agent answered (Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only).	ABNCALLS
Avg Time to Abandon	The average time a caller waited before hanging up.	ABNTIME / ABNCALLS <AVG_ABANDON_TIME>
Agents: Available	The total number of agents who are available to receive ACD calls in this split/skill.	AVAILABLE
Agents: Ringing	The current number of agents that are available and have split/skill ACD calls for this split/skill ringing at their voice terminal but have not yet answered. If the agent goes into the AUX state or makes or picks up an extension call, the agent show up as in AUX work, not as having a ringing ACD call on the voice terminal.	AGINRING
Agents: ACD Calls	The total number of agents connected to inbound and outbound ACD calls in each split/skill. This does not include direct agent calls.	ONACD
Agents: After Call Work	The number of agents who are in the after call work mode for each split/skill. This includes agents on ACW-IN/ACW-OUT calls as well as agents in ACW not associated with an ACD call.	INACW

Table 4-3: Split/Skill Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Agents: Other	Current number of agent positions that are doing other work. For Generic 3, while in Auto-in or Manual-In: • The agent put any call on hold and has performed no further action. • The agent is on a direct agent call or in ACW for a direct agent call. • The agent is dialing to place a call or to activate a feature. • A personal call or a direct agent ACD call is ringing with no other activity. For Generic 3 and Generic 1 without EAS, agents are logged into multiple splits and doing work for a split other than this one (on an ACD call, in ACW or on a personal call attributed to a split other than this one). For Generic 3 Version 2 and Generic 2.2 with EAS, agents are logged into multiple skills and doing work for a skill other than this one (on an ACD call, in call-related ACW or on a personal call attributed to a skill other than this one). Agent positions show up as OTHER directly after the link to the switch comes up and directly after the agents log in before the CMS is notified of the agent's work state.	OTHER
Agents: Aux Work	The total number of agents who are in the auxiliary work mode for all splits/skills including agents who are handling AUX-IN or AUX-OUT calls.	IN_AUX
Agents: Staffed	The number of agents logged into each split/skill.	STAFFED

Split/Skill Call Profile Report

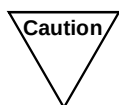
Things to Know About This Report

The Split/Skill Call Profile report shows the wait times of incoming calls handled and abandoned in a split or skill during the current interval.

- Calls are displayed in ten columns, with each column representing a progressively longer wait time (increment).

Prerequisite System Administration

You must first define your acceptable service level and service level increments for this split/skill in the Split/Skill Call Profile Setup window. If you do not define your service level and increments, zero (0) is used for all increments (therefore, all calls appear in the first increment). For more information, see Chapter 9, "ACD Administration"—Split/Skill Call Profile Setup."



If you change the increments, data is distorted for the interval in which you made the change. CMS deletes the split/skill call profile data already collected for that interval and only keeps the split/skill call profile data that occurred in that interval after the change. Then CMS tries to combine the split/skill call profile data gathered both before and after the change into a single daily record of split/skill call profile data. As a result, some data is placed in the wrong service level increments.

Daily, weekly, and monthly summaries that include the date of the increment change look peculiar. The time increments shown on the report for the changed increment in the Call Profile Setup window are the maximum values entered for each increment before or after the change. For example, if you change the increments from all "0s" to 1, 3, 5, 10, etc., the Split/Skill Call Profile report shows 1, 3, 5, 10, etc. If you change from 1, 3, 5, 10, ... to 1, 5, 7, 9, ..., the report shows 1, 5, 7, 10 for the date of the change.

To avoid misleading split/skill call profile data, change the time increments early in the day, preferably before agents begin staffing splits/skills and before a large amount of data has been gathered. Also change the profile increments at the beginning of your reporting week and, if possible, the beginning of the month. If the beginning of the week does not coincide with the beginning of the month, you will not be able to avoid some misleading profile data for the month in which you make profile changes.

Dictionary

For split/skill names to appear on this report, names must be defined and entered in the Dictionary subsystem.

**Split/Skill Call
Profile Input Window**

You must fill in the Split/Skill Call Profile report input window to run the report. Field descriptions follow the input window.

06/13/93 08:30 AM Call Management System Windows: 1 of 4 ^

Rpts: Real: Split/Skill Call Profile: Input acd1

Split/Skill: _____ Run

Refresh rate in seconds: ____

Figure 4-11: Split/Skill Call Profile Input Window Example

Field Descriptions

Split/Skill:

Enter the appropriate split or skill name or number. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

Split/Skill Call Profile Report Example

An example of the report follows, along with a description of each report item.

Split/Skill: Wholesale											% Within Service Level 0.00											
Secs.	0	-	3	-	6	-	11	-	15	-	20	-	24	-	30	-	38	-	45	-	>	
Ans			0		0		0		0		0		0		0		0		0		192	
Aban			0		0		0		0		0		0		0		0		0		30	
Total Calls Answered											191	Total Calls Abandoned										30
Average Speed of Answer											1:02	Average Time to Abandon										1:07
Percentage Answered											86.42	Percentage Abandoned										13:57

Figure 4-12: Split/Skill Call Profile Report Example

Note

All database items and calculations apply to the `csplit` table for the current interval.

Table 4-4: Split/Skill Call Profile Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Split/Skill	Name or number of the split/skill selected for this report.	SYN(SPLIT)
% Within Service Level	The percentage of split/skill ACD calls answered by an agent within the predefined acceptable service level. Calls to the split or skill include calls that were abandoned and calls that were not answered, but do not include direct agent calls. Calls that were not answered may include: forced busy calls, forced disconnect calls, calls redirected to another destination, and calls queued to more than one split/skill and answered in another split/skill.	$100 * (\text{ACCEPTABLE} / \text{CALLSOFFERED})$ <PERCENT_SERV_LVL_SPL>
Secs.	The size (in seconds) of each increment. Each increment of seconds represents a progressively longer wait time for a call in queue, and each increment can be a different length. These increments are defined in the ACD Administration subsystem Split/Skill Call Profile Setup window.	PERIOD1-9
Answered	Within each increment, the number of calls to the split/skill that were answered by an agent. This includes outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only). It does not include direct agent calls (Generic 3 only).	ACDCALLS1-10
Abandoned	Within each increment, the number of calls to the split/skill that were abandoned. If calls are queued to multiple splits/skills, only the first split/skill queued to pegs an abandoned This includes outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only). It does not include direct agent calls.	ABNCALLS1-10

Table 4-4: Split/Skill Call Profile Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Total Calls Answered	The total number of ACD calls to the split/skill that were answered by an agent. This includes outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only). It does not include direct agent calls (Generic 3 only).	ACDCALLS
Average Speed of Answer	The average time a caller waited in this split/skill's queue and rang before an agent answered. This does not include direct agent calls.	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED>
Percentage Answered	The percentage of calls offered to the split/skill that were answered by an agent. Calls to the split/skill include abandoned calls, not answered calls, and outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only). It does not include direct agent calls (Generic 3 only). Calls that were not answered may include: forced busy calls, forced disconnect calls, calls redirected to another destination, and calls queued to more than one split/skill (Generic 3 only) and answered in another split/skill.	$100 * (ACDCALLS / CALLSOFFERED)$ <PERCENT_CALL_ANS>
Total Calls Abandoned	The total number of queued calls for each split/skill that abandoned before an agent answered. This includes calls that are ringing at a voice terminal but does not include direct agent calls. It also includes the number of outbound calls for each split/skill that abandoned before an agent answered at the far end (Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only).	ABNCALLS
Average Time to Abandon	The average time a caller waited before hanging up.	ABNTIME/ABNCALLS <AVG_ABANDON_TIME>
Percentage Abandoned	The percentage of queued calls to the split/skill that were abandoned before being answered by an agent. This includes outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only). It does not include direct agent calls (Generic 3 only).	$100 * (ABNCALLS / CALLSOFFERED)$ <PERCENT_CALL_ABAN>

Agent Report

Purpose

The Agent report displays the current activities of all agents assigned to a split or skill. It shows the extension the agent logged in from, the agent's work state, how long the agent has been in that work state, and the split/skill the agent is currently working in. This report also gives you VDN information if you have the Vectoring feature.

Things to Know About This Report

- Only the agents currently assigned and logged into the split or logged into the skill display on this report.
 - Since only four skills are displayed in this report and Generic 2.2 agents are active in the default skill (skills ending in "0") as well as up to four other skills, you may want to customize this report to add a fifth skills column.
 - For information on Agents in Multiple Splits/Skills and Multiple Call Handling, see the beginning of this chapter in the Interactions With Switch Features section.
 - See Chapter 2, "User Basics", for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.
-

Prerequisite System Administration

You must have **read** permission for the reports subsystem and the split/skill that you want to view. See Chapter 10, "User Permissions"—Feature Access and Split/Skill Access."

Relationships to Other Subsystems

User Permissions

The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window.

Dictionary

For split/skill names to appear on this report, names must be defined and entered in the Dictionary subsystem.

Agent Input Window

You must fill in the Agent report input window to run the report.

Figure 4-13: Agent Input Window Example

Field Descriptions

Split/Skill:

Enter the split or skill name or number that you want to view in this report. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what

your minimum refresh rate is, or to change it, check with your CMS administrator.

Agent Report Example

A description of each report item follows the report example.

Split/Skill: Westtravel

Agent Name	Extn	State	Splits/Skills	Time	VDN
Barnes, Mary	1096	ACD IN	7	2:21	wtrav
Chavez, James	1097	ACD IN	7	2:16	wtrav
Chin, Lu	1099	ACD IN	7	2:07	wtrav
MacCullin, Sam	1100	ACD IN	7	2:04	wtrav

Figure 4-14: Agent Report Example

Note

All database items and calculations apply to the `cagent` table for the current interval.

Table 4-5: Agent Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Split/Skill	Name or number of the split/skill selected for this report.	SYN(SPLIT)
Agent Name	Names (or agent IDs if the names have not been assigned in Dictionary) of the agents assigned to this split/skill and logged in.	SYN(LOGID)
Extn	The extension the agent logged in from.	EXTENSION
State	The current work mode (state) the agent is in (AVAIL, ACD, ACW, AUX, DACD, DACW, RING, UNKNOWN, OTHER, UNSTAFF) and the call direction (NULL, IN or OUT).	WORKMODE and DIRECTION
Splits/Skills	When an agent is on a split/skill or direct agent call or in the ACW (After Call Work) mode, this is the split/skill associated with the call or the ACW. If an agent puts an ACD call on hold and makes or receives an AUX call, this is split/skill of the ACD call on hold. When an agent is available, this shows all splits/skills in which the agent is available. NOTE: If you have EAS active on your switch, it is recommended that you create a custom report and use WORKSKILL instead of WORKSPLIT in your report.	WORKSPLIT WORKSPLIT2 WORKSPLIT3 WORKSPLIT4 WORKSPLIT5 (Generic 2.2 with EAS only)
Time	The length of time the agent has been in the current work mode (AVAIL, ACD, etc.) and the call direction. Time is zeroed whenever the work mode or call direction changes. For example, if the agent goes from ACD-IN to AVAIL, time starts over.	AGTIME
VDN (Shows data only if you have the Vectoring feature)	The vector directory number associated with the ACD call in progress.	VDN

Agent Group Report

Purpose

This report allows you to view agents according to groups you have created in the Dictionary subsystem. For example, these groups could be agents who speak Spanish, new agents, agents with specific extension numbers, or any grouping that fits your call center's needs.

Things to Know About This Report

- Only one agent group displays on this report. If you want to compare groups, you can bring up two reports and then use the **Current** SLK to rotate between the reports.
- The agent group reports can have agents who are assigned to different splits or skills.
- Only the agents logged in and assigned to the group display in the report.
- Since only four skills are displayed in this report and Generic 2.2 agents are active in the default skill (skills ending in "0") as well as up to four other skills, you may want to customize this report to add a fifth skills column.
- See Chapter 2, "User Basics", for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.

Prerequisite System Administration

- To see data in an Agent Group report, you must create and name agent groups in the Dictionary subsystem (see Chapter 7, "Dictionary").

Note

If you modify or add an agent group in the dictionary subsystem while displaying an Agent Group report, you have to exit the report window and then reopen the window to see the changed or new agent group information.

- You must have **read** permission for the report subsystem. See Chapter 10, "User Permissions"—Feature Access."

Relationships to
Other
Subsystems

User Permissions

The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the use enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window.

Agent Group Input
Window

You must fill in the Agent Group report input window to run the report. Field descriptions for the window follow.

03/20/93 08:30 AM Call Management System Windows: 1 of 1 ^

Rpts: Real: Agent Group Report: Input acd1

Agent Group name: _____ Run

Refresh rate in seconds: ____

Figure 4-15: Agent Group Input Window Example

Field Descriptions

Agent Group name:

Enter the name of the group you want to view. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Note Make sure you enter the group name correctly. CMS does not check to see if the group name entered exists in the Dictionary subsystem. Therefore, if you enter a name that is misspelled, the report request runs, but does not contain data because the group does not exist. You have to reenter the group name correctly.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data. .

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what

your minimum refresh rate is, or to change it, check with your CMS administrator.

Agent Group Report Example

A description of each report item follows the report example.

Agent Group: Newagents

Agent Name	Extn	State	Splits/Skills	Time	VDN
Smith,M	2002	ACW	1	:37	Billi
Thomas,S	2004	ACW	1	:02	Billi
Sanchez,T	2006	ACW	2	1:13	Order
Soo,M	2008	AVAIL	2	:11	
Vasquez,A	2010	ACD IN	4	:25	Order

Figure 4-16: Agent Group Report Example

Note

All database items and calculations apply to the `cagent` table for the current interval.

Table 4-6: Agent Group Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Agent Group	Name of the group selected for this report.	SYN(GRPNAME)
Agent Name	Names (or agent IDs if the names have not been assigned in Dictionary) of the agents assigned to this split/skill and logged in.	SYN(LOGID)
Extn	The extension the agent logged in from.	EXTENSION
State	The current work mode (state) the agent is in (AVAIL, ACD, ACW, AUX, DACD, DACW, RING, UNKNOWN, OTHER, UNSTAFF) and the call direction (IN or OUT).	WORKMODE and DIRECTION
Splits/Skills	When an agent is on a split/skill or direct agent call or in the ACW (After Call Work) mode, this is the split/skill associated with the call or the ACW. If an agent puts an ACD call on hold and makes or receives an AUX call, this is split/skill of the ACD call on hold. When an agent is available, this shows all splits/skills in which the agent is available. NOTE: If you have EAS active on your switch, it is recommended that you create a custom report and use WORKSKILL instead of WORKSPLIT in your report.	WORKSPLIT WORKSPLIT2 WORKSPLIT3 WORKSPLIT4 WORKSPLIT5 (Generic 2.2 with EAS only)
Time	The amount of time the agent has spent in the current work mode (AVAIL, ACD, etc.) and the call direction. Time is zeroed whenever the work mode or call direction changes.	AGTIME
VDN (Shows data only if you have the Vectoring feature)	The vector directory number associated with the ACD call in progress.	VDN

Queue/Agent Status Report

Purpose

This report is a combination of the Agent report and Queue/Agent Summary report. It shows overall split/skill information such as the number of calls waiting, oldest call, percent answered within service level. Also, it shows the number of agents available, on ACD calls, staffed, with calls ringing and on after call work. In addition, it shows what each agent in the split/skill currently is doing.

Things to Know Before You Start

- Direct agent waiting calls are displayed in this report because direct agent calls occupy split/skill queue slots on Generic 3 switches.
 - See Chapter 2, "User Basics", for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.
-

Prerequisite System Administration

You must have **read** permission for the report subsystem. See Chapter 10, "User Permissions"—Feature Access."

Relationships to Other Subsystems

User Permissions

The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window.

Dictionary

For split/skill names to appear on this report, names must be defined and entered in the Dictionary subsystem.

Queue/Agent Status Input Window

You must fill out the Queue/Agent Status report input window to run the report. Field descriptions follow the window.

03/20/93 08:30 AM Call Management System Windows: 1 of 1 ^

Rpts: Real: Queue/Agent Status Input

Split/Skill: _____

Refresh rate in seconds: ____

Figure 4-17: Queue/Agent Status Input Window Example

Field Descriptions

Split/Skill:

Enter the split or skill name or number that you want to view in this report. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

Queue/Agent Status Report Example

A description of each report item follows the report example in the Queue/Agent Status Report Description table.

Split/Skill:	Sales	Agents:	Staffed	15
Calls Waiting	2		Available	0
Oldest Call Waiting	:16		Ringing	0
Direct Agent Calls Waiting	0		ACD Calls	8
% Answered Within xxx Seconds	73		After Call Work	7

Agent Name	Extn	State	Splits/Skills	Time	VDN
Jackson,N	51234	ACDIN	xxx xxx xxx xxx	xx:xx	xxxxxxxxxxx
Soo,T	54321	OTHER	xxx xxx xxx xxx	xx:xx	xxxxxxxxxxx
Moore,M	53421	ACW	xxx xxx xxx xxx	xx:xx	xxxxxxxxxxx
Montez,K	52333	AVAIL	xxx xxx xxx xxx	xx:xx	xxxxxxxxxxx
Smith,A	52123	ACD IN	xxx xxx xxx xxx	xx:xx	xxxxxxxxxxx

Figure 4-18: Queue/Agent Status Report Example

Note

Because this report combines the Queue/Agent Summary and Agent reports, the database items and calculations apply to the `split` table and the agent table. The report header information applies to the `csplit` table for the current interval. The agent information (i.e., **Agent Name**, **Extn**, **State**, **Split/Skills**, **Time**, and **VDN**) applies to `cagent` table for the current interval.

Table 4-7: Queue/Agent Status Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Split/Skill	Name or number of the split/skill selected for this report.	SYN(SPLIT)
Calls Waiting	For each split/skill in this report, the total number of ACD calls waiting to be answered. This includes calls that are in queue and ringing at an agent voice terminal but does not include direct agent calls (Generic 3 only).	INQUEUE+INRING
Oldest Call Waiting	For each split/skill in this report, the number of seconds the oldest call in queue or ringing at an agent voice terminal has waited. This does not include direct agent calls.	OLDESTCAL
Direct Agent Calls Waiting	The current number of direct agent calls (Generic 3 only) waiting in this split's/skill's queue or ringing at agent positions.	DA_INQUEUE+DA_INRING
% Answered Within Service Level	The percentage of split/skill ACD calls that were answered by an agent within your predefined acceptable service level, including calls that were abandoned and calls that were not answered, but do not include direct agent calls. If the switch has the Call Vectoring feature, calls that were not answered may include: forced busy calls, forced disconnect calls, calls redirected to another destination, and calls queued to more than one split/skill (Generic 3 only) and answered in another split/skill.	$100 * (\text{ACCEPTABLE} / \text{CALLS OFFERED})$ <PERCENT_SERV_LVL_SPL>
Agents: Staffed	The total number of agents logged into this split/skill.	STAFFED
Agents: Available	The current number of agents who are available to receive ACD calls in this split/skill.	AVAILABLE
Agents: Ringing	The current number of agents that are available and have split/skill ACD calls for this split/skill ringing at their voice terminal but have not yet answered. If the agent goes into the AUX state or makes or picks up an extension call, the agent show up as in AUX work, not as having a ringing ACD call on the voice terminal.	AGINRING

Table 4-7: Queue/Agent Status Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Agents: ACD Calls	The total number of agents connected to inbound and outbound ACD calls in each split/skill, not including direct agent calls.	ONACD
Agents: After Call Work	The number of agents who are in the after call work mode for each split/skill. This includes agents on ACW-IN/ACW-OUT calls as well as agents in ACW not associated with an ACD call.	INACW
Agent Name	Names (or agent IDs if the names have not been assigned in Dictionary) of the agents assigned to this split/skill and logged in.	SYN(LOGID)
Extn	The extension the agent logged in from.	EXTENSION
State	The current work mode (state) the agent is in (AVAIL, ACD, ACW, AUX, DACD, DACW, RING, UNKNOWN, OTHER, UNSTAFF) and the call direction (NULL, IN or OUT).	WORKMODE and DIRECTION
Splits/Skills	When an agent is on a split/skill or direct agent call or in the ACW (After Call Work) mode, this is the split/skill associated with the call or the ACW. If an agent puts an ACD call on hold and makes or receives an AUX call, this is split/skill of the ACD call on hold. When a agent is available, this is the last split/skill in which the agent became available. NOTE: If you have EAS active on your switch, it is recommended that you create a custom report and use WORKSKILL instead of WORKSPLIT in your report.	WORKSPLIT WORKSPLIT2 WORKSPLIT3 WORKSPLIT4, WORKSPLIT5 (Generic 2.2 with EAS only)
Time	The length of time the agent has been in the current work mode (AVAIL, ACD, etc.) and the call direction. Time is zeroed whenever the work mode or call direction changes. That is, if the agent goes from ACD-IN to AVAIL, time starts over.	AGTIME
VDN (Shows data only if you have the Vectoring feature)	The vector directory number associated with the ACD call in progress. If a name has been assigned to the VDN (in the Dictionary), the name displays instead of the number.	VDN

Queue/Agent Summary Report

Purpose

This report summarizes the split/skill's queue status (for example, how many calls are waiting in queue). It also summarizes the status of all agents (for example, how many agents are currently staffed or in after call work for the split or skill).

Things to Know About This Report

- Direct agent calls waiting are displayed in this report because direct agent calls occupy split/skill queue slots on Generic 3 switches.
 - See Chapter 2, "User Basics", for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.
-

Prerequisite System Administration

You must have **read** permission for the reports subsystem and the split/skill that you want to view. See Chapter 10, "User Permissions"—Feature Access and Split/Skill Access."

Relationships to Other Subsystems

User Permissions

The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window.

Dictionary

For split/skill names to appear on this report, names must be defined and entered in the Dictionary subsystem.

Queue/Agent Summary Input Window

You must fill out the Queue/Agent Summary report input window to run the report. Field descriptions follow the window.

03/20/93 08:30 AM Call Management System Windows: 1 of 1 ^

Rpts: Real: Queue/Agent Summary Input acd1

Split/Skill: _____ Run

Refresh rate in seconds: ____

Figure 4-19: Queue/Agent Summary Input Window Example

Field Descriptions

Split/Skill:

Enter the split or skill name or number that you want to view in this report. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

Queue/Agent Summary Report Example

A description of each report item follows the report example in the Queue/Agent Summary Report Description table.

```
Split/Skill: Sales
Calls Waiting 2
Oldest Call Waiting :16
Direct Agent Calls Waiting 0
% Answered Within xxx Seconds 74

Agents:
  Staffed      15    ACD Calls      8
  Available    0     After Call Work 7
  Ringing      0
```

Figure 4-20: Queue/Agent Summary Report Example

Note All database items and calculations apply to the `csplit` table for the current interval.

Table 4-8: Queue/Agent Summary Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Split/Skill	Name or number of the split/skill selected for this report.	SYN(SPLIT)
Calls Waiting	For each split/skill in this report, the total number of ACD calls waiting to be answered. This includes calls that are in queue and ringing at an agent voice terminal but does not include direct agent calls (Generic 3 only).	INQUEUE+INRING
Oldest Call Waiting	For each split/skill in this report, the number of seconds the oldest call in queue or ringing at an agent voice terminal has waited. This does not include direct agent calls.	OLDESTCALL
Direct Agent Calls Waiting	The current number of direct agent calls (Generic 3 only) waiting in this split's/skill's queue or ringing at agent positions.	DA_INQUEUE+DA_INRING
% Answered Within Service Level	The percentage of split/skill ACD calls that were answered by an agent within your predefined acceptable service level. Calls to the split/skill include calls that were abandoned and calls that were not answered, but do not include direct agent calls. If the switch has the Call Vectoring feature, calls that were not answered may include: forced busy calls, forced disconnect calls, calls redirected to another destination, and calls queued to more than one split/skill (Generic 3 only) and answered in another split/skill.	100*(ACCEPTABLE/ CALLSOFFERED) <PERCENT_SERV_LVL_SPL>
Agents: Staffed	The total number of agents logged into this split/skill.	STAFFED
Agents: Available	The current number of agents who are available to receive ACD calls in this split/skill.	AVAILABLE
Agents: Ringing	The current number of agents that are available and have split/skill ACD calls for this split/skill ringing at their voice terminal but have not yet answered. If the agent goes into the AUX state or makes or picks up an extension call, the agent show up as in AUX work, not as having a ringing ACD call on the set.	AGINRING

Table 4-8: Queue/Agent Summary Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Agents: ACD Calls	The total number of agents connected to inbound and outbound ACD calls in each split/skill. This does not include direct agent calls.	ONACD
Agents: After Call Work	The number of agents who are in the after call work mode for each split/skill. This includes agents on ACW-IN/ACW-OUT calls as well as agents in ACW not associated with an ACD call.	INACW

Trunk Group Report

Purpose

The Trunk Group report displays the current status of each trunk in a selected trunk group. This information is useful in identifying overused or underused facilities and in general troubleshooting.

Things to Know About This Report

The trunk states have the following meanings:

IDLE	The trunk is waiting for a call.
CONN	The caller and an agent are connected on an ACD call.
QUEUED	An ACD call has seized a trunk and is queued to a split waiting for an agent to answer.
SEIZED	A call is holding the trunk, either incoming or outgoing.
MBUSY	The trunk is maintenance busy, out of service for maintenance purposes.
HOLD	The agent has put the caller on this trunk on hold.
UNKNOWN	CMS doesn't recognize the state (for example, when the link first comes up and CMS is not receiving ACD data).
DABN	The queued caller abandoned the call. The trunk quickly goes idle.
FBUSY	The caller receives forced busy signal if you have a Generic 2/System 85 with Call Vectoring or a Generic 1 or Generic 3.
FDISC	The caller receives a forced disconnect. This appears only if you have the Vectoring feature.
RING	An ACD call is ringing at the agent's voice terminal.

| See Chapter 2, "User Basics", for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.

Prerequisite
System
Administration

You must have **read** permission for the Reports' subsystem and the trunk group that you want to view. See Chapter 10, "User Permissions"—Feature Access and Trunk Group Access."

Relationships to
Other
Subsystems

User Permissions

The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error displays in a message window.

Dictionary

For trunk group names to appear on this report, names must be defined and entered in the Dictionary subsystem.

Trunk Group Input
Window

You must fill in the Trunk Group report input window to run the report. Field descriptions follow the window.

03/20/93 08:30 AM

Call Management System

Windows: 1 of 1 ^

Rpts: Real: Trunk Group Report Input

xxxx

Trunk group:

Refresh rate in seconds:

Run

Figure 4-21: Trunk Group Input Window Example

Field Descriptions

Trunk group:

Enter the trunk group name or number that you want to view in this report. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

Trunk Group Report Example

A description of each report item follows the report example.

Trunk group: Billing

Trunk	State	Dir	Time	Agent	Extn	Split	VDN
000221301	CONN	IN	1:40	Smith,M	2002	11	Billi
000221302	CONN	IN	1:24	Sanchez,T	2006	11	Billi
000221303	CONN	IN	1:07	Brown,T	2202	12	Billi
000221400	IDLE		:10				
000221402	IDLE		:27				

Figure 4-22: Trunk Group Report Example

Note

All database items and calculations apply to the `ctkgrp` table for the current interval.

Table 4-9: Trunk Group Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Trunk group	Name or number of the Trunk group selected for this report.	SYN(TKGRP)
Trunk	The trunk equipment location assigned to this trunk group.	EQLOC
State	The current state of the trunk (IDLE, CONN, QUEUED, SEIZED, MBUSY, HOLD, UNKNOWN, DABN, FBUSY, FDISC, RING).	SYN(TKSTATE)
Dir	The direction the trunk is carrying the call (in or out).	SYN(DIRECTION)
Time	Time the trunk has spent in the current state.	DURATION
Agent	The name of the agent handling the call on the trunk.	SYN(LOGID)
Extn	The extension number associated with the current call on the trunk.	EXTENSION
Split	The split number associated with the current call on the trunk.	SPLIT
VDN (Shows data only if you have the Vectoring feature)	The vector directory number that the calls came into.	VDN

Event Count Summary

Purpose

The Event Count Summary report displays the number of times during the current interval an agent in a split or skill pressed any of the Event Count key (total of nine keys) while on an ACD call or in call-related after call work.

You can define event keys to represent any kind of event you want (for example, the number of calls generated from an advertisement, promotion, or geographic area).

Things to Know About This Report

- Event counts are only recorded while an agent is on an ACD call. If an agent is in AUTO-IN mode, the ACD call terminates when the caller hangs up. With this case, an event count cannot be recorded after the caller hangs up. To track all event counts, it is recommended that agents use the MANUAL-IN mode because the agent goes to ACW when the caller hangs up which indicates to CMS the agent can still enter an event count for the call. As long as the agent records the event before returning to the AVAIL mode, all events will be counted.
 - This report is available with Generic 2, System 85, and Generic 3 switches only.
 - Event Count keys are also known as Stroke Count keys.
 - See Chapter 2, "User Basics" for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.
-

Prerequisite System Administration

You must have **read** permission for the reports subsystem and the split/skill that you want to view. See Chapter 10, "User Permissions"—Feature Access and Split/Skill Access."

**Relationships to
Other
Subsystems**

Exceptions

Event 0, audio difficulty, can be found in the trunk and trunk group exception reports.

User Permissions

The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window.

Dictionary

For split/skill names to appear on this report, names must be defined and entered in the Dictionary subsystem.

**Event Count
Summary Input
Window**

You must fill in the report input window to run the report. Field descriptions for the window follow.

03/20/93 08:30 AM

Call Management System

Windows: 1 of 1 ^

Rpts: Real: Event Count Summary: Input xxxx

Split/Skill: Westravel

Refresh rate in seconds: 25

Figure 4-23: Event Count Summary Input Window

Field Descriptions**Split/Skill:**

Enter the split or skill name or number that you want to view in this report. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

Event Count Summary Report Example

A description of each report item follows the report example in the Event Count Summary Report Description.

Split/Skill: Westravel

Agents Staffed: 15

	ACD	-----Event Count-----								
Agent Name	Calls	1	2	3	4	5	6	7	8	9
Barnes, Mary	6	0	0	0	2	0	0	0	0	1
Chavez, Jane	6	1	0	0	0	0	0	0	1	0

Figure 4-24: Event Count Summary Report Example

Note

All database items and calculations apply to the `csplit` table for the current interval.

Table 4-10: Event Count Summary Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Split/Skill	Name or number of the split/skill selected for this report.	SYN(SPLIT)
Agents Staffed	The total number of agents logged into this split/skill.	STAFFED
Agent Name	Names (or agent IDs if the name has not been assigned in Dictionary) of the agents assigned to this split and logged in.	SYN(LOGID)
ACD Calls	The total number of split/skill and direct agent calls (Generic 3 only) received by this agent. This is the number of calls the agent received, not the number of calls for which the agent counted an event.	ACDCALLS + DA_ACDCALLS
Event Count	The number of times this agent pressed each event (stroke) count key (1 - 9) while on ACD calls or in ACW associated with an ACD call for this split/skill.	EVENT1-9

Multi-ACD Report

Purpose

The Multi-ACD report displays real-time call-handling information on up to six splits/skills and up to four ACDs at the same time. It allows you to evaluate and compare similar splits/skill in different ACDs and then determine workload and call-handling performance, agent reassignment, or other ACD configuration alternatives to balance workloads and/or reduce abandoned calls.

Things to Know | About This Report

- You cannot customize this report.
 - The Multi-ACD Report item does not appear on the real-time reports menu unless you have more than one real ACD installed on your CMS.
 - See Chapter 2, "User Basics", for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.
-

Prerequisite System Administration

You must have **read** permission for the reports subsystem and all splits/skills and ACDs that you want to view. See Chapter 10, "User Permissions". If you do not have **read** permission for the particular split/skill or ACD you want to view, the column in the report designated for that split/skill or ACD is blank. If you have read permission for none of the splits/skills or ACDs you want to view, the report does not run and an error is reported.

Relationships to Other Subsystems

User Permissions

Each CMS user is assigned a default refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window.

Dictionary

If you are using names for splits/skills and ACDs, you must enter the split/skill and ACD names in the Dictionary subsystem first.

Multi-ACD Report Input Window

You must fill in the Multi-ACD report input window to run the report. Field descriptions for the window follow.

03/20/93 08:30 AM Call Management System Window: 1 of 1

Rpts: Real: Multi-ACD: Report: Input

First ACD: _____ Split/Skill: _____

Second ACD: _____ Split/Skill: _____

Third ACD: _____ Split/Skill: _____

Fourth ACD: _____ Split/Skill: _____

Fifth ACD: _____ Split/Skill: _____

Sixth ACD: _____ Split/Skill: _____

Refresh rate in seconds: _____

Run

Figure 4-25: Multi-ACD Report Input Window Example

Field Descriptions

First through Sixth ACD:

Enter the ACD name(s) or number(s) that you want to view in this report.

The ACDs do not have to be different, that is, you could report on several splits/skills from the same ACD.

Split/Skill (for First through Sixth Split/Skill)

Enter the split or skill name or number associated with the first ACD, then the second ACD, etc.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

Multi-ACD Report Example

A description of each report item follows the report example.

Splits/Skills:	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
ACDs:	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
Calls Waiting	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Oldest Call Waiting	xx:xx	xx:xx	xx:xx	xx:xx	xx:xx	xx:xx
Avg Speed of Answer	xx:xx	xx:xx	xx:xx	xx:xx	xx:xx	xx:xx
ACD Calls	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Avg ACD Talk Time	xx:xx	xx:xx	xx:xx	xx:xx	xx:xx	xx:xx
Abandoned Calls	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Avg Time to Abandon	xx:xx	xx:xx	xx:xx	xx:xx	xx:xx	xx:xx
Agents: Available	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Ringing	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
ACD Calls	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
After Call Work	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Other	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Aux Work	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Staffed	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx

Figure 4-26: Multi-ACD Report Example

Table 4-11: Multi-ACD Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Splits/Skills	Name or number of the splits/skills selected for this report.	SYN(SPLIT)
ACDs	Name or number of the ACDs selected for this report.	SYN(ACD)
Calls Waiting	For each split/skill in this report, the total number of ACD calls waiting to be answered. This includes calls that are in queue and ringing at an agent voice terminal and calls that are outbound, but it does not include direct agent calls (Generic 3 only).	INQUEUE+INRING
Oldest Call Waiting	For each split/skill in this report, the number of seconds the oldest call in queue or ringing at an agent voice terminal has waited (includes outbound calls). This does not include direct agent calls.	OLDESTCALL
Avg Speed of Answer	The average time calls waited in queue or ringing before an agent answered. This does not include direct agent calls, but it does include outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only).	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED>
ACD Calls	The queued ACD calls to the split/skill that were answered by an agent. This does not include direct agent calls, but it does include ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway or Generic 3 with ASAI only).	ACDCALLS
Avg ACD Talk Time	The average talk time (does not include hold time) for all ACD calls to this split/skill. This does not include direct agent calls, but it does include talk time of all ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only).	ACDTIME/ACDCALLS <AVG_ACD_TALK_TIME>

Table 4-11: Multi-ACD Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Abandoned Calls	The total number of queued calls for each split/skill that abandoned before an agent answered. This includes calls that are ringing at a voice terminal but does not include direct agent calls. It also includes the number of out-bound calls for each split/skill that abandoned before an agent answered at the far end (Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only).	ABNCALLS
Avg Time to Abandon	The average time a caller waited before hanging up.	ABNTIME / ABNCALLS <AVG_ABANDON_TIME>
Agents: Available	The total number of agents who are available to receive ACD calls in this split/skill.	AVAILABLE
Agents: Ringing	The current number of agents that are available and have split/skill ACD calls for this split/skill ringing at their voice terminal but have not yet answered. If the agent goes into the AUX state or makes or picks up an extension call, the agent show up as in AUX work, not as having a ringing ACD call on the voice terminal.	AGINRING
Agents: ACD Calls	The total number of agents connected to inbound and outbound ACD calls in each split/skill. This does not include direct agent calls.	ONACD
Agents: After Call Work	The number of agents who are in the after call work mode for each split/skill. This includes agents on ACW-IN/ACW-OUT calls as well as agents in ACW not associated with an ACD call.	INACW

Table 4-11: Multi-ACD Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Agents: Other	Current number of agent positions that are doing other work. For Generic 3, while in Auto-in or Manual-in: •The agent put any call on hold and has performed no further action. •The agent is on a direct agent call or in ACW for a direct agent call. •The agent is dialing to place a call or to activate a feature. •A personal call or a direct agent ACD call is ringing with no other activity. For Generic 3 and Generic 1 without EAS, agents are logged into multiple splits and doing work for a split other than this one (on an ACD call, in ACW or on a personal call attributed to a split other than this one). For Generic 3 Version 2 and Generic 2.2 with EAS, agents are logged into multiple skills and doing work for a skill other than this one (on an ACD call, in call-related ACW or on a personal call attributed to a skill other than this one). Agent positions show up as OTHER directly after the link to the switch comes up and directly after the agents log in before the CMS is notified of the agent's work state.	OTHER
Agents: Aux Work	The total number of agents who are in the auxiliary work mode for all splits/skills including agents who are handling AUX-IN or AUX-OUT calls.	IN_AUX
Agents: Staffed	The number of agents logged into each split/skill.	STAFFED

Graph >

General Information

- | Graph reports (Figure 4-21) are only available with the separately purchased Graphics Package. These reports display various real-time call-handling information such as the number of calls waiting, how long callers have been waiting, and the percentage of calls answered within the service level. Graph reports can be displayed on color or monochrome terminals.

Bar graphs can alert you faster to some conditions at a glance when the color or intensity of a bar changes. You can then take appropriate action to correct the condition.

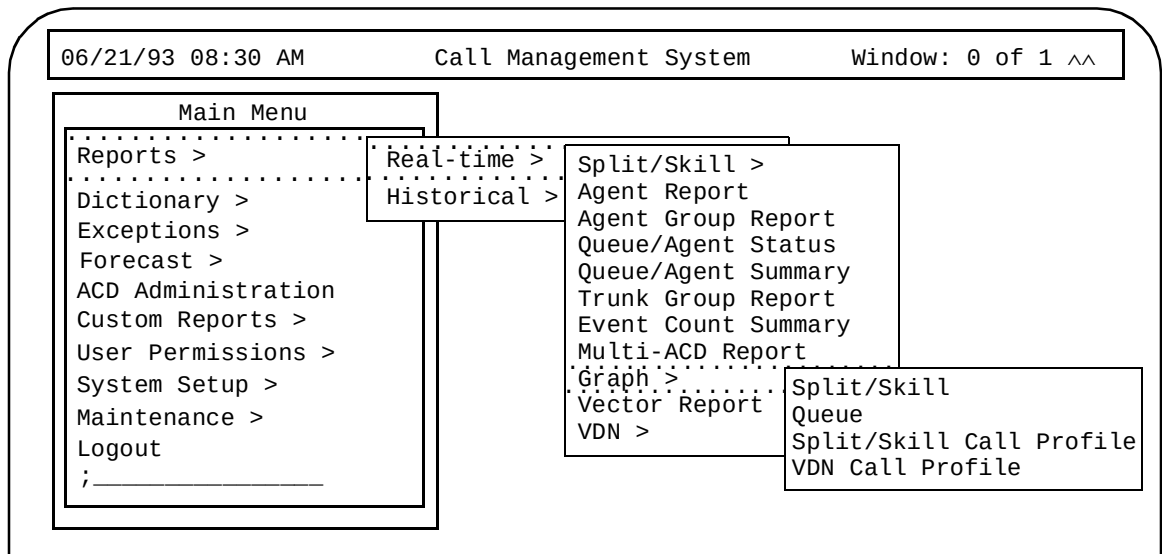


Figure 4-27: Graph Reports Menu

Intensity/Color of Bars

The intensity/color of the bars on a graph report depends on whether the data has crossed either the *first* or *second* threshold limit. For monochrome terminals, three levels of intensity are used to display the bars. For color terminals, you can select your own colors to display the three levels of intensity. You can use the three levels of intensity/color to designate **Normal**, **Caution**, and **Warning** conditions. The following table shows the three intensity/color levels.

Threshold	Monochrome Terminal	Color Terminal	Default Colors
Normal	Dim reverse video	First color choice	Green
Caution (<i>First threshold</i>)	Bold reverse video	Second color choice	Yellow
Warning (<i>Second threshold</i>)	Blink reverse video	Third color choice	Red

Things to Know About Graph Reports

- Graph reports are designed to work on character terminals only.
- With color terminals, you change the colors by selecting the Options menu item from the **Commands** SLK. See Chapter 2, "User Basics"—Changing Your Terminal's Colors," for the procedures.
- Bar graphs use standard Dictionary calculations.
- When the data displayed on a bar is greater than the maximum size allowed for that bar, "***" are displayed on the top line of the bar.
- Bar graphs are printed using periods as the bar. Once the *first threshold* is met, the bar is printed using the plus (+) sign. When the *second threshold* is met, the bar is printed using the pound (#) sign.
- If your thresholds and maximums do not change much on a day-to-day basis, you can set up the input parameters once and then save them as your default values. Saving your defaults is useful because of the number of entries on the graph input windows. See Chapter 2, "User Basics"—Defaults," for the procedures.

Graph Terms

The following terms are included to help you understand and use the graph reports.

First threshold	The lower limit you enter for a particular condition in the report. The bar(s) change color/intensity when the defined limit is met. You are telling the system that when this limit is met, you want to be notified that a <i>Caution</i> condition could exist.
Second threshold	The upper limit you enter for a particular condition in the report. When this defined limit is met, the bar(s) change color/intensity. You are telling the system that when this second limit is met, you want to be notified that a possible <i>Warning</i> condition exists.
Normal condition	The bars in the graph are within your acceptable limits.
Caution condition	The bars in the graph have changed color or intensity indicating that the data being displayed met your defined <i>first threshold</i> limit, or the bars have changed from the <i>Warning</i> condition back to the <i>Caution</i> condition.
Warning condition	The bars in the graph have changed color or intensity indicating that the data being displayed met your defined <i>second threshold</i> limit.

Split/Skill Graph

The Split/Skill Graph report displays real-time call-handling information on one split or skill at a time, only in bar format. It allows the supervisor to evaluate and compare the split's/skill's workload and call-handling performance and determine agent reassignment or other ACD configuration alternatives to balance workloads and/or reduce abandoned calls.

Things to Know About This Report

- This graph is equivalent to the Split/Skill report, but for only one split/skill. You can use the numbers on the Split/Skill report to compare with the split/skill used in this graph report.
- See Chapter 2, "User Basics", for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.

Prerequisite System Administration

- You must have purchased the Graphics option to see this report.
- You must have **read** permission for the reports subsystem and the split/skill that you want to view. See Chapter 10, "User Permissions"—Feature Access and Split/Skill Access."

Relationships to Other Subsystems

User Permissions

The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window.

Dictionary

For split/skill names to appear on this report, names must be defined and entered in the Dictionary subsystem.

Split/Skill Graph Input Window

From this window, you can set the parameters for the Split/Skill Graph report. You must fill out this window to run the report. Field descriptions follow the window.

03/20/93 08:30 AM Call Management System Window: 1 of 1

Rpts: Real: Graph: Split/Skill: Input ACD1

Split/Skill: _____ Run

Maximum calls waiting: _____

First calls waiting threshold: _____

Second calls waiting threshold: _____

Maximum time oldest call waits (Secs): _____

First oldest call wait thres (Secs): _____

Second oldest call wait thres (Secs): _____

Maximum number of agents staff: _____

Refresh rate in seconds: _____

Figure 4-28: Split/Skill Graph Input Window Example

Field/Action List Usage

The maximum value field entries (like Maximum calls waiting) are used to scale the graphs. The data from the Split/Skill report can be helpful to you before determining the values to enter in these fields.

Field Descriptions

Split/Skill:

Enter the name or number of the split or skill you want to view in this report. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Maximum calls waiting:

Enter the maximum number of calls that you think could be waiting for this split/skill at any one time.

When the Calls Wait bar in the graph report is at its maximum height, it equals this number. This number is used to scale the graph and appears on the vertical axis of the bar graph under Calls.

First calls waiting threshold:

Enter the number of waiting calls that separate the Normal condition from the Caution condition.

This number must be less than or equal to the number entered in the Second calls waiting threshold field. When the calls waiting in queue to be answered meet or exceed this threshold, the Calls Wait bar changes color/intensity.

Second calls waiting threshold:

Enter the number of calls that separate the Caution condition from the Warning condition.

This number must be greater than or equal to the number entered in the First calls waiting threshold field. When the calls waiting in queue to be answered meet or exceed this second threshold, the Calls Wait bar changes color/intensity.

Maximum time oldest call waits (Secs):

Enter the maximum number of seconds that you think the oldest call will wait in the queue.

This number is used to scale the graph and appears on the vertical axis of the bar graph under Seconds. The bars under the Seconds report heading equal this number when they are at maximum height.

First oldest call wait thres (Secs):

Enter the number of seconds that separate the Normal condition from the Caution condition.

This value must be less than or equal to the value entered in the Second oldest call wait thres field. When any call waiting in queue meets or exceeds this first threshold, the Oldest Wait bar on the report changes color/intensity.

Second oldest call wait thres (Secs):

Enter the number of seconds that separate the Caution condition from the Warning condition.

This value must be greater than or equal to the value entered in the First oldest call wait thres field. When any call waiting in queue meets or exceeds this second threshold, the Oldest Wait bar on the report changes color/intensity.

Maximum number of agents staff:

Enter the maximum number of agents who will be staffed at any one time.
This number is used to scale the graph and appears on the vertical axis of the bar graph under Agents. The bars under Agents in the graph report equal this number when they are at maximum height.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.
The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

**Split/Skill Graph
Report Example**

A description of each report item follows the report example.

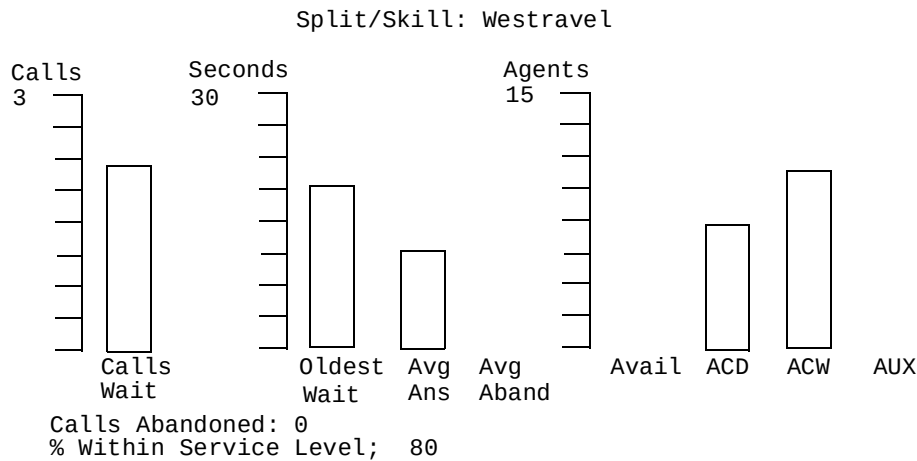


Figure 4-29: Split/Skill Graph Report Example

Note

All database items and calculations apply to the `csplit` table for the current interval.

Table 4-12: Split/Skill Graph Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Split/Skill	Name or number of the split/skill selected for this report.	SYN(SPLIT)
Calls Wait	The total number of split/skill ACD calls waiting to be answered. This includes calls that are in queue and ringing at an agent voice terminal and outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only). It does not include direct agent calls (Generic 3 only).	INQUEUE+INRING
Oldest Wait	The length of time (in seconds) the oldest call in queue or ringing at an agent voice terminal has waited to be answered. This includes outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only). It does not include direct agent calls (Generic 3 only).	OLDESTCALL
Avg Ans	The average time calls waited in queue or ringing before an agent answered. This does not include direct agent calls, but it does include ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only).	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED>
Avg Aband	The average time a caller waited before hanging up.	ABNTIME / ABNCALLS <AVG_ABANDON_TIME>
Agents: Avail	The total number of agents who are available to receive ACD calls in this split/skill.	AVAILABLE
Agents: ACD	The total number of agents connected to inbound and outbound ACD calls in each split/skill. This does not include direct agent calls.	ONACD
Agents: ACW	The number of agents who are in the after call work mode for this split/skill. This includes agents on ACW-IN/ACW-OUT calls as well as agents in ACW not associated with an ACD call.	INACW

Table 4-12: Split/Skill Graph Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Agents: AUX	The total number of agents who are in the auxiliary work mode for this splits/skills including agents who are handling AUX-IN or AUX-OUT calls.	INAUX
Calls Abandoned	The total number of queued calls for this split/skill that abandoned before an agent answered. This includes calls that are ringing at a voice terminal but does not include direct agent calls. It also includes the number of out-bound calls for each split/skill that abandoned before an agent answered at the far end (Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only).	ABNCALLS
% Within Service Level	The percentage of split/skill ACD calls answered by an agent within the predefined acceptable service level. Calls to the split/skill include calls that were abandoned and calls that were not answered, but do not include direct agent calls. Calls that were not answered may include: forced busy calls, forced disconnect calls, calls redirected to another destination, and calls queued to more than one split/skill and answered in another split/skill.	$100 * (\text{ACCEPTABLE} / \text{CALLS OFFERED})$

Queue Graph

The Queue Graph report shows the number of calls waiting and the oldest call waiting in up to three splits or skills. With this report, you can quickly evaluate and compare one split's/skill's workload and call-handling performance against the performance of two other splits/skills and then determine how to reassign agents or reconfigure your ACD to balance workloads and/or reduce abandoned calls.

Things to Know About This Report

- This graph is equivalent to the real-time Split/Skill Status report, but for three splits/skills. You can use the numbers from the real-time Split/Skill Status report for each split/skills to compare with the Queue Graph report.
- See Chapter 2, "User Basics", for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.

Prerequisite System Administration

- You must have purchased the Graphics option to see this report.
- You must have **read** permission for the reports subsystem and all splits/skills that you want to view. See Chapter 10, "User Permissions"—Feature Access and Split/Skill Access."

Relationships to Other Subsystems

User Permissions

The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window.

Dictionary

For split/skill names to appear on this report, names must be defined and entered in the Dictionary subsystem.

Queue Graph Input Window

From this window, you can set the parameters for the Queue Graph report. You must fill out this window to run the report. Field descriptions follow the window.

03/20/93 08:30 AM	Call Management System	Window: 1 of 1

Rpts: Real: Graph: Queue Input	ACD1

Maximum calls in queue: _____ Maximum time oldest call waits (Secs): ____ First split/skill: _____ Calls in queue threshold: ____ Oldest call waiting threshold (Secs): ____ Second split/skill: _____ Calls in queue threshold: ____ Oldest call waiting threshold (Secs): ____ Third split/skill: _____ Calls in queue threshold: ____ Oldest call waiting threshold (Secs): ____ Refresh rate in seconds: ____	Run

Figure 4-30: Queue Graph Input Window Example

Field Descriptions

Maximum calls in queue:

Enter the maximum number of calls likely to be waiting in the queue.

This number appears under the **Calls Waiting** report heading on the graph report and is used to scale the bars in this part of the graph. The bars under **Calls Waiting** heading on the graph report equal this number when they are at maximum height.

Maximum time oldest call waits (Secs):

Enter the maximum amount of time in seconds that the oldest call in queue is likely to wait.

This number appears under the **Oldest Call Waiting** report heading on the graph report and is used to scale the bars in this part of the graph. The bars under **Oldest Call Waiting** heading on the graph report equal this number when they are at maximum height.

First split/skill:

Enter the name or number of the first split or skill that you want to view in this graph. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

The name appears under the left-most bar for each report heading on the report.

Calls in queue threshold:

Enter the number of calls that will trigger a Caution condition for the first split/skill.

The bar for this first split/skill under the `Calls Waiting` report heading changes color/intensity when the number of calls in queue meets or exceeds this threshold.

Oldest call waiting threshold (Secs):

Enter the amount of time in seconds that will trigger a Caution condition for the first split or skill.

The bar for the first split or skill under the `Oldest Call Waiting` report heading changes color/intensity when any call waiting in queue meets or exceeds this threshold.

Second split/skill:

Enter the name or number of the second split or skill that you want to view in this graph. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

The name appears under the middle bar for each report heading on the report.

Calls in queue threshold:

Enter the number of calls that will trigger a Caution condition for the second split or skill.

The bar for this second split/skill under the `Calls Waiting` report heading changes color/intensity when the number of calls in queue meets or exceeds this threshold.

Oldest call waiting threshold (Secs):

Enter the amount of time in seconds that will trigger a Caution condition for the second split/skill.

The bar for the second split/skill under the Oldest Call Waiting report heading changes color/intensity when any call waiting in queue meets or exceeds this threshold.

Third split/skill:

Enter the name or number of the third split/skill that you want to view in this graph. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

The name appears under the right-most bar for each report heading on the report.

Calls in queue threshold:

Enter the number of calls that will trigger a Caution condition for the third split/skill.

The bar for this third split/skill under the Calls Waiting report heading changes color/intensity when the number of calls in queue meets or exceeds this threshold.

Oldest call waiting threshold (Secs):

Enter the amount of time in seconds that will trigger a Caution condition for the third split/skill.

The bar for the third split/skill under the Oldest Call Waiting report heading changes color/intensity when any call waiting in queue meets or exceeds this threshold.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

Queue Graph Report Example A description of each report item follows the report example.

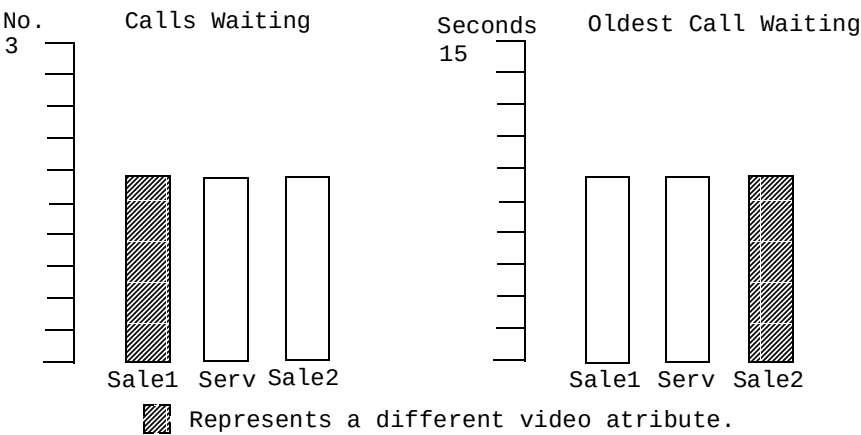


Figure 4-31: Queue Graph Report Example

Note

All database items and calculations apply to the `csplit` table for the current interval.

Table 4-13: Queue Graph Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
No. Calls Waiting	The total number of ACD calls waiting to be answered. This includes calls that are in queue and ringing at an agent voice terminal and calls that are outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only). It does not include direct agent calls (Generic 3 only).	INQUEUE+INRING
Oldest Call Waiting	The length of time (in seconds) the oldest call in queue or ringing at an agent voice terminal has waited to be answered. This includes outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only). It does not include direct agent calls (Generic 3 only).	OLDESTCALL
Split(s)/Skill(s)	Name or number of the split(s) or skill(s) selected for this report.	SYN(SPLIT)

Split/Skill Call Profile Graph

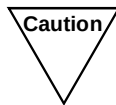
The Split/Skill Call Profile graph report shows the wait times of incoming calls handled and abandoned in a split or skill during the current interval.

Things to Know About This Report

- Calls are displayed in ten separate bars; each bar represents a progressively longer wait time for the call.
- The bars representing abandoned calls vary in color/intensity depending on how the number of abandons compares to the upper and lower thresholds you set for abandons. The size of the abandon bars, however, do not change.

Prerequisite System Administration

You must first define your acceptable service level and service level increments for this split/skill in the Split/Skill Call Profile Setup window. For more information, see Chapter 9, "ACD Administration"—Split/Skill Call Profile Setup."



If you change the increments, data is distorted for the interval in which you made the change. CMS deletes the split call profile data already collected for that interval and only keeps the split/skill call profile data that occurred in that interval after the change. Then CMS tries to combine the split/skill call profile data gathered both before and after the change into a single daily record of split/skill call profile data. As a result, some data is placed in the wrong service level increments.

Daily, weekly, and monthly summaries that include the date of the increment change look peculiar. The time increments shown on the report for the changed increment in the Call Profile Setup window are the maximum values entered for each increment before or after the change. For example, if you change the increments from all "0s" to 1, 3, 5, 10, etc., the Split/Skill Call Profile report shows 1, 3, 5, 10, etc. If you change from 1, 3, 5, 10, ... to 1, 5, 7, 9, ..., the report shows 1, 5, 7, 10 for the date of the change.

To avoid misleading split/skill call profile data, change the time increments early in the day, preferably before agents begin staffing splits/skills and before a large amount of data has been gathered. Also change the profile increments at the beginning of your reporting week and, if possible, the beginning of the month. If the beginning of the week does not coincide with the beginning of the month, you are not be able to avoid some misleading profile data for the month in which you make profile changes.

**Split/Skill Call
Profile Graph Input
Window**

From this window, you can set the parameters for the Split/Skill Call Profile Graph report. You must fill out this window to run the report.

03/20/93 08:30 AM

Call Management System

Window: 1 of 4

Rpts: Real: Graph: Split/Skill Call Profile Input

ACD1

Split/Skill: _____

Maximum number of calls answered: _____

First calls abandoned threshold: _____

Second calls abandoned threshold: _____

Refresh rate in seconds: _____

Run

Figure 4-32: Split/Skill Call Profile Graph Input Window Example

Field Descriptions

Split/Skill:

Enter the split or skill name or number that you want to view in this graph. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Maximum number of calls answered:

Enter the maximum number of calls that you think could be answered during the intrahour interval for any one service level increment.

This number appears on the vertical axis of the bar graph under Answered. The bars in this graph equal this number when they are at maximum height.

First calls abandoned threshold:

Enter the number of calls that separate the Normal condition from the Caution condition.

This number must be less than or equal to the number entered in the Second calls abandoned threshold field. The abandoned bars change color/intensity when this first threshold is met or exceeded.

Second calls abandoned threshold:

Enter the number of calls that separate the Caution condition from the Warning condition.

This number must be greater than or equal to the number entered in the First calls abandoned threshold field. The abandoned bars change color/intensity when this second threshold is met or exceeded.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

Split/Skill Call Profile Graph Report Example

A description of each report item follows the report example in the Split/Skill Call Profile Graph Description table.

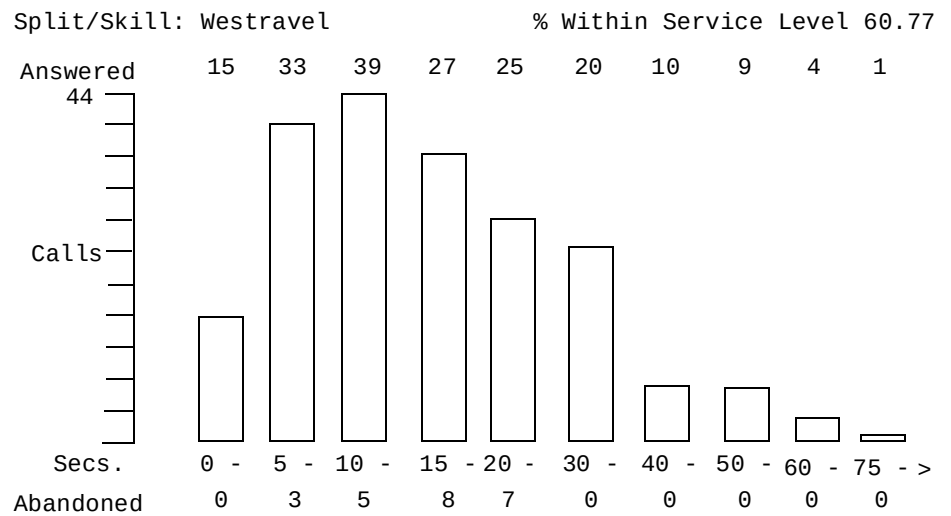


Figure 4-33: Split/Skill Call Profile Graph Report Example

Note

All database items and calculations apply to the `csplit` table for the current interval.

Table 4-14: Split/Skill Call Profile Graph Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Split/Skill	The name or number of the split/skill selected for this report.	SYN(SPLIT)
% Within Service Level	The percentage of split/skill ACD calls that were answered by an agent within the predefined acceptable service level. Calls to the split/skill include abandoned calls, not answered calls, and outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only). It does not include direct agent calls (Generic 3 only). Calls that were not answered may include forced busy calls, forced disconnect calls, calls redirected to another destination, and calls queued to more than one split and answered in another split/skill.	$100 * (\text{ACCEPTABLE} / \text{CALLSOFFERED})$ <PERCENT_SERV_LVL_SPL>
Calls Answered	The lower and upper limit in seconds for each service level increment. In this increment, the number of ACD calls to the split/skill that an agent in this split/skill answered. This includes outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only). It does not include direct agent calls (Generic 3 only).	ACDCALLS1-10
Secs.	The lower and upper limits in seconds of each service level increment. Each increment of seconds represents a progressively longer wait time for a call in queue, and each increment can be a different length.	PERIOD1-9
Abandoned	The number of calls to the split/skill that were abandoned in this increment. This includes outbound ACD calls placed by an adjunct (outbound predictive dialing - Generic 2.2 with ASAI Gateway Interface feature or Generic 3 with the ASAI feature only). It does not include direct agent calls (Generic 3 only).	ABNCALLS1-10

VDN Call Profile Graph Report

Note

If you have not purchased the CMS Vectoring feature and the Graphics package, this menu item will not appear.

The VDN Call Profile report displays the numbers of answered/connected and abandoned calls that have been processed by the specified VDN within the current interval. It also displays the percentage of calls that have been answered within the acceptable service level administered for the VDN.

Things to Know About This Report

- An answered VDN call is any split, skill, or direct agent call answered by a measured agent. A VDN connected call is any other call (non-ACD call) answered outside the ACD, like an extension.
- The bars representing answered/connected calls vary in height according to the number of answered/connected calls.
- The bars representing abandoned calls vary in color depending on how the number of abandons compares to the upper and lower thresholds you set for abandons. The bars, however, do not change size.

Prerequisite System Administration

You must first define your acceptable service level and service level increments for this VDN in the VDN Call Profile Setup window. If you do not define your service level and increments, zero (0) is used for all increments (therefore, all calls appear in the first increment). For more information, see Chapter 9, "ACD Administration"—VDN Call Profile Setup."

Caution

If you change the increments, data is distorted for the interval in which you made the change. CMS deletes the VDN call profile data already collected for that interval and only keeps the VDN call profile data that occurred in that interval after the change. Then CMS tries to combine the VDN call profile data gathered both before and after the change into a single daily record of VDN call profile data. As a result, some data is placed in the wrong service level increments.

Daily, weekly, and monthly summaries that include the date of the increment change look peculiar. The time increments shown on the report for the changed increment in the Call Profile Setup window are the maximum values entered for each increment before or after the change. For example, if you change the increments from all “0s” to 1, 3, 5, 10, etc., the VDN Call Profile report shows 1, 3, 5, 10, etc. If you change from 1, 3, 5, 10, ... to 1, 5, 7, 9, ..., the report shows 1, 5, 7, 10 for the date of the change.

To avoid misleading VDN call profile data, change the time increments early in the day, preferably before agents begin staffing splits and before a large amount of data has been gathered. Also change the profile increments at the beginning of your reporting week and, if possible, the beginning of the month. If the beginning of the week does not coincide with the beginning of the month, you are not be able to avoid some misleading profile data for the month in which you make profile changes.

VDN Call Profile Graph Input Window

From this window, you can set the parameters for the VDN Call Profile Graph report. You must fill in the report input window to run the report. Field descriptions for the window follow.

03/20/93 08:30 AM Call Management System Window: 1 of 1

Rpts: Real: Graph: VDN Call Profile Input ACD1

VDN: _____ Run

Maximum number of calls ans/conn: _____

First calls abandoned threshold: _____

Second calls abandoned threshold: _____

Refresh rate in seconds: _____

Figure 4-34: VDN Call Profile Graph Input Window Example

Field Descriptions**VDN:**

Enter the name or number of the VDN you want the report for. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Maximum number of calls ans/conn:

Enter the maximum number of calls to this VDN that you anticipate will be answered as ACD calls and connected as non-ACD calls during an intrahour interval within any single service level increment. The bars in the graph equal this number when they are at maximum height.

First calls abandoned threshold:

Enter a number of abandoned that separate the Normal condition from the Caution condition.

This number must be less than or equal to the number entered in the Second calls abandoned threshold field. The abandoned bars change color/intensity when this first threshold is met or exceeded.

Second calls abandoned threshold:

Enter a number of abandoned calls that separate the Caution condition from the Warning condition.

This number must be greater than or equal to the number entered in the First calls abandoned threshold field. The abandoned bars change color/intensity when this second threshold is met or exceeded.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

VDN Call Profile
Graph Report
Example

A description of each report item follows the report example.

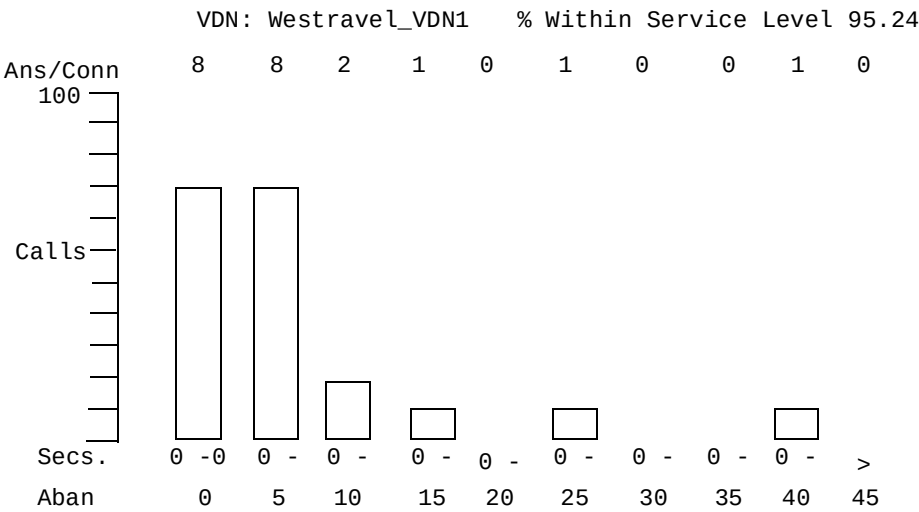


Figure 4-35: VDN Call Profile Graph Report Example

Note All database items and calculations apply to the `cvdn` table for the current interval.

Table 4-15: VDN Call Profile Graph Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
VDN	The number or name of the VDN for which the report shows data (selected in the report input window).	VDN
% Within Service Level	The percentage of calls to the VDN that were answered/connected within the service level (as specified in the VDN Call Profile Setup window). Calls to the VDN may result in ACD, direct agent, and non-ACD calls.	$100 * \text{ACCEPTABLE} / \text{INCALLS}$
Ans/Conn	The number of calls to the VDN that were answered by an agent or connected to a non-ACD destination within each of the service level increments. Calls in each increment are represented both by bars and by numbers.	ANSCONNCALLS1-10
Secs.	The lower and upper limit in seconds of each service level increment (as defined in the ACD Administration: VDN Call Profile Setup window). These increments represent progressively longer wait time segments in which calls may be answered, connected, or abandoned.	PERIOD1-9
Aban	The number of calls to the VDN that were abandoned within each of the service level increments. Calls in each increment are represented by numbers. Bars do not change in height, but change color when an upper or lower threshold is reached. With Generic 2.2 and Generic 3 switches, this is all VDN calls abandoned. With Generic 2.1 and System 85 switches, this is ACD calls abandoned.	ABNCALLS1-10

Vector Report

Purpose	The real-time Vector report displays information about how calls to the specified vectors have been handled.
Switch Features That Affect Report Data	For a Generic 2 with the ASAI Gateway feature, calls routed to the gateway by way of a “route to” command are reported as “Vector Flow Out.” These calls are not included as abandons or answered calls in the vector reports because they are neither answered nor abandoned while connected to the vector.
Things to Know About This Report	See Chapter 2, "User Basics", for the action list procedures (including <i>Running</i> reports), common rules for field entry items, and field editing information.
Prerequisite System Administration	You must have read permission for the report subsystem and the particular vectors you are viewing in this report. See Chapter 10, "User Permissions"—Feature Access and Split/Skill Access.”
Relationships to Other Subsystems	User Permissions The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window. Dictionary For vector names to appear on this report, names must be defined and entered in the Dictionary subsystem.

Vector Input Window

You must fill in the report input window to run the report. Field descriptions for the window follow.

03/20/93 08:30 AM Call Management System Window: 1 of 1

Rpts: Real: Vector Report Input ACD1

Run

Vector(s): _____

Refresh rate in seconds: _____

Figure 4-36: Vector Input Window Example

Field Descriptions

Vector(s) :

Enter the name(s) or number(s) of the vector(s) you want included in the report. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

Vector Report Example

A description of each report item follows the report example.

Vector	Calls Wait	Avg Speed Answer	Calls Aban	Aban Time	ACD Calls	Busy/ Disc	Vector Flow In	Vector Flow Out
Billing	13	1:06	0		24	0	0	0
Order_	1	_07	0		24	0	0	0
Compla	13	1:05	0		23	0	0	0
Legal	1	:07	0		24	0	0	0
Educat	20	:22	0		123	0	0	0

Figure 4-37: Vector Report Example

Note All database items and calculations apply to the `cvector` table for the current interval.

Table 4-16: Vector Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Vector	The number or name of the vector for which the report shows data (selected in the report input window).	VECTOR
Calls Wait	The number of calls currently being processed by the vector. This includes calls ringing a voice terminal and may include ACD and direct agent calls.	INPROGRESS-ATAGENT
Avg Speed Answer	The average time calls waited in queue or ringing before an agent answered. This includes direct agent calls (Generic 3 only), non-ACD calls, and calls answered by AUDIX and Message Center agents, but only includes calls that were answered as a result of processing by this vector.	ANSTIME / ACDCALLS <AVG_ANSWER_SPEED>
Calls Aban	The number of calls that were abandoned while being processed by this vector. This includes direct agent calls and calls that were abandoned while queued to a split or while ringing a voice terminal.	ABNCALLS
Aban Time	The average time a caller waited before hanging up.	ABNTIME / ABNCALLS <AVG_ABANDON_TIME>

Table 4-16: Vector Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
ACD Calls	The number of calls that were answered by an agent (in a main, backup, route to split, AUDIX, or Message Center split) as a result of processing by the vector. This includes direct agent calls (Generic 3 only).	ACDCALLS
Busy/Disc	The number of calls to which the vector gave a forced busy signal or disconnect.	BUSYCALLS + DISCCALLS <BUSY_DISCONNECT>
Vector Flow In	The number of calls that have been redirected from within the switch to the vector via a VDN assigned to the vector. This includes calls redirected to the vector because of a "route to VDN" or "go to vector" command. Calls are counted regardless of whether they were answered while being processed by the vector, were abandoned, or were routed to some other destination.	INFLOWCALLS
Vector Flow Out	The number of calls that were redirected to another destination or another vector by way of a "route to," "go to vector," or "adjunct routing" command (Generic 3 only). This includes calls routed to destinations within and outside of the switch. Calls that route to a split/skill are not considered vector flow out calls.	OUTFLOWCALLS

VDN Reports >

From the VDN Reports menu, you can select Report, Call Profile, or Skill Preference Report.

The **Report** gives the current overall status of the VDNs you select.

The **Call Profile** report gives the wait times of incoming calls answered/connected and abandoned for a VDN during the current interval.

The **Skill Preference** report gives the status of calls answered by various VDN skill preferences.

Note

The Report and Call Profile are only available if you have purchased the Vectoring feature and the feature has been activated. The Skill Preference report is only available if you have purchased the Vectoring *and* EAS features and the features have been enabled.

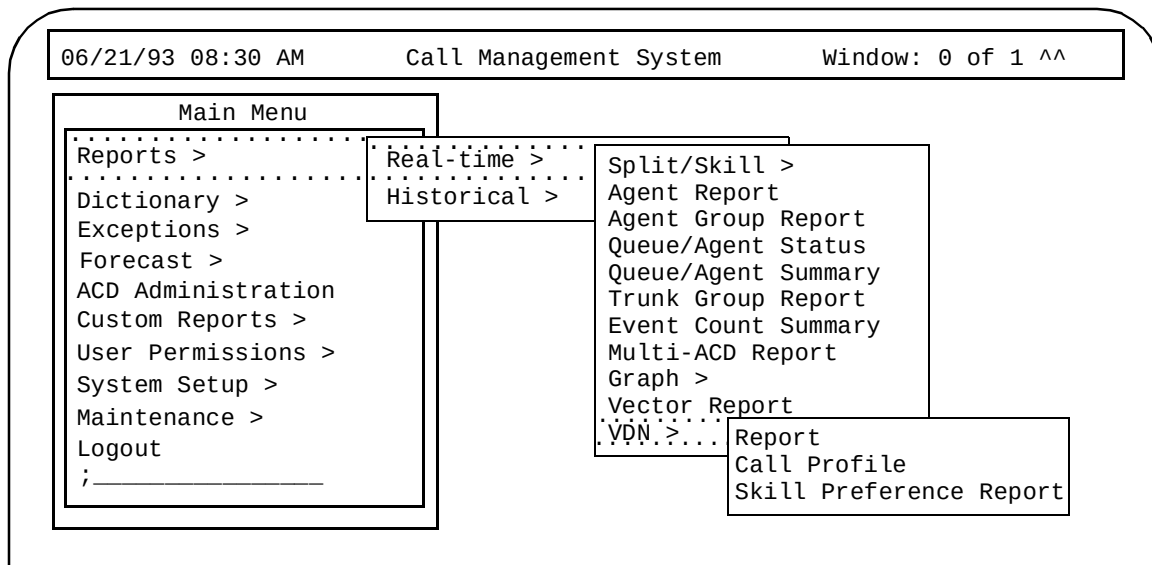


Figure 4-38: VDN Reports Menu

VDN Report

The real-time VDN report displays information about how calls to the specified VDNs have been handled.

Switch Features That Affect Report Data

For a Generic 2 with the ASAI Gateway feature, calls routed to the gateway by way of a “route to” command are reported as “Vector Flow Out.”

Things to Know About This Report

See Chapter 2, “User Basics” for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.

Prerequisite System Administration

You must have **read** permission for the report subsystem and the particular VDN you are viewing in this report. See Chapter 10, “User Permissions”—Feature Access and VDN Access.”

Relationships to Other Subsystems

User Permissions

The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window.

Dictionary

For VDN names to appear on this report, names must be defined and entered in the Dictionary subsystem.

VDN Input Window

You must fill in the report input window to run the report. Field descriptions for the window follow.

03/20/93 08:30 AM Call Management System Window: 1 of 1

Rpts: Real: VDN: Report Input ACD1

VDN(s): _____ Run

Refresh rate in seconds: _____

Figure 4-39: VDN Input Window Example

Field Descriptions

VDN(s) :

Enter the name(s) or number(s) of the VDN(s) you want included in the report. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

VDN Report Example

A description of each report item follows the report example.

VDN	Call Wait	Oldest Call	Avg Speed Answer	Calls Aban	Avg Aban time	ACD Calls	Avg ACD Talk	Busy/Disc	VDN Flow In	VDN Flow Out
Billin	16	1:05	:40	0		40	4:01	0	0	0
Order_	2	:00	:07	0		25	3:30	0	0	0
Compla	16	:55	:38	0		39	3:45	0	0	0
Legal	2	:00	:06	0		25	4:22	0	0	0
Educat	20	:50	:36	0		37	4:46	0	0	0

Figure 4-40: VDN Report Example

Note

All database items and calculations apply to the `cvdn` table for the current interval.

Table 4-17: VDN Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
VDN	The number or name of the VDN for which the report shows data (selected in the report input window).	VDN
Calls Wait	The number of calls to the VDN that are currently being processed by the vector, in queue, or ringing at an agent's voice terminal. These calls may include non-ACD and direct agent calls.	INPROGRESS-ATAGENT
Oldest Call	The length of time the oldest call in the VDN has waited.	OLDESTCALL
Avg Speed Answer	The average time, in minutes and seconds, that calls to the VDN in this interval waited before being answered by an agent. This includes direct agent calls (Generic 3 only), non-ACD calls, and calls answered by AUDIX and Message Center agents, but only includes calls that were processed by the vector associated with the VDN. Does not include calls routed to another VDN or routed outside the switch.	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED>
Calls Aban	The number of calls to the VDN that abandoned during this interval.	ABNCALLS
Avg Aban Time	The average time callers to the VDN waited before hanging up.	ABNTIME/ABNCALLS <AVG_ABANDON_TIME>

Table 4-17: VDN Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
ACD Calls	The number of calls to the VDN that were answered by an agent during this interval. This includes calls from "queue to main," "check backup," "messaging split/skill," "route to" split/skill, and "adjunct routing" to split/skill or direct agent.	ACDCALLS
Avg ACD Talk	The average talk time (does not include hold time) for all ACD calls processed by the vector associated with the VDN. This includes direct agent calls.	ACDTIME/ACDCALLS <AVG_ACD_TALK_TIME>
Busy/Disc	The number of calls offered to the VDN that received a forced busy signal or forced disconnect.	BUSYCALLS+DISCCALLS <BUSY_DISCONNECT>
VDN Flow In	The number of calls that were redirected to this VDN. Calls are counted regardless of whether they remained connected to the VDN, were abandoned, or were routed to some other destination.	INFLOWCALLS
VDN Flow Out	The number of calls to this VDN that were redirected to another VDN or a destination outside the switch by way of a "route to" or "adjunct routing" command (Generic 3 only). This does not include calls redirected by way of a "go to vector" command (because those calls stay in the same VDN).	OUTFLOWCALLS

VDN Call Profile Report

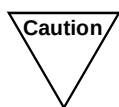
The VDN Call Profile report displays the numbers of answered/connected and abandoned calls to the specified VDN within the current interval. It also displays the percentage of calls that have been answered/connected within the acceptable service level.

Things to Know About This Report

- Calls are displayed in ten columns, with each column representing a progressively longer wait time.

Prerequisite System Administration

You must first define your acceptable service level and service level increments for this VDN in the VDN Call Profile Setup window. If you do not define your service level and increments, zero (0) is used for all increments (therefore, all calls appear in the first increment). For more information, see Chapter 9, "ACD Administration"—VDN Call Profile Setup."



If you change the increments, data is distorted for the interval in which you made the change. CMS deletes the VDN call profile data already collected for that interval and only keeps the VDN call profile data that occurred in that interval after the change. Then CMS tries to combine the VDN call profile data gathered both before and after the change into a single daily record of VDN call profile data. As a result, some data is placed in the wrong time intervals.

Daily, weekly, and monthly summaries that include the date of the increment change look peculiar. The time increments shown on the report for the changed increment in the Call Profile Setup window are the maximum values entered for each increment before or after the change. For example, if you change the increments from all "0s" to 1, 3, 5, 10, etc., the VDN Call Profile report shows 1, 3, 5, 10, etc. If you change from 1, 3, 5, 10, ... to 1, 5, 7, 9, ..., the report shows 1, 5, 7, 10 for the date of the change.

To avoid misleading VDN call profile data, change the time increments early in the day, preferably before agents begin staffing splits and before a large amount of data has been gathered. Also change the profile increments at the beginning of your reporting week and, if possible, the beginning of the month. If the beginning of the week does not coincide with the beginning of the month, you are not be able to avoid some misleading profile data for the month in which you make profile changes.

VDN Call Profile
Input Window

You must fill in the report input window to run the report. Field descriptions for the window follow.

03/20/93 08:30 AM

Call Management System

Window: 1 of 1

Rpts: Real: VDN: Call Profile Input

ACD1

VDN: _____

Run

Refresh rate in seconds: ____

Figure 4-41: VDN Call Profile Input Window Example

Field Descriptions

VDN:
Enter the name or number of the VDN you want included in the report. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Refresh rate in seconds:
Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

VDN Call Profile
Report Example

A description of each report item follows the report example.

VDN: Wholesale_VDN													% Within Service Level 92.59								
Secs.	0	-	5	-	10	-	15	-	20	-	25	-	30	-	35	-	40	-	45	-	>
Ans/Conn	22		7		13		3		2		3		0		0		1		3		
Abandoned	0		0		0		0		0		0		0		0		0		0		
Total Calls Ans/Conn					54					Total Calls Abandoned					0						
Average Speed of Ans/Conn					:12					Average Time to Abandon					.						
Percentage Ans/Conn					100.00					Percentage Abandoned					0.00						

Figure 4-42: VDN Call Profile Report Example

Note

All database items and calculations apply to the `cvdn` table for the current interval.

Table 4-18: VDN Call Profile Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
VDN	The number or name of the VDN for which the report shows data (selected in the report input window).	VDN
% Within Service Level	The percentage of calls to the VDN that were answered/connected within the service level (as specified in the VDN Call Profile Setup window). Calls to the VDN may result in ACD calls, direct agent calls, and non-ACD calls.	$100 * (\text{ACCEPTABLE} / \text{INCALLS})$
Secs.	The lower and upper limit in seconds of each service level increment. The call profile increments, as specified in the VDN Call Profile window. These increments represent progressively longer wait time segments in which calls may be answered or abandoned.	PERIOD1-9
Ans/Conn	The number of calls to the VDN that were answered by an agent or were connected to a non-ACD destination within each of the service level increments. With Generic 2.2 and Generic 3, <i>connected</i> means calls that are answered at a non-ACD destination. With Generic 2.1 and System 85, <i>connected</i> means calls that rang at a non-ACD destination. This includes direct agent calls.	ANSCONNCALLS1-10
Aban	The number of calls to the VDN that were abandoned within each of the service level increments. This includes direct agent calls and calls that were abandoned while queued to a split or while ringing a voice terminal. With Generic 2.2 and Generic 3 switches, this is all VDN calls abandoned. With Generic 2.1 and System 85, this is ACD calls abandoned.	ABNCALLS1-10
Total Calls Answered/Connected	The total number of calls to the VDN that were answered by an agent or were connected to a non-ACD destination. This includes direct agent calls.	ACDCALLS + CONNECTCALLS

Table 4-18: VDN Call Profile Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Average Speed of Answer/Connect	The average time that calls to the VDN waited before being answered. This includes direct agent calls (Generic 3 only), non-ACD calls, and calls answered by AUDIX and Message Center agents, but only includes calls that were processed by the vector associated with the VDN.	$(ANSTIME + CONNECTTIME) / (ACDCALLS + CONNECTCALLS)$
Percentage Answered/Connected	The percentage of calls to the VDN that were answered or connected within the service level. This includes direct agent calls.	$100 * ((ACDCALLS + CONNECTCALLS) / INCALLS)$ <PERCENT_VDN_ANSCONN>
Total Calls Abandoned	The total number of calls to the VDN that were abandoned. This includes direct agent calls and calls that were abandoned while queued to a split or while ringing a voice terminal.	ABNCALLS
Average Time to Abandon	The average time a caller waited before hanging up.	$ABNTIME / ABNCALLS$ <AVG_ABANDON_TIME>
Percentage Abandoned	The percentage of calls to the VDN that were abandoned.	$100 * (ABNCALLS / INCALLS)$ <PERCENT_VDN_ABAN>

VDN Skill Preference Report

The VDN skill preference report displays information about the call handling for the VDN as a whole and lists the number of calls handled by each of the VDN skill preferences.

Note

This report is only available if you have purchased the Vectoring and EAS features and the features are enabled on your switch (Generic 3 Version 2 and Generic 2.2 and later versions only).

Things to Know Before About This Report

- The EAS feature is described in Appendix E, "CMS and the Expert Agent Selection Feature". Refer to this appendix for more EAS information.
- This report displays data on the handling of calls to the VDNs by VDN skill preference.
- If a specific skill in the vector is also administered as a VDN skill preference for the associated VDN, data for that skill preference shows in this report.
- See Chapter 2, "User Basics", for the action list procedures (including *Running* reports), common rules for field entry items, and field editing information.

Prerequisite System Administration

You must have **read** permission for the report subsystem and the particular VDN you are viewing in this report. See Chapter 10, "User Permissions"—Feature Access and VDN Access."

Relationships to Other Subsystems

User Permissions

The CMS administrator assigns each CMS user a minimum refresh rate in the User Permissions — User Data window. The default for the Refresh rate in seconds field in this window is the minimum refresh rate assigned for that user plus 15 seconds. If the user enters a rate which is less than the minimum refresh rate assigned, an error appears in a message window.

Dictionary

For VDN names to appear on this report, names must be defined and entered in the Dictionary subsystem.

VDN Skill Preference Input Window

You must fill in the report input window before you can run the report. Field Descriptions for the window follow.

Figure 4-43: VDN Skill Preference Input Window Example

Field Descriptions

VDN(s) :

Enter the name(s) or number(s) of the VDN(s) you want included in the report. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Refresh rate in seconds:

Enter the number of seconds (3 to 600) to specify how long CMS should wait for each update of the report data.

The default for the Refresh rate in seconds field in this window is your assigned minimum refresh rate plus 15 seconds. To find out what your minimum refresh rate is, or to change it, check with your CMS administrator.

VDN Skill Preference Report Example

A description of each report item follows the report example.

VDN	Calls Offered	ACD Calls Ans	Avg Speed Ans	Avg Talk Time	Avg After Call	Calls Aban	Avg Aban Time	Calls Answered by Skill		
								1st	2nd	3rd
XXXXXXXX	XXXXX	XXXXX	mm:ss	mm:ss	mm:ss	XXXXX	mm:ss	XXXXX	XXXXX	XXXXX
XXXXXXXX	XXXXX	XXXXX	mm:ss	mm:ss	mm:ss	XXXXX	mm:ss	XXXXX	XXXXX	XXXXX
XXXXXXXX	XXXXX	XXXXX	mm:ss	mm:ss	mm:ss	XXXXX	mm:ss	XXXXX	XXXXX	XXXXX
XXXXXXXX	XXXXX	XXXXX	mm:ss	mm:ss	mm:ss	XXXXX	mm:ss	XXXXX	XXXXX	XXXXX
XXXXXXXX	XXXXX	XXXXX	mm:ss	mm:ss	mm:ss	XXXXX	mm:ss	XXXXX	XXXXX	XXXXX

Figure 4-44: VDN Skill Preference Report Example

Note

All database items and calculations apply to the `cvdn` table for the current interval.

Table 4-19: VDN Skill Preference Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
VDN	The VDN number or name (from the report input window) the report shows data for.	VDN
Calls Offered	The number of calls offered to the VDN since the start of and completed in the interval.	INCALLS
ACD Calls Ans	The number of calls to the VDN that were answered by an agent during this interval. This includes calls from "queue to main," "check backup," "messaging split/skill," "route to" split/skill, and "adjunct routing" to split/skill or direct agent.	ACDCALLS
Avg Speed Answer	The average time, in minutes and seconds, that calls to the VDN in this interval waited before being answered by an agent. This includes direct agent calls (Generic 3 only), non-ACD calls, and calls answered by AUDIX and Message Center agents, but only includes calls that were processed by the vector associated with the VDN. Does not include calls routed to another VDN or routed outside the switch.	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED>
Avg Talk Time	The average talk time (does not include hold time) for all ACD calls processed by the vector associated with the VDN. This includes direct agent calls.	ACDTIME/ACDCALLS <AVG_ACD_TALK_TIME>
Avg After Call	The average ACW time for ACD calls to this VDN that completed during this interval.	ACWTIME/ACDCALLS
Calls Aban	The number of calls to the VDN that abandoned during this interval.	ABNCALLS
Avg Aban Time	The average time callers to the VDN waited before hanging up.	ABNTIME/ABNCALLS <AVG_ABANDON_TIME>
Calls Answered by Skill 1st, 2nd, 3rd	The number of completed ACD calls answered by agents in each of the three VDN skill preferences.	SKILLCALLS1 SKILLCALLS2 SKILLCALLS3

Real-Time Cross Reference

The following tables list the real-time report items and the reports in which they appear.

Table 4-20: Real-Time Report Items Cross Reference

Report Items	Real-Time Reports in Which They Appear											
	Split Status	Skill Status	Split/Skill & VDN Report	Agent Report	Agent Group Report	Queue/ Agent Summary	Queue/ Agent Status	Split/Skill & VDN Call Profile	Trunk Group Report	Event Count	Multi-ACD Report	VDN Skill Preference
% Abandoned								X				
% Answered								X				
% Answered within SL					X	X		X				
ACD Calls			X							X	X	
Abandoned Calls			X					X			X	X
Abandoned Total								X				
Agents: ACD Calls			X			X	X				X	
Agents: AUX Work			X			X					X	
Agents: After Call Work			X			X	X				X	
Agents: Available			X			X	X				X	
Agents: Other			X								X	
Agents: Ringing			X			X	X				X	
Agents: Staffed			X			X	X			X	X	
Agent Name	X	X		X	X		X		X	X		
Agent State	X	X		X	X		X					
Answered Calls								X				X
Answer Total								X				
Average After Call												X
Average Speed of Answer			X					X			X	X
Average Talk Time			X									X
Average Time to Abandon			X					X			X	X
Busy/Disconnect			X (VDN)									
Calls Answered by Skill 1st, 2nd, 3rd												X
Calls Offered												X
Calls Waiting	X	X	X			X	X				X	
Direct Agent Calls Waiting						X	X					
Event Count (1-9)										X		
Extension				X	X		X		X			
Oldest Call Waiting	X	X	X			X	X				X	
Skill(s)		X										

General Information

Historical reports display, report, and summarize the past performance of any measured subset of the ACD. Historical reports display past data for various agent, split/skill, trunk/trunk groups, VDN, and vector activities, such as number of ACD calls, abandoned calls, average talk time, average speed of answer, etc.

Things to Know About All Historical Reports

- Totals for reports are on the top line of the report under the headings.
- Historical reports are available in interval, daily, weekly, and monthly versions. Not all reports are available in all versions. The section on each report gives the available report versions.
- If you want to run a daily report which includes data for today, you must do Data Summarizing first (see Chapter 11, "System Setup"—Data Summarizing).
- CMS can store intrahour data for up to 62 days, daily summary data for 5 years, and weekly/monthly summary data for 10 years. Even though CMS can store data this long, your system may have different storage limits. See the Data Storage Allocation window in the System Setup subsystem for your particular limits.
- If numerical data is longer than the length of its display field, the field is filled with asterisks (*) and the data is not printed. You can modify the standard reports to increase the field lengths using the Custom Reports screen. See the AT&T 585-215-523, *Call Management System Custom Reports*, document for more information.
- If for any reason your printer jams and the print requests are no longer in queue, you must resubmit any of the print requests that did not print.

If the print request is still in queue after fixing the printer jam, the job prints. The print request that was printing at the time of the jam may need to be resubmitted.

- See Chapter 2, "User Basics", for the action list procedure Run, common rules for field entry items, and field editing information.

Prerequisite System Administration

The following system administration tasks need to be completed before running historical reports.

Dictionary

If you want names to appear on split/skill, trunk group, agent group, ACD, call work code, VDN, and vector reports, the names must first be entered in the Dictionary subsystem. If names are not assigned in the Dictionary subsystem, numbers appear as the default.

ACD Administration

To get Split/Skill Call Profile or VDN Call Profile reports, you must first define your acceptable service level and service level increments for the split(s)/skill(s) and VDN(s) in the Split/Skill Call Profile Setup and VDN Call Profile Setup window in the ACD Administration subsystem (see Chapter 9, "ACD Administration").

To get an Agent Trace report, you must first start collecting agent trace data. To start an agent trace, see Chapter 9, "ACD Administration"—Activate Agent Trace."

User Permissions

For a report to display data, you must have **read** permission for the split/skill, trunk group, ACD, vector, or VDN. For example, if you have read permission for Splits 1, 2, and 4, and try to run a report on Splits 1, 4, and 5, you receive data for Splits 1 and 4 but not for Split 5 because you do not have read permission for that split. See Chapter 10, "User Permissions", for more information.

System Setup

You need to specify what agent data and how much agent data will be stored for later use in agent trace reports in the System Setup subsystem—Agent Trace Record Contents window. Chapter 11, "System Setup"—Agent Trace Record Contents."

Relationships to Other Subsystems

Historical reports interact as stated with the following subsystems.

Dictionary

You can find all database items and calculations used in historical reports in the Dictionary subsystem.

Timetable

You can place any historical report on a timetable.

If your report fails to run on a timetable, an error is logged in the Customer Error Log (see Maintenance: Error Log Report). A message is not sent to the Error Log if the report runs successfully. The Timetable List All window also shows the status (successful or failed) of a timetable's last run.

Shortcut

You can place any historical reports on a shortcut.

System Setup

The following windows relate to historical reports.

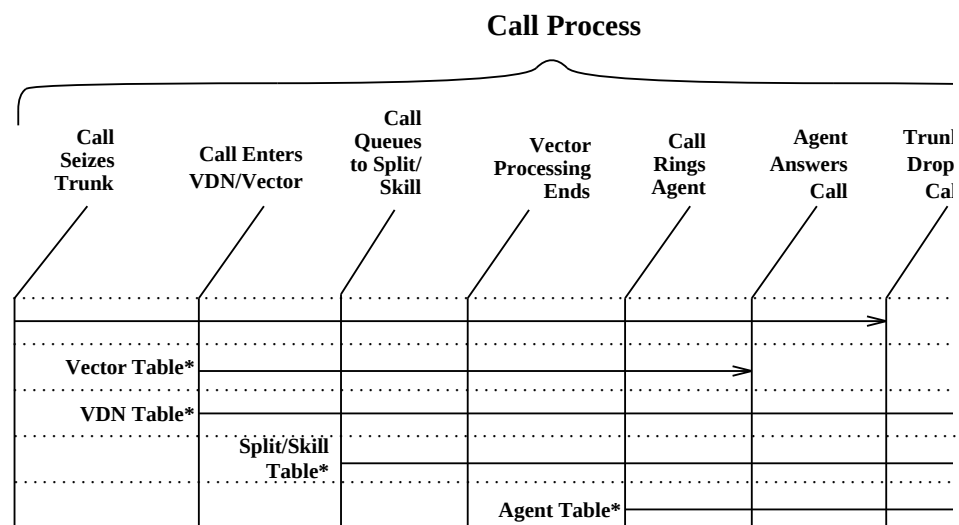
- You can change the amount of data that CMS stores using the Data Storage Allocation window in the System Setup subsystem. See Chapter 11, "System Setup"—Data Storage Allocation," for more information.
- The Free Space Allocation window in the System Setup subsystem is used to determine if space is available to be allocated to store data.
- When you request a weekly report, the date or range of dates entered must correspond to the "week start day" selected in the Storage Intervals window. For example, if you want data archived every Sunday, then the date you enter for a weekly report must fall on a Sunday. If you do not know what this day is, enter a range, check with your CMS administrator, or view the Storage Intervals window. Also see Chapter 11, "System Setup"—Storage Intervals," for more information.
- If you are not going to use the default storage interval values, you should specify your storage intervals in the Storage Intervals window before running historical reports. See Chapter 11, "System Setup"—Storage Intervals," for more information.

Interactions With Switch Features

See Appendix A, "Database Items and Calculations", for the interactions with switch features.

How CMS Tracks ACD Data

Using the data in the real-time and historical databases, CMS can generate standard reports which allow you to track your call center's activities. CMS tracks the various agent, split, skill, trunk, trunk group, vector, and VDN activities at different points in the call process. Figure 5-1 shows how CMS tracks these call activities from the time the call seizes a trunk till an agent ends after call work (ACW) activity.



*The CMS database table that stores the call data. This is also the point at which CMS starts collecting call data, and the arrow is the point at which CMS stops collecting data. Also, with vectoring, the “Stop” command stops time spent processing vector commands. Vector processing stops when a call is answered, abandoned, or outflows. Remember, the data are not recorded in the tables until the call and any ACW are completed.

Figure 5-1: How CMS Tracks a Call

The agent table starts tracking non-ACD calls when the agent answers or completes dialing.

The split/skill table ends processing when ACW for a completed call ends, the call abandons, or the call leaves the queue and is forwarded to another destination (e.g., intraflow or answered by an agent in another split/skill).

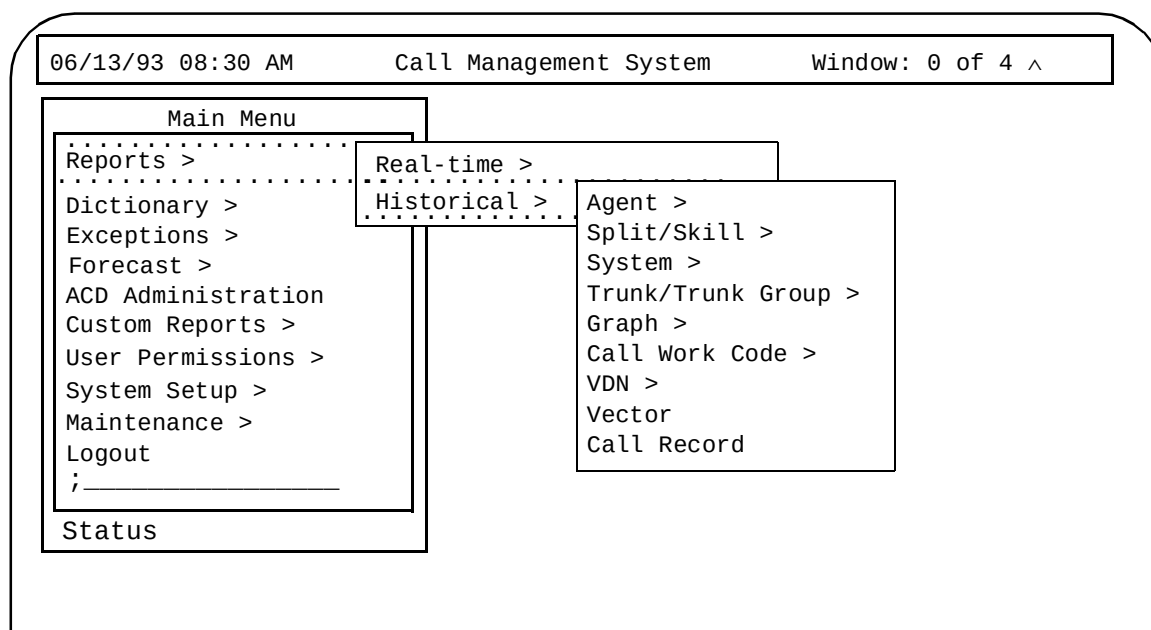
Vector processing continues until the caller is answered by an ACD agent, abandons, or routes to a station, trunk, or another VDN or vector.

Calls that route to a split or skill do not leave vector processing (Generic 3 only).

VDN processing ends when ACW for a ACD completed call ends, the call abandons, the call routes to a trunk or VDN, or the call is transferred.

Historical Reports Menu

From this menu, you can view any historical report. If you have purchased the CMS Vectoring package and/or the Graphics package, you are also able to view vectoring and graph reports. Also, you must have purchased the Expert Agent Selection feature on the switch to view skill reports.



Interval Reports

Interval reports contain breakdowns of data by the interval you have defined. The report intervals can be 15, 30, or 60 minutes. Interval reports can help you identify your high and low call volumes, and thereby manage your call center more easily. You set your interval length in the Storage Intervals window. See Chapter 11, "System Setup"—Storage Intervals," for more information.

Daily, Weekly, and Monthly Reports

The **daily** reports display summarized interval data, one line for each day, for the day(s) you specify. The **weekly** reports display summarized daily data for the week(s) you specify, one line for each week; and the **monthly** reports display summarized daily data for the month(s) you specify, one line for each month.

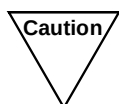
Note

Data for the weekly report comes from the weekly tables. The weekly tables only contain summarized daily data for a complete week. The same is true for monthly reports. The monthly tables only contain summarized daily data for a complete month. If you want a report for a week of daily data or a month of daily data with one line per day, you need to order a daily report and specify the appropriate range of days.

Items That Can Affect Report Data

At times your report data may look peculiar or be missing data. The following items could cause this.

Switch Clock



If at all possible, **do not** change the switch clock unless data collection is off. If you change the clock while data collection is on, interval data is marked as incomplete.

If you cannot turn off data collection, adhere to the following guidelines.

- Small changes (several minutes forward or backward) should be done in the middle of the data collection interval so the change does not cross different intervals. Data for that interval(s) is marked as incomplete, and depending on agent activity prior to the clock change, interval times may not add up as expected on the Historical Summary by Interval reports.
- Larger time changes (such as daylight savings time) that cross interval boundaries should be done with extreme care and at the **beginning** of the interval. For example, if you need to make a 1-hour adjustment, make it from 8:01 to 9:01. If you make it at the end of the interval (7:59 to 8:59), you may inadvertently cause two data archives to occur at the same time, which may cause loss of interval data.

Link Down

If the link to the switch goes down while an agent is logged in, real-time reports display agents in the state they were in before the link went down. When the link starts to come up, the agent is put in the OTHER state. Therefore, if you compare staffed time on the historical Split Daily report with the Login/Logout time, you could see a difference.

Backing Up Agent Login/Logout Tables

If you back up the agent login/logout table while agents are logged in, only the login portion has an entry for the backup. The logout portion of the table is blank (since the agents have not logged out).

Agent	Login date/time	Logout date/time
Smith, M	2/13/93 8:05AM	

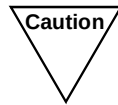
When the login/logout records are restored at some later date, the logout entry will eventually be filled in when the agents in question log in again and then log out. The next restore records will have the old entry for the login time and the old logout time will be filled in with the same time as the first login/logout entry for the agent after the data was restored.

Agent	Login date/time	Logout date/time
Smith, M	2/13/93 8:05AM	2/17/93 4:30PM
Smith, M	2/17/93 8:00AM	2/17/93 4:30PM

Call-Based Data Versus Interval- Based Data

Call-based data is committed to the database after a call completes, and interval-based data represents the amount of time during a collection interval spent doing a particular activity. Therefore, if you compare data in a report that contains both call-based and interval-based data, you could see a difference.

Service Level Increments for Call Profile Reports



If you change the service level increments after initially defining them, data will be distorted for the interval in which you made the change. CMS deletes the split, skill or VDN call profile data already collected for that interval and only keeps the split, skill, or VDN call profile data that occurred in that interval after the change. Then CMS tries to combine the split, skill, or VDN call profile data gathered both before and after the change into a single daily record of split, skill, or VDN call profile data. As a result, some data is placed in the wrong time increments. See the appropriate Call Profile report for splits/skills and VDNs for more information.

Agent Reports

From the Agent Reports menu (Figure 5-2) you can get specific information on your agents. This information could include looking at every agent activity and the time it occurred for a particular agent in the Agent Trace report, an individual agent's performance by split or skill in the Agent Split/Skill report, or looking at how a group of agents is performing in the Group Summary report. Each agent report is described.

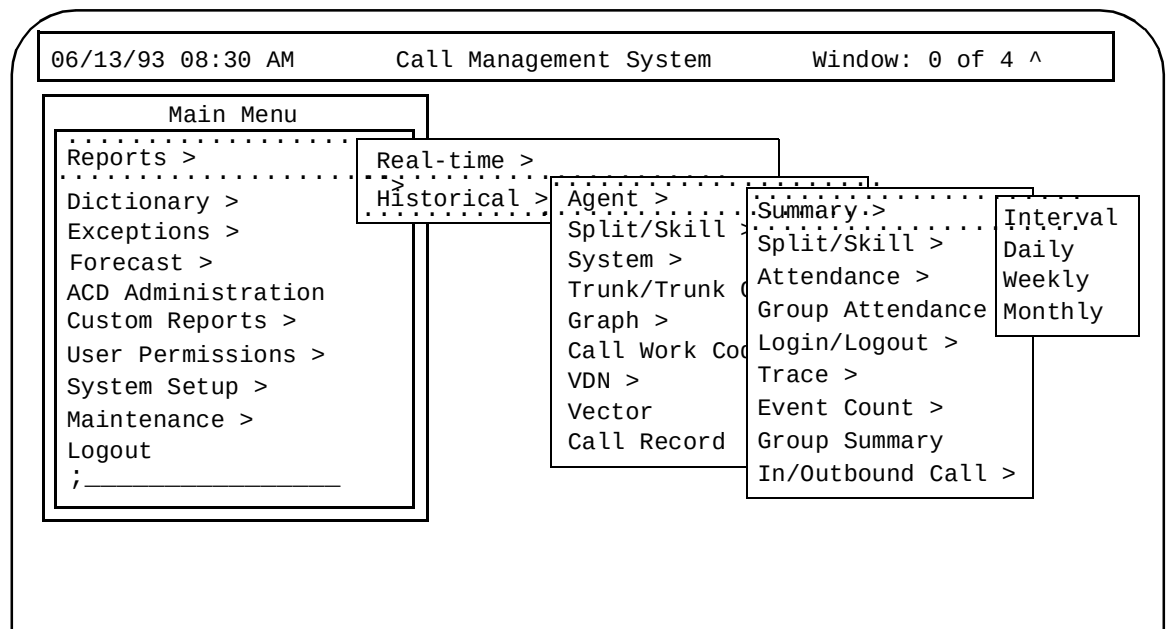


Figure 5-2: Agent Reports Menu

Agent States

The following list explains what the agent states are.

ACD	The extension was engaged on an ACD call (the agent was either talking to the caller or for Generic 2.1, System 85 R2V4, and Generic 1, the call was wait on hold).
Available (AVAIL)	The extension was able to accept an ACD call. An extension is AVAIL in AUTO-IN any time a station does not have a call on hold or talking. An extension is also AVAIL in MANUAL-IN immediately after the MANUAL-IN key is pressed.
After Call Work (ACW)	The agent was engaged in bookkeeping, data entry, or other work related to the previous call, and was not available to receive another call. The extension entered after-call work after an ACD call in MANUAL-IN completed. On a Generic 3/Generic 1, the agent can select the state with the AFTER CALL WORK key, even when the agent has been in the AUTO-IN mode. An agent's time in ACW includes time an agent is on incoming or outgoing calls while in ACW, as well as time in ACW when the agent is not connected to any calls.
Auxiliary Work (AUX)	The agent was engaged in non-ACD work, was on break, in a meeting, or at lunch. The agent pressed the AUX WORK key when the agent wanted CMS to recognize the extension as staffed, but did not want the ACD to distribute calls to the voice terminal. An agent's time in AUX includes time an agent is on incoming or outgoing calls while in AUX, as well as time in AUX when the agent is not connected to any calls.
Unstaffed (UNSTAF)	The agent was not logged in and was not being tracked by CMS.
DACD	The agent was on a direct agent ACD call.
DACW	The agent was in the after call work state for a direct agent ACD call.

OTHER

The agent was doing other work.

For *Generic 3*, while in Auto-In or Manual-In:

- The agent put any call on hold and performed no further actions.
- The agent was dialing to place a call or to activate a feature.
- A personal call was ringing with no other activity.

For *Generic 3* and *Generic 1* without EAS, agents were logged into multiple splits and doing work for a split other than this one (on an ACD call, in ACW, or on a personal call attributed to a split other than this one).

For *Generic 2.2* and *Generic 3* with EAS, agents were logged into multiple skills and doing work for a skill other than this one (on ACD call, in call-related ACW, or on a personal call attributed to a skill other than this one).

Agents show up as in the OTHER state directly after the link to the switch comes up and directly after agents log in before the CMS is notified of the agents' work state.

UNKNOWN

CMS did not recognize the current state.

UNKNOWN remains until the condition is cleared (e.g., error is corrected) and/or the agent completes the current ACD call and any associated ACW, or a current agent state message is sent to CMS from the switch.

RING

A call was ringing at the agent's voice terminal. With this state, you can actually determine how long a call rang before an agent answered, and thereby determine the actual time a caller waited in queue and waited while the call rang to better analyze your call center's performance. Available with *Generic 3*, *Generic 2*, and *System 85 R2V4*.

Note

If you are using direct agent calling (*Generic 3* only), you may want to modify the standard agent report calculation for extension calls so that calls made or received from ACW associated with direct agent calls are counted. (Change **EXT_CALL_IN** to include **DA_ACWINCALLS**).

Summary Report

The Agent Summary report shows the activities and performance of an individual agent for all splits or skills for which the agent is a member.

Things to Know About This Report

- You can obtain the Agent Summary report in interval, daily, weekly, or monthly versions.
- This report represents the totals over the specified time period for all splits or skills the agent was logged into.

Agent Summary Input Window

You must fill out the Agent Summary report input window to run your report. Field descriptions follow for each type of input window (that is, interval, daily, weekly, and monthly).

06/03/93 03:30 PM Call Management System Window: 1 of 4 ^

Reports: Historical: Agent Summary: Interval acd1

Agent: Smith, H Run

Date: 1/15/93

Times: 11:05AM-12:05PM

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File, File name: _____

Figure 5-3: Agent Summary Interval Input Window Example

Field Descriptions

Agent: (interval, daily, weekly, and monthly)

Enter the appropriate agent name or login ID.

Date: (for Interval) or **Dates:** (daily, weekly, and monthly)

Enter the date for the day or the start date for the week or the month you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a "-" offset based on today's date (for example, -1 for yesterday).
- For daily, weekly, and monthly reports, you can separate individual

data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). For weekly and monthly reports, specifying a range produces all weeks and/or months that begin in the range.

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message *No records found* displays in the status line.

The month start date must be the first day of the month.

Times: (Interval only)

Enter the time you would like the report to cover.

- You can use AM/PM format (for example, 7:30AM-5:00PM).
- You can also use military time format (for example, 7:30-17:00).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Agent Summary Report Examples

A description of each report item follows the report example in the Agent Summary Report Description table.

Agent Summary by Interval

Date: 1/15/93

Printed: 1/21/93 2:44 PM

Agent: Split01 Agent01

ACD: NASPS ACD1

Time	ACD Calls	Avg Talk Time	Avg After Call	Extn In Calls	Avg Talk Time	Extn Out Calls	Avg Talk Time	ACD	ACW	Ring	AUX	Avail	Staff	Trans Out	Calls Held	Avg Hold Time
Totals:	18	1:00	2:01	0		0		18:01	37:37	00:00	00:00	04:22	1:00:00	0	0	
11:00-11:15AM	4	1:00	1:54	0		0		4:00	9:23	00:00	00:00	1:37	15:00	0	0	
11:15-11:30AM	5	1:00	2:06	0		0		5:00	8:42	00:00	00:00	1:18	15:00	0	0	
11:30-11:45AM	5	1:00	2:02	0		0		4:30	9:54	00:00	00:00	:36	15:00	0	0	
11:45-12:00PM	4	1:00	2:00	0		0		4:31	9:38	00:00	00:00	:51	15:00	0	0	

Daily Agent Summary

Printed: 1/21/93 2:45 PM

Agent: Split01 Agent01

ACD: NASPS ACD1

Date	ACD Calls	Avg Talk Time	Avg After Call	Extn In Calls	Avg Talk Time	Extn Out Calls	Avg Talk Time	ACD	ACW	Ring	AUX	Avail	Staff	Trans Out	Calls Held	Avg Hold Time
Totals:	796	1:00	2:00	0		0		13:29:07	26:56:51	00:00	2:05:59	16:35:30	59:21:47	0	0	
1/13/93	130	1:00	1:59	0		0		2:13:39	4:24:21	00:00	1:23:07	8:13:54	16:19:23	0	0	
1/14/93	159	1:00	1:59	0		0		2:29:03	5:17:57	00:00	:12:01	2:11:15	10:10:30	0	0	
1/15/93	185	1:00	2:01	0		0		3:06:07	6:12:01	00:00	:15:00	2:39:24	12:13:48	0	0	
1/16/93	157	1:00	2:01	0		0		2:42:44	5:25:39	00:00	:03:00	:57:11	9:13:25	0	0	
1/17/93	165	1:00	2:00	0		0		2:47:34	5:36:53	00:00	:12:51	2:33:46	11:14:21	0	0	

Weekly Agent Summary

Printed: 1/21/93 2:46 PM

Agent: Split01 Agent01

ACD: NASPS ACD1

Week Starting	ACD Calls	Avg Talk Time	Avg After Call	Extn In Calls	Avg Talk Time	Extn Out Calls	Avg Talk Time	ACD	ACW	Ring	AUX	Avail	Staff	Trans Out	Calls Held	Avg Hold Time
Totals:	8182	1:00	2:00	0		0		136:49	273:16	00:00	48:35	274:38	733:51	0	0	
12/23/92	1275	1:00	2:01	0		0		21:27	42:40	00:00	8:19	46:17	****	0	0	
12/30/92	4374	1:00	2:00	0		0		72:52	****	00:00	26:08	****	****	0	0	
1/6/93	1737	1:00	2:00	0		0		29:00	57:52	00:00	12:01	68:36	****	0	0	
1/13/93	796	1:00	2:00	0		0		13:29	26:56	00:00	2:05	16:35	59:21	0	0	

Monthly Agent Summary

Printed: 1/21/93 2:48 PM

Agent: Split01 Agent01

ACD: NASPS ACD1

Week Starting	ACD Calls	Avg Talk Time	Avg After Call	Extn In Calls	Avg Talk Time	Extn Out Calls	Avg Talk Time	ACD	ACW	Ring	AUX	Avail	Staff	Trans Out	Calls Held	Avg Hold Time
Totals:	4133	2:29	2:01	0		0		172:56	139:36	00:00	62:53	352:33	732:03	0	0	
11/ 1/93	1161	4:18	2:01	0		0		84:26	29:52	00:00	32:11	184:16	342:48	0	0	
12/ 1/93	2972	1:00	2:00	0		0		88:29	99:44	00:00	30:41	168:16	389:15	0	0	

Figure 5-4: Agent Summary Report Examples

Note Database items and calculations apply to the `hagent` table for interval reports, the `dagent` table for daily reports, the `wagent` table for weekly reports, and the `magent` table for monthly reports.

Table 5-1: Agent Summary Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week Starting, or Month Starting	The day, week, or month for which the report was run (selected in the report input window).	ROW_DATE
Agent	The name of the agent (selected in the report input window).	SYN(LOGID)
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number that is sending calls to this agent.	SYN(ACD)
Time (for interval reports only)	The intrahour intervals for which the report shows data (selected in the report input window).	STARTTIME
ACD Calls	The number of ACD calls and direct agent calls that were offered to the split and direct agent calls that were offered to the split and handled by the agent. This total also includes O_ACDCALLS if you have the Outgoing Call Management application of ASAI. (O_ACDCALLS is the number of ACDCALLS that were placed by an adjunct [predictive dialing].)	sum(ACDCALLS+ DA_ACDCALLS) sum(<TOTAL_ACDCALLS>)
Avg Talk Time	Average length of this agent's ACD calls during the period covered.	sum(TOTAL_ACDTIME) / sum(TOTAL_ACDCALLS) <AVG_AGENT_TALK_SUM>
Avg After Call	Average length of after call work sessions for this agent.	sum(TOTAL_ACWTIME) / sum(TOTAL_ACDCALLS) <AVG_AGENT_ACW_SUM>
Extn In Calls	The number of inbound extension calls received by this agent during the period covered. This includes calls received while the agent was in ACW for either split or direct agent ACD calls.	sum(ACWINCALLS + AUXINCALLS) sum(<EXT_CALL_IN>)
(Extn In) Avg Talk Time	Average length of this agent's inbound extension calls.	sum(ACWINTIME + AUXIN- TIME) / sum(ACWINCALLS + AUXINCALLS) <AVG_TALK_TIME_IN_SUM>

Table 5-1: Agent Summary Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Extn Out Calls	The number of outbound calls dialed from the agent's extension during the period covered. This includes calls made while in ACW for split and direct agent ACD calls.	sum(ACWOUTCALLS + AUXOUTCALLS) sum(<EXT_CALL_OUT>)
(Extn Out) Avg Talk Time	Average length of this agent's outbound extension calls.	sum(ACWOUTTIME + AUXOUTTIME) / sum (ACWOUTCALLS + AUXOUTCALLS) <AVG_TALK_TIM_OUT_SUM>
(Agent Time) ACD	The time this agent spent on ACD calls (including direct agent calls).	sum(I_ACDTIME + I_DA_ACDTIME) sum(<TOTAL_I_ACDTIME>)
(Agent Time) ACW	The amount of time the agent spent working on call-related activities (that is, after call work activities). This includes direct agent after call work activities.	sum(I_ACWTIME + I_DA_ACWTIME) sum(<TOTAL_I_ACWTIME>)
(Agent Time) Ring	The length of time ACD calls rang before the agent answered (for switches with ring state only).	sum(I_RINGTIME)
(Agent Time) AUX	The amount of time this agent spent in auxiliary work in the split with the oldest logon.	TI_AUXTIME
(Agent Time) Avail	The amount of time this agent spent waiting for an ACD call in the split with the oldest logon.	TI_AVAILTIME
(Agent Time) Staff	The total logged-in time for this agent in the period covered in any split. STAFFTIME does not include time the line was down, even if the agent was staffed. Time staffed is not the sum of the other items displayed because TI_OTHERTIME is not shown on the report.	sum(TI_STAFFTIME)
Trans Out	The number of calls transferred by this agent to another destination.	sum(TRANSFERRED)
Calls Held	The number of calls the agent put on hold.	sum(HOLDCALLS)
Avg Hold Time	Average length of time calls were on hold.	sum(HOLDTIME) / sum(HOLDCALLS) <AVG_HOLD_TIME_SUM>

Agent Split/Skill Report

The Agent Split/Skill report shows an individual agent's performance by split or skill.

Things to Know About This Report

- You can obtain an Agent Split/Skill report in interval, daily, weekly, or monthly forms.
- Each row in the report shows the total for the specified time for a particular split/skill the agent was logged into. However, the Totals: row shows the totals over the day for **all** splits or skills for this agent.
- Talk times are shown as totals, not as averages.

Agent Split/Skill Input Window

You must fill out the Agent Split/Skill report input window to run your report. Field descriptions follow for each type of input window (that is, interval, daily, weekly, and monthly).

06/01/93 02:00 PM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Agent: Split/Skill: Monthly Input acd1

Agent: Sadie Jones Run

Dates: 5/1/93-9/1/93

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File, File name: _____

Figure 5-5: Agent Split/Skill Monthly Input Window Example

Field Descriptions

Agent : (interval, daily, weekly, and monthly)

Enter the appropriate agent name or login ID.

Date: (for Interval) or **Dates:** (daily, weekly, and monthly)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).

- For daily, weekly, and monthly reports, you can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). For weekly and monthly reports, specifying a range produces all weeks and/or months that begin in the range.



When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message *No records found* displays in the status line.

The month start date must be the first day of the month.

Times: (Interval only)

Enter the time you would like the report to cover.

- You can use AM/PM format (for example, 7:30AM-5:00PM).
- You can also use military time format (for example, 7:30-17:00).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Agent Split/Skill Report Examples

A description of each report item follows the report example in the Agent Split/Skill Report Description table..

Agent Interval Report by Split/Skill

Date: 1/19/93
Agent: John Smith

Printed: 1/21/93 2:49 PM
ACD: NASPS ACD1

Time	Split/ Skill	ACD Calls	Total Talk Time	Total ACW Time	Extn In Calls	Total Talk Time	Extn Out Calls	Total Talk Time	Assists	Calls Held	Total Hold Time	Trans Out
Totals:		18	:18:01	:37:37	0	:00:00	0	:00:00	0	0	:00:00	0
11:00-11:15AM	Billing	4	4:00	9:23	0	:00	0	:00	0	0	:00	0
11:15-11:30AM	Billing	5	5:00	8:42	0	:00	0	:00	0	0	:00	0
11:30-11:45AM	Billing	5	4:30	9:54	0	:00	0	:00	0	0	:00	0
11:45-12:00PM	Billing	4	4:31	9:38	0	:00	0	:00	0	0	:00	0

Daily Agent Report by Split/Skill

Agent: John Smith

Printed: 1/21/93 2:50 PM
ACD: NASPS ACD1

Date	Split/ Skill	ACD Calls	Total Talk Time	Total ACW Time	Extn In Calls	Total Talk Time	Extn Out Calls	Total Talk Time	Assists	Calls Held	Total Hold Time	Trans Out
Totals:		796	13:29:07	26:56:51	0	:00:00	0	:00:00	0	0	:00:00	0
1/13/93	Billing	130	2:13:39	4:24:21	0	:00	0	:00	0	0	:00	0
1/14/93	Billing	159	2:39:03	5:17:57	0	:00	0	:00	0	0	:00	0
1/15/93	Billing	185	3:06:07	6:12:01	0	:00	0	:00	0	0	:00	0
1/16/93	Billing	157	2:42:44	5:25:39	0	:00	0	:00	0	0	:00	0
1/16/93	Veterinari	0	:00:00	:00:00	0	:00	0	:00	0	0	:00	0
1/17/93	Billing	165	2:47:34	5:36:53	0	:00	0	:00	0	0	:00	0

Weekly Agent Report by Split/Skill

Agent: John Smith

Printed: 1/21/93 2:52 PM
ACD: NASPS ACD1

Date	Split/ Skill	ACD Calls	Total Talk Time	Total ACW Time	Extn In Calls	Total Talk Time	Extn Out Calls	Total Talk Time	Assists	Calls Held	Total Hold Time	Trans Out
Totals:		8182	136:49	273:16	0	:00	0	:00:00	0	0	:00	0
12/23/92	Billing	1275	21:27	42:40	0	:00	0	:00	0	0	:00	0
12/30/92	Billing	2187	36:26	72:53	0	:00	0	:00	0	0	:00	0
1/ 6/93	Billing	1737	29:00	57:52	0	:00	0	:00	0	0	:00	0
1/13/93	Billing	796	13:29	26:56	0	:00	0	:00	0	0	:00	0
1/13/93	Veterinari	0	:00:00	:00:00	0	:00	0	:00	0	0	:00	0

Monthly Agent Report by Split/Skill

Agent: John Smith

Printed: 1/21/93 2:53 PM
ACD: NASPS ACD1

Time	Split/ Skill	ACD Calls	Total Talk Time	Total ACW Time	Extn In Calls	Total Talk Time	Extn Out Calls	Total Talk Time	Assists	Calls Held	Total Hold Time	Trans Outs
Totals:		4133	172:56	139:36	0	:00	0	:00:00	0	0	:00	0
11/1/92	Billing	1161	84:26	39:52	0	:00	0	:00	0	0	:00	0
12/1/92	Billing	2972	88:29	99:44	0	:00	0	:00	0	0	:00	0

Figure 5-6: Agent Split/Skill Report Examples

Note

Database items and calculations apply to the `hagent` table for interval reports, the `dagent` table for daily reports, the `wagent` table for weekly reports, and the `magent` table for monthly reports.

Table 5-2: Agent Split/Skill Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week Starting, or Month Starting	The day, week, or month for which the report was run (selected in the report input window).	ROW_DATE
Agent	The name or login ID of the agent (selected in the report input window).	SYN(LOGID)
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number that is sending calls to this agent.	SYN(ACD)
Time (for interval reports only)	The intrahour intervals for which the report shows data (selected in the report input window).	STARTTIME
Split/Skill	Name or number of the split(s)/skill(s) the agent logged into during the specified time period and for which data are shown.	SYN(SPLIT)
ACD Calls	The number of split/skill and direct agent ACD calls that were answered by the agent. This total also includes outbound ACD calls (O_ACDCALLS) if you have the Outgoing Call Management application on ASAI. (O_ACDCALLS is the number of ACDCALLS that were placed by an adjunct [predictive dialing].)	(ACDCALLS+DA_ACDCALLS) <TOTAL ACDCALLS>
(ACD) Total Talk Time	The total time an agent talked on split/skill and direct agent ACD calls.	(I_ACDTIME+I_DA_ACDTIME) <TOTAL I_ACDTIME>
Total ACW Time	The total time the agent spent in after call work associated with split/skill and direct agent ACD calls.	(I_ACWTIME + I_DA_ACWTIME) and <TOTAL_ACWTIME>
Extn In Calls	The number of inbound extension calls received by the agent. (Direct agent ACW extension calls are not included.)	ACWINCALLS+AUXINCALLS <EXT_CALL_IN>
(Extn In) Total Talk Time	Total time the agent spent talking on inbound extension calls.	I_ACWINTIME+I_AUXINTIME <EXT_IN_TIME>
Extn Out Calls	The number of outbound extension calls received by the agent. (Direct agent ACW extension calls are not included.)	ACWOUTCALLS + AUXOUTCALLS <EXT_CALL_OUT>
(Extn Out) Total Talk Time	Total time the agent spent on outbound extension calls.	I_ACWOUTTIME + I_AUXOUTTIME <EXT_OUT_TIME>

Table 5-2: Agent Split/Skill Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Assists	Number of calls referred to the supervisor by the agent during the specified time period.	ASSISTS
Calls Held	The number of times the agent placed calls on hold. This is all callers for Generic 2.2 and Generic 3 switches; for Generic 2.1 and System 85 R2V4, this is ACD calls only.	HOLDCALLS
Total Hold Time	Total time calls were on hold for this agent. This is all callers for Generic 2.2 and Generic 3 switches; for Generic 2.1 and System 85 R2V4, this is ACD calls only.	HOLDTIME
Trans Out	The number of times an agent completed a transfer (for Generic 1, a measured call to a measured split or measured trunk to a measured trunk; for Generic 3 and Generic 2.2, any call transferred; for System 85 R2V4 and Generic 2.1, transfers to a VDN or split).	TRANSFERRED

Attendance Report

The Agent Attendance reports give the total staffed time, ACD time, ACW time, AUX time, time in the ringing state, extension time, available time, and the number of calls handled by an agent for the specified time period for all splits or skills the agent was logged into.

Things to Know About This Report

- The report item `Total Staff Time` contains other time (`TI_OTHERTIME`) which is not shown in the report but can cause the numbers to not add up.
- The Agent Attendance report is available in daily, weekly, or monthly versions.

Agent Attendance Input Window

You must fill out the Agent Attendance report input window to run your report. Field descriptions follow for each type of input window (that is, daily, weekly, and monthly).

The screenshot shows a window titled "06/03/93 11:15 PM Call Management System Windows: 1 of 4 ^". Inside the window, the title bar reads "Rpts: Hist: Agent: Attendance: Daily Input" and "acd1". The main area contains the following fields and options:

- Agent: Smith, H
- Dates: 2/28/93;03/01/93;03/06/93
- Report destination (Select one):
 - <x> Terminal
 - < > Printer, Printer name _____
 - < > File, File name: _____
- A "Run" button is located in the top right corner of the input area.

Figure 5-7: Agent Attendance Daily Input Window Example

Field Descriptions**Agent:** (daily, weekly, and monthly)

Enter the appropriate agent name or login ID.

Dates: (daily, weekly, and monthly)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).
- You can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). The range produces weeks and months that start within the range.

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message *No records found* displays in the status line.

The month start date must be the first day of the month.

Report destination (Select one):Enter an **x** next to Terminal, Printer, or File.

- **Terminal** is the default destination.
- If you selected **Printer** and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected **File**, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Agent Attendance Report Examples

Examples of the report follow along with a description of each report item.

Daily Agent Attendance

Agent: John Smith

Printed: 1/21/93 2:54 PM
ACD: NASPS ACD1

Date	Total Time Staffed	Total ACD Time	Total ACW Time	Total Ringing Time	Total Extn In Time	Total Extn Out Time	Total Avail Time	Total AUX Time	ACD Calls	Extn In Calls	Extn Out Calls
Totals:	59:21:57	13:29:07	26:56:51	:00:00	:00:00	:00:00	16:35:30	2:05:59	796	0	0
1/13/93	16:19:23	2:13:39	4:24:21	:00:00	:00:00	:00:00	8:13:54	1:23:07	130	0	0
1/14/93	10:20:50	2:39:03	5:17:57	:00:00	:00:00	:00:00	2:11:15	:12:01	159	0	0
1/15/93	12:13:48	3:06:07	6:12:01	:00:00	:00:00	:00:00	2:39:24	:15:00	185	0	0
1/16/93	9:13:25	2:42:44	5:25:39	:00:00	:00:00	:00:00	:57:11	:03:00	157	0	0
1/17/93	11:14:21	2:47:34	5:36:53	:00:00	:00:00	:00:00	2:33:46	:12:51	165	0	0

Weekly Agent Attendance

Agent: John Smith

Printed: 1/21/93 2:56 PM
ACD: NASPS ACD1

Week Starting	Total Time Staffed	Total ACD Time	Total ACW Time	Total Ringing Time	Total Extn In Time	Total Extn Out Time	Total Avail Time	Total AUX Time	ACD Calls	Extn In Calls	Extn Out Calls
Totals:	733:51	136:49	273:16	:00	:00	:00	274:38	48:35	8182	0	0
12/23/92	*****	21:27	42:40	:00	:00	:00	46:17	8:19	1275	0	0
12/30/92	*****	72:52	*****	:00	:00	:00	*****	26:08	4374	0	0
1/ 6/93	*****	29:00	57:52	:00	:00	:00	68:36	12:01	1737	0	0
1/13/93	59:21	13:29	26:56	:00	:00	:00	16:35	2:05	796	0	0

Monthly Agent Attendance

Agent: John Smith

Printed: 1/21/93 2:57 PM
ACD: NASPS ACD1

Week Starting	Total Time Staffed	Total ACD Time	Total ACW Time	Total Ringing Time	Total Extn In Time	Total Extn Out Time	Total Avail Time	Total AUX Time	ACD Calls	Extn In Calls	Extn Out Calls
Totals:	732:03	172:56	139:36	:00	:00	:00	352:33	62:53	4133	0	0
11/1/93	342:48	84:26	39:52	:00	:00	:00	184:16	32:11	1161	0	0
12/1/93	389:15	88:29	99:44	:00	:00	:00	168:16	30:41	2972	0	0

Figure 5-8: Agent Attendance Report Examples

Note Database items and calculations apply to the `dagent` table for daily reports, the `wagent` table for weekly reports, and the `magent` table for monthly reports.

Table 5-3: Agent Attendance Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Agent	The name or login ID of the agent (selected in the report input window).	SYN(LOGID)
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number that is sending calls to this agent.	SYN(ACD) _
Date, Week Starting, or Month Starting	The day, week, or month for which the report was run (selected in the report input window).	ROW_DATE
Total Time Staffed	The total time the agent was logged in (staffed) for the specified time period in any split/skill. STAFFTIME does not include time the link was down, even if agent was staffed.	sum(TI_STAFFTIME)
Total ACD Time	The total time an agent spent on all split/skill and direct agent ACD calls for the specified time period in any split/skill.	sum(I_ACDTIME + I_DA_ACDTIME) sum(<TOTAL_I_ACDTIME>)
Total ACW Time	The total time an agent spent in after call work for the specified time period in any split/skill for ACD calls and direct agent calls. Time on extension calls is also included.	sum(I_ACWTIME + I_DA_ACWTIME) sum(<TOTAL_I_ACWTIME>)
Total Ringing Time	The total time during the collection interval that all split/skill and direct agent ACD calls rang before the agent answered the call. If the agent changes work modes or answers/makes another call instead of answering the ringing call, I_RINGTIME stops accumulating. RINGTIME is the time the caller spends ringing and is independent of agent activity (Generic 2 and Generic 3 only).	sum(I_RINGTIME)
Total Extn In Time	The total time an agent spent talking on all inbound extension calls for the specified time period. (This does not include time on extension in calls from direct agent ACW.)	sum(I_ACWINTIME + I_AUXINTIME) sum(<EXT_IN_TIME>)
Total Extn Out Time	The total time an agent spent talking on all outbound extension calls for the specified time period. (This does not include time on extension out calls from direct agent ACW.)	sum(I_ACWOUTTIME + I_AUXOUTTIME) sum(<EXT_OUT_TIME>)
Total Avail Time	The total time for the specified time period that an agent was available to take ACD calls in any split/skill.	sum(TI_AVAILTIME)

Table 5-3: Agent Attendance Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Total AUX Time	The total time an agent spent in auxiliary work for the specified time period in all splits/skills.	sum(TI_AUXTIME)
ACD Calls	The total number of split/skill and direct agent ACD calls answered by the agent.	sum(ACDCALLS + DA_ACDCALLS) sum(<TOTAL_ACDCALLS>)
Extn In Calls	The total number of inbound extension calls received by the agent. This includes calls received while the agent was available, in ACW for split/skill ACD calls, and in AUX work for split/skill ACD calls. (This does not include direct agent ACW in calls.)	sum(ACWINCALLS + AUXINCALLS) and sum(<EXT_CALL_IN>)
Extn Out Calls	The total number of outbound extension calls placed by the agent. This includes calls originated by agent while the agent was in ACW split/skill ACD calls and in AUX work for split/skill ACD calls. (This does not include direct agent ACW out calls.)	sum(ACWOUTCALLS + AUXOUTTIME) sum<EXT_CALL_OUT>

Group Attendance Report

The Group Attendance report summarizes staffed time, ACD time, ACW time, AUX time, time in the ringing state, extension time, available time, and number of calls handled for each agent in an agent group for the specified time period.

Things to Know About This Report

- The **Totals** column in the report(s) displays the totals for all agents in the group you have selected. Individual agent entries in this report show the totals for a particular agent.
- You can obtain a Group Attendance report in daily, weekly, or monthly forms.

Prerequisite System Administration

- You must create your group in the Dictionary subsystem first. See Chapter 7, "Dictionary"—Agent Groups," for more information.

Group Attendance Input Window

You must fill out the Group Attendance report input window to run your report. Field descriptions follow for each type of input window (that is, daily, weekly, and monthly).

06/03/93 11:15 PM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Agent: Attendance: Daily Input acd1

Agent group: Sales Run

Date: 2/28/93

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-9: Group Attendance Daily Input Window

Field Descriptions

Agent group: (daily, weekly, and monthly)

Enter the appropriate group name.



Make sure you enter the agent group name correctly. CMS does not check to see if the group name you entered exists in the Dictionary subsystem. Therefore, if you enter a name that is misspelled, the report request runs but does not contain data because the group does not exist. You have to reenter the group name correctly.

Date: (daily, weekly, and monthly)

Enter the date for the day or the start date for the week or the month you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).
- You can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). The range produces weeks and months that start within the range.



When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message *No records found* displays in the status line.

The month start date must be the first day of the month.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Group Attendance Report Examples

A description of each report item follows the report example in the Group Attendance Report Description table.

Daily Group Attendance

Date: 1/15/93

Agent group: Group1_AgGrp

Printed: 1/21/93 2:59 PM

ACD: NASPS ACD1

Agent	Agent ID	Total Time Staffed	Total ACD Time	Total ACW Time	Total Ringing Time	Total Extn In Time	Total Extn Out Time	Total Avail Time	Total AUX Time	ACD Calls	Extn In Calls	Extn Out Calls
Totals:		122:18:00	31:30:52	62:49:18	:00:00	:00:00	:00:00	25:14:06	2:27:35	1877	0	0
Split01 Agent01	5002	12:13:48	3:06:25	6:15:45	:00:00	:00:00	:00:00	2:39:29	:12:00	184	0	0
Split01 Agent04	5004	12:13:48	3:08:05	6:14:08	:00:00	:00:00	:00:00	2:25:08	:15:01	186	0	0
Split02 Agent01	5006	12:13:48	3:09:47	6:20:34	:00:00	:00:00	:00:00	2:21:46	:19:18	189	0	0
Split02 Agent03	5008	12:13:48	3:12:02	6:22:05	:00:00	:00:00	:00:00	2:21:06	:18:00	190	0	0
Split02 Agent05	5010	12:13:48	3:10:04	6:14:29	:00:00	:00:00	:00:00	2:27:33	:20:16	189	0	0
Split03 Agent02	5012	12:13:48	3:05:04	6:11:36	:00:00	:00:00	:00:00	2:41:15	:12:00	185	0	0
Split03 Agent04	5014	12:13:48	3:06:02	6:13:41	:00:00	:00:00	:00:00	2:41:14	:12:00	185	0	0
Split04 Agent01	5016	12:13:48	3:12:09	6:23:44	:00:00	:00:00	:00:00	2:28:30	:09:00	191	0	0
Split 04 Agent03	5018	12:13:48	3:10:31	6:15:35	:00:00	:00:00	:00:00	2:30:08	:15:00	189	0	0
Split04 Agent05	5020	12:13:48	3:10:43	6:17:41	:00:00	:00:00	:00:00	2:27:57	:15:00	189	0	0

Weekly Group Attendance

Week Starting: 1/13/93

Agent group: Group1_AgGrp

Printed: 1/21/93 3:00 PM

ACD: NASPS ACD1

Agent	Agent ID	Total Time Staffed	Total ACD Time	Total ACW Time	Total Ringing Time	Total Extn In Time	Total Extn Out Time	Total Avail Time	Total AUX Time	ACD Calls	Extn In Calls	Extn Out Calls
Totals:		592:51	137:08	272:52	:00	:00	:00	158:08	21:27	8096	0	0
Split01 Agent01	5002	59:18	13:34	26:58	:00	:00	:00	16:33	2:03	803	0	0
Split01 Agent04	5004	59:18	13:35	27:01	:00	:00	:00	16:14	2:06	803	0	0
Split02 Agent01	5006	59:22	13:42	27:44	:00	:00	:00	15:18	2:25	812	0	0
Split02 Agent03	5008	59:03	13:52	27:19	:00	:00	:00	15:10	2:24	815	0	0
Split02 Agent05	5010	59:18	13:50	27:15	:00	:00	:00	15:19	2:24	816	0	0
Split03 Agent02	5012	59:18	13:36	27:13	:00	:00	:00	16:13	1:53	806	0	0
Split03 Agent04	5014	59:18	13:33	26:57	:00	:00	:00	16:18	1:57	802	0	0
Split04 Agent01	5016	59:18	13:46	27:42	:00	:00	:00	15:38	2:00	812	0	0
Split04 Agent03	5018	59:18	13:49	27:28	:00	:00	:00	15:42	2:00	815	0	0
Split04 Agent05	5020	59:18	13:46	27:11	:00	:00	:00	15:39	2:11	812	0	0

Monthly Group Attendance

Week Starting: 12/ 1/933

Agent group: Group1_AgGrp

Printed: 1/21/93 3:01 PM

ACD: NASPS ACD1

Agent	Agent ID	Total Time Staffed	Total ACD Time	Total ACW Time	Total Ringing Time	Total Extn In Time	Total Extn Out Time	Total Avail Time	Total AUX Time	ACD Calls	Extn In Calls	Extn Out Calls
Totals:		3889:59	890:47	1009:31	:00	:00	:00	1663:05	305:48	30148	0	0
Split01 Agent01	5002	387:53	87:50	98:54	:00	:00	:00	168:46	30:43	2965	0	0
Split01 Agent04	5004	389:15	88:52	98:53	:00	:00	:00	169:15	30:26	2971	0	0
Split02 Agent01	5006	387:58	88:58	102:07	:00	:00	:00	163:51	30:34	3040	0	0
Split02 Agent03	5008	389:15	90:32	102:37	:00	:00	:00	163:31	30:46	3055	0	0
Split02 Agent05	5010	389:15	90:27	102:36	:00	:00	:00	162:53	30:47	3063	0	0
Split03 Agent02	5012	389:15	87:32	97:21	:00	:00	:00	172:26	30:14	2903	0	0
Split03 Agent04	5014	389:15	86:14	96:55	:00	:00	:00	172:56	30:52	2897	0	0
Split04 Agent01	5016	389:15	90:06	103:16	:00	:00	:00	163:30	30:24	3083	0	0
Split04 Agent03	5018	389:15	90:27	103:37	:00	:00	:00	162:36	30:26	3092	0	0
Split04 Agent05	5020	389:15	89:46	103:10	:00	:00	:00	163:16	30:30	3079	0	0

Figure 5-10: Group Attendance Report Examples

Note Database items and calculations apply to the `dagent` table for daily reports, the `wagent` table for weekly reports, and the `magent` table for monthly reports.

Table 5-4: Group Attendance Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week Starting, Month Starting	The day, week, or month for which the report was run (selected in the report input window).	ROW_DATE
Agent Group	The name of the group (selected in the report input window).	SYN(LOGID)
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number that is sending calls to this group.	SYN(ACD)
Agent	The names of the agents that are assigned to the group (selected in the report input window).	SYN(LOGID)
Agent ID	The login ID assigned to each agent.	LOGID
Total Time Staffed	The total time the agents were logged in (staffed) for the specified time period in any split/skill. (Does not included time the link was down.)	sum(TI_STAFFTIME)
Total ACD Time	The total time the agents in the group talked on all split/skill and direct agent ACD calls for the specified time period.	sum(I_ACDTIME + I_DA_ACDTIME) sum(<TOTAL_I_ACDTIME>)
Total ACW Time	The total time the agents in the group spent in after call work associated with split/skill and direct agent ACD calls for the specified time period.	sum(I_ACWTIME + I_DA_ACWTIME) sum(<TOTAL_I_ACWTIME>)
Total Ringing Time	The total time during the collection interval that all split/skill and direct agent ACD calls rang before the agent answered the call. If the agent changes work modes or answers/makes another call instead of answering the ringing call, I_RINGTIME stops accumulating. RINGTIME is the time the caller spends ringing and is independent of agent activity (Generic 2 and Generic 3 only).	sum(I_RINGTIME)
Total Extn In Time	The total time the agents in the group spent talking on inbound extension calls for the specified time period. (Does not included direct agent ACW in calls.)	sum(I_ACWINTIME + I_AUXINTIME) sum(<EXT_IN_TIME>)
Total Extn Out Time	The total time the agents spent talking on out-bound extension calls for the specified time period. (Does not included direct agent ACW out calls.)	sum(I_ACWOUTTIME + I_AUXOUTTIME) sum(<EXT_OUT_TIME>)

Table 5-4: Group Attendance Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Total Avail Time	The total time that the agents were available to take ACD calls for any split/skill during the specified time period.	sum(TI_AVAILTIME)
Total AUX Time	The total time the agents spent in auxiliary work in all splits/skills for the specified time period.	sum(TI_AUXTIME)
ACD Calls	The total number of split/skill and direct agent ACD calls handled by the agents in this group.	sum(ACDCALLS + DA_ACDCALLS) sum(<TOTAL_ACDCALLS>)
Extn In Calls	The total number of inbound extension calls received by the agents in this group. This includes calls received while the agent was in ACW for split/skill ACD calls and in AUX work for split/skill ACD calls. (Does not included direct agent ACW in calls.	sum(ACWINCALLS + AUXINCALLS) sum(<EXT_CALL_IN>)
Extn Out Calls	The total number of outbound extension calls placed by the agents. This includes calls originated by the agent while the agent was in ACW for split/skill ACD calls and in AUX work for split/skill ACD calls. (Does not included direct agent ACW out calls.)	sum(ACWOUTCALLS + AUXOUTTIME) sum(<EXT_CALL_OUT>)

Login/ Logout (Split) Report

The Agent Login/Logout (Split) report shows the agent login and logout times for agents in a split on a specified day.

Things to Know About This Report

This report is available in daily form only.

Agent Login/ Logout (Split) Input Window

You must fill out the Login/Logout (Split) report input window to run your report. Field descriptions follow the input window.

06/15/93 1:45 PM Call Management System Window: 1 of 4 ^

Rpts: Hist: Agent: Login/Logout (Split): Input acd1

Split: _____

Login Date: _____

Report destination (Select One):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-11: Agent Login/Logout (Split) Input Window Example

Field Descriptions

Split:

Enter the appropriate split name or number.

Login Date:

Enter the date you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Agent Login/ Logout (Split) Report Example

A description of each report item follows the report example in the Agent Login/Logout (Split) Report Description table.

Login/Logout

```
Login date: mm/dd/yy          Printed/dd/yy hh:mm AM
Split: xxxxxxxxxxxxxxxxxxxx  ACD: xxxxxxxxxxxxxxxxxxxx
```

```
Total time staffed: hh:mm:ss
Total AUX time:      hh:mm:ss
```

Agent	Extn	Login Time	Logout Time	Logout Date
xxxxxxxxxxxxxxxxxxxxxxxx	xxxxx	xx:xxAM	xx:xxPM	mm/dd/yy
xxxxxxxxxxxxxxxxxxxxxxxx	xxxxx	xx:xxAM	xx:xxPM	mm/dd/yy
xxxxxxxxxxxxxxxxxxxxxxxx	xxxxx	<xx:xxAM	xx:xxPM	mm/dd/yy
xxxxxxxxxxxxxxxxxxxxxxxx	xxxxx	<xx:xxAM	xx:xxPM	mm/dd/yy
xxxxxxxxxxxxxxxxxxxxxxxx	xxxxx	xx:xxAM	xx:xxPM	mm/dd/yy
xxxxxxxxxxxxxxxxxxxxxxxx	xxxxx	xx:xxAM	>xx:xxPM	mm/dd/yy

Figure 5-12: Agent Login/Logout (Split) Report Example

Note	The “<” indicates the agent was already logged in when the link came up, and the “>” indicates that the agent logged out while the link was down.

Note

Database items and calculations apply to the `hagLog` table for daily reports.

Table 5-5: Agent Login/Logout (Split) Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Login date	The day for which the report shows data (selected in the report input window).	ROW_DATE
Split	The name or number of the split (selected in the report input window).	SYN(SPLIT)
Printed	Date/time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Total time staffed	Total time this agent was available to take calls between the time the agent logged in and then logged out.	
Total AUX time	The total amount of time this agent is in auxiliary (AUX) work between the time the agent logged in and then logged out.	
Agent	The name(s) of the agent(s) assigned to the split (selected in the report input window).	SYN(LOGID)
Extn	The measured extension where the agent logged in.	EXTN
Login Time	The time the agent logged into this split.	LOGIN
Logout Time	The time the agent logged out of this split.	LOGOUT
Logout Date	The date the agent logged out of this split.	
Inflag (<)	The "<" indicates the agent was already logged in when the link came up.	No database item or calculation.
Outflag (>)	The ">" indicates that the agent logged out while the link was down.	No database item or calculation.

Login/Logout (Skill) Report

The Agent Login/Logout (Skill) report shows the times agents in a given skill logged in and logged out, and the report lists the skills with which the agents logged in and out.

Things to Know About This Report

- You will see this report item on the menu only if you have purchased and enabled the Expert Agent Selection feature on the Generic 2.2 or Generic 3 Version 2 switch.
- For Generic 3 Version 2 switches, the skills are preceded by the skill type ("p" for primary or "s" for secondary).
- This report is available in daily form only.
- If you have a Generic 2.2 with the Expert Agent Selection (EAS) feature and agents are using the default skill plus four other skills, you will want to modify the report to display five skills instead of just four. See the AT&T 585-215-523, *Call Management System Custom Reports*, document for instructions on how to create a custom report.

Agent Login/ Logout (Skill) Input Window

You must fill out the Login/Logout (Skill) report input window to run your report. Field descriptions follow the input window.

06/15/93 1:45 PM Call Management System Window: 1 of 4 ^

Rpts: Hist: Agent: Login/Logout (Skill): Input acd1

Skill: Sales

Login Date: 03/12/93

Report destination (Select One):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-13: Agent Login/Logout (Skill) Input Window Example

Field Descriptions

Skill:

Enter the appropriate skill name or number.

Login Date:

Enter the date you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).

Report destination (Select one):

Enter an x next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the x.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Agent Login/ Logout (Skill) Report Example

A description of each report item follows the report example in the Agent Login/Logout (Skill) Report Description table.

Login/Logout with Skills								
Login date: mm/dd/yy					Printed: mm/dd/yy hh:mm AM			
Skill: xxxxxxxxxxxxxxxxxxxxxx					ACD: xxxxxxxxxxxxxxxxxxxxxx			
Agent	Extn	Login	Logout	Logout	-----Skills-----			
		Time	Time	Date	1	2	3	4
xxxxxxxxxxxxxxxxxxxx	xxxx	xx:xxAM	xx:xxPM	mm/dd/yy	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxx	xxxx	xx:xxAM	xx:xxPM	mm/dd/yy	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxx	xxxx	<xx:xxAM	xx:xxPM	mm/dd/yy	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxx	xxxx	<xx:xxAM	xx:xxPM	mm/dd/yy	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxx	xxxx	xx:xxAM	xx:xxPM	mm/dd/yy	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxx	xxxx	xx:xxAM	>xx:xxPM	mm/dd/yy	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx	T xxxxxxxxxxxxxxx

Figure 5-14: Agent Login/Logout (Skill) Report Example

Note

The “<” indicates the agent was already logged in when the link came up, and the “>” indicates that the agent logged out while the link was down.

Note Database items and calculations apply to the `hagLog` table for daily reports.

Table 5-6: Agent Login/Logout (Skill) Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Login date	The date for which the report was run. The report shows data for agents who logged in on this date.	ROW_DATE
Printed	Date and time the report was sent to the printer.	No database item or calculation.
Skill	The name or number of the skill (selected in the report input window).	SYN (SPLIT)
ACD	The name or number of the ACD for which the report was run.	SYN (ACD)
Agent	The name(s) or login ID (s) of the agent(s) in the skill for which the report was run.	SYN (LOGID)
Extn	The extension where the agent logged in.	EXTN
Login Time	The time the agent logged in with the given set of skills.	LOGIN
Logout Time	The time the agent logged out from the given set of skills.	LOGOUT
Logout Date	The date the agent logged out from the given set of skills.	
Skills 1-4	The skills with which the agent logged in.	SYN (SPLIT) , SYN (LOGONSKILL2) , SYN (LOGONSKILL3) , SYN (LOGONSKILL4)
T(skill type)	The type of skill (p=primary or s=secondary) for each of the agent's skills (Generic 3 Version 2 only).	SKILLTYPE, SKILLTYPE2, SKILLTYPE3, SKILLTYPE4

Trace Report

The Agent Trace report lists each agent activity and the time it occurred. This information could be useful when evaluating how well agents are using their time.

Things to Know About This Report

Agents can be in any one of the following states:

LOGON	The agent logged into a split or skill.
LOGOFF	The agent logged out of a split or skill.
ACDIN	The agent is on an inbound ACD call.
ACDOUT	The agent is on an outbound ACD call (applies only to the Outgoing Call Management application of ASAI).
ACW	The agent is in after call work.
ACWIN	The agent is on an inbound call while in after call work.
ACWOUT	The agent is on a outbound call while in after call work.
AUX	The agent is in auxiliary work.
AUXIN	The agent is on an inbound call while in AUX work or available.
AUXOUT	The agent is on an outbound call while in AUX work or available.
AVAILABLE	The agent is available to take ACD calls.
DACD	The agent is on a direct-agent ACD call.
DACW	The agent is in after call work associated with a direct-agent ACD call.
UNKNOWN	The agent state is not available.

Relationships to Other Subsystems

ACD Administration

You must activate an agent trace to obtain an Agent Trace report. See Chapter 9, "ACD Administration"—"Activate Agent Trace," to start an agent trace. You can activate a maximum of 25 agent traces at any one time.

Since the agent trace data file rolls over when it becomes full and old records are overwritten by new records, you need to print a copy of old traces if you want to keep a record.

You stop tracing an agent in the Activate Agent Trace window in the ACD Administration subsystem. See Chapter 9, "ACD Administration"—Activate Agent Trace," for more information.

System Setup

The following information does not appear in the standard Agent Trace report but is available for use in custom reports: Assist Activated, Calling Party, Call Work Code (containing the last call work code entered during the call or during ACW), Caller on Hold, Digits Dialed (shows the digits the agent dialed on an outgoing call or the agent's login ID for a LOGON event), External Call Originated, Keyboard Dialed, Malicious Call Trace, On Conference, and Transfer Completed.

You must administer the collection of data for these optional items in the Agent Trace Record Contents window in the System Setup subsystem. See Chapter 11, "System Setup"—Agent Trace Record Contents," for instructions.

You must customize this report to display any of the extra items. See the AT&T 585-215-523, *Call Management System Custom Reports*, document for more information on creating and using custom reports.

Agent Trace Input Window

Before you can run the Agent Trace report, you must first fill out the input window.

06/02/93 3:45 PM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Agent: Trace Input acd1

Agent: Linda Jones Run

Dates: 3/7/93;3/10/93-3/12/93

Times: 15:00-23:30

Report destination (Select One):

<x> Terminal

< > Printer, Printer name _____

< > File, File name: _____

Figure 5-15: Agent Trace Input Window Example

Field Descriptions**Agent :**

Enter the name or login ID of the agent for whom you want an Agent Trace report.

Dates:

Enter the dates you want for the report.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).
- You can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). The range produces weeks and months that start within the range.

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message *No records found* displays in the status line.

The month start date must be the first day of the month.

Times:

Enter the time of day you want the report to cover. The time entered applies to all the dates entered in the **Dates:** field.

- You can use AM/PM format (for example, 7:30AM-5:00PM).
- You can also use military time format (for example, 7:30-17:00).
- You can enter a set of intervals for a particular day to see agent activity for those intervals (for example, 7:00AM-8:30AM;11:00AM-12:30PM;3:30PM-5:00PM).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.

- If you selected `File`, enter a file name and then press `Return`. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (`/usr/<your login ID>`) unless you specify a full path name.

Agent Trace Report Example

A description of each report item follows the report example in the Agent Trace Report Description table.

Agent Trace

Printed: 1/29/93 6:52 AM

Agent: Anderson

ACD: parrot

Date	Time	Seq State	Split/Skill	Duration	Reconnect
1/28/93	7:58:04AM	1 Avail	sales	:10	n
1/28/93	7:58:46AM	1 AUX OUT	sales	:06	n
1/28/93	7:58:52	1 AUX OUT	sales	:06	n
1/28/93	7:58:58AM	1 AUX	sales	:00	n
1/28/93	7:58:58AM	2 AVAIL	sales	:00	n
1/28/93	7:58:58AM	3 AUX OUT	sales	:00	n
1/28/93	7:58:58AM	4 AUX OUT	sales	:00	n
1/28/93	7:58:58AM	5 AUX	sales	:00	n
1/28/93	7:58:58AM	6 AVAIL	sales	:00	n
1/28/93	7:58:58AM	7 AUX OUT	sales	:06	n
1/28/93	7:59:04AM	1 AUX OUT	sales	:06	n
1/28/93	7:59:10AM	1 AUX	sales	:00	n
1/28/93	7:59:10AM	2 AVAIL	sales	:00	n
1/28/93	7:59:10AM	3 AUX OUT	sales	:00	n
1/28/93	7:59:10AM	4 AUX OUT	sales	:00	n
1/28/93	7:59:10AM	5 AUX	sales	:00	n
1/28/93	7:59:10AM	6 AVAIL	sales	:00	n
1/28/93	7:59:10AM	7 ACD IN	sales	:00	n
1/28/93	7:59:10AM	8 AVAIL	sales	:00	n
1/28/93	7:59:10AM	9 RING	sales	:00	n
1/28/93	7:59:10AM	10 ACD IN	sales	:00	n
1/28/93	7:59:10AM	11 ACW IN	sales	:00	n
1/28/93	7:59:10AM	12 ACW	sales	:00	n
1/28/93	7:59:10AM	13 AVAIL	sales	:03	n

Figure 5-16: Agent Trace Report Example

Note

Database items apply to the `ag_actv` table.

Table 5-7: Agent Trace Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Agent	The name or login ID of the agent (selected in the report input window).	SYN(LOGID)
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Date	The day the event (state change) was recorded.	ROW_DATE
Time	Time of day the event started.	EVENT_TIME
Seq	Sequence number of the event. Agent events which occur in the same second are tagged with increasing sequence numbers, so the order in which they occurred can be determined.	WMODE_SEQ
State	The current work state of the agent. An agent can be in any one of the following states: LOGON, LOGOFF, ACDIN, ACDOUT, ACW, ACWIN, ACWOUT, AUX, AUXIN, AUXOUT, AVAILABLE, DACD, DACW, or UNKNOWN.	WORKMODE and DIRECTION
Split/Skill	The name or number of the split or skill which the agent logged into or for which the agent handled a call.	SYN(SPLIT)
Duration	The length of time spent in the state. Shown in minutes and seconds (mm:ss). For ACW and AUX, the duration is the total time the agent spent in the state, including time on ACWIN, ACWOUT, AUXIN, and AUXOUT calls.	DURATION
Reconnect	Indicates whether the agent reconnected to the call (for example, the agent put a call on hold and then retrieved the call from hold).	RECONNECT

Event Count Report

The Agent Event Count report shows the total number of times an individual agent has pressed an **Event Count** (sometimes referred to as Stroke Count) key for all splits/skills. An Event Count key can represent any call event, including a successful sale, a call from a demographic category, or a response to a promotion. CMS records an event occurrence each time an agent presses an Event Count key on his or her voice terminal while the agent is on an ACD call or in call-related after call work.

Things to Know About This Report

- Event counts are only recorded while an agent is on an ACD call or in call-related after call work. If an agent is in AUTO-IN mode, the ACD call terminates when the caller hangs up. With this case, an event count cannot be recorded after the caller hangs up.

To track all event counts, it is recommended that agents use the MANUAL-IN mode because the agent goes to ACW when the caller hangs up, and CMS still records an event count made during that state. As long as the agent records the event before returning to the AVAIL mode, all events are counted.

- This report is available with Generic 2, System 85, and Generic 3 switches only.
- Event Count keys are also known as Stroke Count keys.
- This report is available in interval, daily, weekly, and monthly versions.
- Event Counts (stroke counts) require a Special Development bid with Generic 1.1.

Agent Event Count Input Window

You must fill out the Agent Event Count report input window to run your report. Field descriptions follow for each type of input window (that is, interval, daily, weekly, and monthly).

06/03/93 1:30 PM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Agent: Event Count: Daily Input acd1

Agent: Linda Jones

Dates: 3/7/93;3/10/93-3/12/93

Report destination (Select One):

<x> Terminal

< > Printer, Printer name _____

< > File, File name: _____

Figure 5-17: Agent Event Count Daily Input Window Example

Field Descriptions

Agent: (interval, daily, weekly, and monthly)

Enter the appropriate agent name or login ID.

Date: (for interval) or **Dates:** (daily, weekly, and monthly)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a "-" offset based on today's date (for example, -1 for yesterday).
- For daily, weekly, and monthly reports, you can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). For weekly and monthly reports, specifying a range produces all weeks and/or months that begin in the range.

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message *No records found* displays in the status line.

The month start date must be the first day of the month.

Times: (Interval only)

Enter the time you would like the report to cover.

- You can use AM/PM format (for example, 7:30AM-5:00PM).
- You can also use military time format (for example, 7:30-17:00).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Agent Event Count Report Examples

A description of each report items follows the report example in the Agent Event Count Report Description table.

Agent Event Count by Interval

Date: 1/15/93 Printed: 1/21/93 3:02 PM
Agent: Linda Jones ACD: NASPS ACD1

Time	ACD Calls	1	2	3	4	5	6	7	8	9
Totals:	18	0	0	0	0	0	0	0	0	0
11:00-11:15AM	4	0	0	0	0	0	0	0	0	0
11:15-11:30AM	5	0	0	0	0	0	0	0	0	0
11:30-11:45AM	5	0	0	0	0	0	0	0	0	0
11:45-12:00PM	4	0	0	0	0	0	0	0	0	0

Daily Agent Event Count

Printed: 1/21/93 3:03 PM
Agent: Linda Jones ACD: NASPS ACD1

Date	ACD Calls	1	2	3	4	5	6	7	8	9
Totals:	18	0	0	0	0	0	0	0	0	0
1/13/93	130	0	0	0	0	0	0	0	0	0
1/14/93	159	0	0	0	0	0	0	0	0	0
1/15/93	185	0	0	0	0	0	0	0	0	0
1/16/93	157	0	0	0	0	0	0	0	0	0
1/17/93	165	0	0	0	0	0	0	0	0	0

Weekly Agent Event Count

Printed: 1/21/93 3:03 PM
Agent: Linda Jones ACD: NASPS ACD1

Week Starting	ACD Calls	1	2	3	4	5	6	7	8	9
Totals:	8182	0	0	0	0	0	0	0	0	0
12/23/93	1275	0	0	0	0	0	0	0	0	0
12/20/93	4374	0	0	0	0	0	0	0	0	0
1/ 6/93	1737	0	0	0	0	0	0	0	0	0
1/13/93	796	0	0	0	0	0	0	0	0	0

Monthly Agent Event Count

Printed: 1/21/93 3:03 PM
Agent: Linda Jones ACD: NASPS ACD1

Month Starting	ACD Calls	1	2	3	4	5	6	7	8	9
Totals:	4133	0	0	0	0	0	0	0	0	0
11/ 1/93	1101	0	0	0	0	0	0	0	0	0
12/ 1/93	2972	0	0	0	0	0	0	0	0	0

Figure 5-18: Agent Event Count Report Examples

Note Database items and calculations apply to the *hagent* table for interval reports, the *dagent* table for daily reports, the *wagent* table for weekly reports, and the *magent* table for monthly reports.

Table 5-8: Agent Event Count Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week Starting, Month Starting	The day, week, or month for which the report was run (selected in the report input window).	ROW_DATE
Agent	The name or login ID of the agent (selected in the report input window).	SYN(LOGID)
Printed	Date and time the report was sent to the printer.	No database item or calculation
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Time (interval reports only)	Interval for which counts were summed.	STARTTIME
ACD Calls	The number of split/skill and direct agent ACD calls answered by this agent during the specified time period.	sum(ACDCALLS + DA_ACDCALLS) sum(<TOTAL_ACDCALLS>)
Event Count 1-9	The number of key presses of the various Event Count keys by this agent during the specified time period.	sum(EVENT1-9)

Group Summary Report

The Group Summary reports summarize the daily activities of every agent within a specific group. Agents in a group may share common characteristics, such as being newly hired or top performers, or they may simply be part of a more manageable subdivision of a split. You can use this report to compare individuals within a group.

Things to Know About This Report

- This report lists the totals for each agent in the group summed over all splits/skills that the agent was logged into during the time period covered in the report.
- This report is available in daily, weekly, or monthly forms.

Prerequisite System Administration

- Before you can obtain an Group Summary report, you must first create and name your group in the Dictionary subsystem. See Chapter 7, "Dictionary"—Agent Groups."

Group Summary Input Window

You must fill out the Group Summary report input window to run your report. Field descriptions follow for each type of input window (that is, daily, weekly, and monthly).

The screenshot shows a window titled "Call Management System" with a status bar at the top displaying "06/03/93 1:30 PM" and "Windows: 1 of 4 ^". The main content area is titled "Rpts: Hist: Agent: Group Summary: Weekly Input" and "acd1". It contains a "Run" button and several input fields: "Agent group: Linda Jones", "Dates: 2/5/93-2/25/93;3/12/93", and "Report destination (Select One):". Below the report destination, there are three options: "<x> Terminal", "< > Printer, Printer name _____", and "< > File, File name: _____".

Figure 5-19: Group Summary Weekly Input Window Example

Field Descriptions**Agent group:** (daily, weekly, and monthly)

Enter the appropriate agent group name.

Note

Make sure you enter the agent group name correctly. CMS does not check to see if the group name you entered exists in the Dictionary subsystem. Therefore, if you enter a name that is misspelled, the report request runs, but does not contain data because the group does not exist. You have to reenter the group name correctly.

Dates: (daily, weekly, and monthly)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).
- You can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). The range produces weeks and months that start within the range.

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message *No records found* displays in the status line.

The month start date must be the first day of the month.

Report destination (Select one):Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Group Summary Report Examples

A description of each report items follows the report example in the Group Summary Report Description table.

Daily Group Summary

Date: 1/15/93

Printed: 1/21/93 3:08 PM

Agent group: Group1_AgGrp

ACD: NASPS ACD1

Agent	ACD Calls	Avg Talk Time	Avg After Call	Extn In Calls	Avg Talk Time	Extn Out Calls	Avg Talk Time	ACD	ACW	Total Ring	Agent Time AUX	Avail	Staff
Totals:	1877	1:00	2:01	0		0		31:30:52	62:49:18	:00:00	2:27:35	25:14:06	122:18:00
Split01 Agent02	184	1:00	2:02	0		0		3:06:25	6:15:45	:00:00	:12:00	2:39:29	12:13:48
Split01 Agent04	186	1:00	2:02	0		0		3:08:05	6:14:08	:00:00	:15:01	2:35:08	12:13:48
Split02 Agent01	188	1:00	1:59	0		0		3:09:47	6:20:34	:00:00	:19:18	2:21:46	12:13:48
Split02 Agent03	190	1:00	2:01	0		0		3:12:02	6:22:05	:00:00	:18:00	2:21:06	12:13:48
Split02 Agent05	189	1:00	1:59	0		0		3:10:04	6:14:29	:00:00	:20:16	2:27:33	12:13:48
Split03 Agent02	185	1:00	2:01	0		0		3:05:04	6:11:36	:00:00	:12:00	2:41:15	12:13:48
Split03 Agent04	185	1:00	2:02	0		0		3:06:02	6:13:41	:00:00	:12:00	2:41:14	12:13:48
Split04 Agent01	191	1:00	2:00	0		0		3:12:09	6:23:44	:00:00	:09:00	2:28:30	12:13:48
Split04 Agent03	189	1:00	1:59	0		0		3:10:31	6:15:35	:00:00	:15:00	2:30:08	12:13:48
Split04 Agent05	189	1:00	1:58	0		0		3:10:43	6:17:41	:00:00	:15:00	2:27:57	12:13:48

Weekly Group Summary

Week Starting: 1/13/93

Printed: 1/21/93 3:09 PM

Agent group: Group1_AgGrp

ACD: NASPS ACD1

Agent	ACD Calls	Avg Talk Time	Avg After Call	Extn In Calls	Avg Talk Time	Extn Out Calls	Avg Talk Time	ACD	ACW	Total Ring	Agent Time AUX	Avail	Staff
Totals:	8096	1:00	2:01	0		0		137:08	272:52	:00	21:27	158:08	592:51
Split01 Agent02	803	1:00	2:00	0		0		13:34	26:58	:00	2:03	16:33	59:18
Split01 Agent04	803	1:00	2:01	0		0		13:35	27:01	:00	2:06	16:14	59:18
Split02 Agent01	812	1:00	2:00	0		0		13:42	27:44	:00	2:25	15:18	59:22
Split02 Agent03	815	1:00	2:01	0		0		13:52	27:19	:00	2:24	15:10	59:03
Split02 Agent05	816	1:00	2:00	0		0		13:50	27:15	:00	2:24	15:19	59:18
Split03 Agent02	806	1:00	2:01	0		0		13:36	27:13	:00	1:53	16:13	59:18
Split03 Agent04	802	1:00	2:01	0		0		13:33	26:57	:00	1:57	16:18	59:18
Split04 Agent01	812	1:00	2:01	0		0		13:46	27:42	:00	2:00	15:38	59:18
Split04 Agent03	815	1:00	2:00	0		0		13:49	27:28	:00	2:00	15:42	59:18
Split04 Agent05	812	1:00	2:00	0		0		13:46	27:11	:00	2:11	15:39	59:18

Monthly Group Summary

Month Starting: 12/01/92

Printed: 1/21/93 3:09 PM

Agent group: Group1_AgGrp

ACD: NASPS ACD1

Agent	ACD Calls	Avg Talk Time	Avg After Call	Extn In Calls	Avg Talk Time	Extn Out Calls	Avg Talk Time	ACD	ACW	Total Ring	Agent Time AUX	Avail	Staff
Totals:	30148	1:45	2:00	0		0		890:47	1009:31	:00	305:48	1663:05	3889:59
Split01 Agent02	2965	1:45	2:00	0		0		87:50	98:54	:00	30:43	168:46	387:53
Split01 Agent04	2971	1:47	2:00	0		0		88:52	98:53	:00	30:26	169:15	389:15
Split02 Agent01	3040	1:44	2:00	0		0		88:58	102:07	:00	30:34	163:51	387:58
Split02 Agent03	3055	1:45	2:01	0		0		90:32	102:37	:00	30:46	163:31	389:15
Split02 Agent05	3063	1:46	2:01	0		0		90:27	102:36	:00	30:47	162:53	389:15
Split03 Agent02	2903	1:47	2:01	0		0		87:32	97:21	:00	30:14	172:26	389:15
Split03 Agent04	2897	1:47	2:01	0		0		86:14	96:55	:00	30:52	172:56	389:15
Split04 Agent01	3083	1:44	2:00	0		0		90:06	103:16	:00	30:24	163:30	389:15
Split04 Agent03	3092	1:45	2:01	0		0		90:27	103:37	:00	30:26	162:36	389:15
Split04 Agent05	3079	1:44	2:00	0		0		89:46	103:10	:00	30:30	163:16	389:15

Figure 5-20: Group Summary Report Examples

Note Database items and calculations apply to the `dagent` table for daily reports, the `wagent` table for weekly reports, and the `magent` table for monthly reports.

Table 5-9: Group Summary Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date	The day that the report was run (selected in the report input window).	ROW_DATE
Agent group	The name of the group (selected in the report input window).	SYN(LOGID)
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Agent	The names or login IDs of the agents that are assigned to the group (selected in the report input window).	SYN(LOGID)
ACD Calls	The number of split/skill and direct agent ACD calls handled by the agent. This total also includes O_ACDCALLS if you have the Outgoing Call Management application of ASAI. (O_ACDCALLS is the number of ACDCALLS that were placed by an adjunct [predictive dialing].)	sum(ACDCALLS + DA_ACDCALLS) sum(<TOTAL_ACDCALLS>)
Avg Talk Time	Average time the agent spent talking on ACD calls during the period covered.	sum(TOTAL_ACDTIME) / sum(TOTAL_ACDCALLS) <AVG_AGENT_TALK_SUM>
Avg After Call	Average time the agent spent in after call work for ACD calls during the period covered.	sum(TOTAL_ACWTIME) / sum(TOTAL_ACDCALLS) <AVG_AGENT_ACW_SUM>
Extn In Calls	The number of inbound extension calls received by the agent while in after call work and auxiliary work during the period covered. This includes the agent in ACW for split/skill and ACD calls and noncall associated after call work. (This does not includes direct agent ACW in calls.)	sum(ACWINCALLS + AUXINCALLS) sum(<EXT_CALL_IN>)
(Extn In) Avg Talk Time	Average time of the agent's inbound extension calls.	sum(ACWINTIME+AUXINTIME) / sum(ACWINCALLS+ AUXINCALLS) <AVG_TALK_TIME_IN_SUM>

Table 5-9: Group Summary Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Extn Out Calls	The number of outbound calls dialed from the agent's extension during the period covered. This includes agents in ACW for split/skill ACD calls and noncall associated after call work. (This does not includes direct agent ACW out calls.)	sum(ACWOUTCALLS + AUXOUTCALLS) sum(<EXT_CALL_OUT>)
(Extn Out) Avg Talk Time	Average length of the agent's outbound extension calls.	sum(ACWOUTTIME+ AUXOUTTIME)/sum(ACWOUTCALLS+AUXOUTCALLS) <AVG_TALK_TIM_OUT_SUM>
(Total Agent Time) ACD	The total time the agent spent talking on all ACD calls.	sum(I_ACDTIME + I_DA_ACDTIME) sum(<TOTAL_I_ACDTIME>)
(Total Agent Time) ACW	The total time the agent spent in ACW for split/skill and direct agent ACD calls, as well as time in ACW not associated with a call. Includes time on extension calls.	sum(I_ACWTIME + I_DA_ACWTIME) sum(<TOTAL_I_ACWTIME>)
(Total Agent Time) Ring	The total time all split/skill and direct agent calls rang before an agent answered. (Generic 2 and Generic 3 switches only)	sum(I_RINGTIME)
(Total Agent Time) AUX	The total time the agent spent in auxiliary work for all splits/skills.	sum(TI_AUXTIME)
(Total Agent Time) Avail	The total time the agent spent waiting for an ACD call in any split/skill.	sum(TI_AVAILTIME)
(Total Agent Time) Staff	The total logged-in time for the agent in the time period covered for any split/skill.	sum(TI_STAFFTIME)

Inbound/Outbound Call Report

The Inbound/Outbound Call report is a detailed breakdown of the inbound and outbound calls handled by an agent.

Things to Know About This Report

- The report sums the total over all the splits or skills the agent was logged into for the specific period covered.
- This report is available in interval, daily, weekly, and monthly forms.
- You must have the Outgoing Call Management application of ASAI for data to appear in the Outbound ACD columns.

Agent Inbound/Outbound Input Window

You must fill out the Agent Inbound/Outbound report input window to run your report. Field descriptions follow for each type of input window (that is, interval, daily, weekly, and monthly).

06/03/93 12:00 PM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Agent: In/Outbound Call: Interval Input acd1

Agent: Smith, H

Date: -1

Times: 7:30AM-5:00PM

Report destination (Select One):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-21: Agent Inbound/Outbound Interval Input Window Example

Field Descriptions

Agent : (interval, daily, weekly, and monthly)

Enter the appropriate agent name or login ID.

Date: (for Interval) or **Dates:** (daily, weekly, and monthly)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a "-" offset based on today's date (for example, -1 for yesterday).

- You can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). The range produces weeks and months that start within the range.

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message *No records found* displays in the status line.

The month start date must be the first day of the month.

Times: (Interval only)

Enter the time you would like the report to cover.

- You can use AM/PM format (for example, 7:30AM-5:00PM).
- You can also use military time format (for example, 7:30-17:00).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Inbound/Outbound Call Report Examples

A description of each report items follows the report example in the Inbound/Outbound Call Report Description table.

Inbound/Outbound Agent Calls by Interval

Date: 1/15/93
Agent: Smith,H

Printed: 1/21/93 3:11 PM
ACD: NASPS ACD1

Time	-- Inbound ACD --			- Outbound ACD -			Extn In Calls	Avg Talk Time	Extn Out Calls	Avg Talk Time	Extn Out External Calls	Avg Talk Time	Assists	Trans Out
	Calls	Avg Talk Time	Avg After Call	Calls	Avg Talk Time	Avg After Call								
Totals:	18	1:00	2:01	0			0		0		0		0	0
11:00-11:15AM	4	1:00	1:54	0			0		0		0		0	0
11:15-11:30AM	5	1:00	2:06	0			0		0		0		0	0
11:30-11:45AM	5	1:00	2:02	0			0		0		0		0	0
11:45-12:00PM	4	1:00	2:03	0			0		0		0		0	0

Daily Inbound/Outbound Agent Calls

Agent: Smith,H

Printed: 1/21/93 3:13 PM
ACD: NASPS ACD1

Date	-- Inbound ACD --			- Outbound ACD -			Extn In Calls	Avg Talk Time	Extn Out Calls	Avg Talk Time	Extn Out External Calls	Avg Talk Time	Assists	Trans Out
	Calls	Avg Talk Time	Avg After Call	Calls	Avg Talk Time	Avg After Call								
Totals:	796	1:00	2:00	0			0		0		0		0	0
1/13/93	130	1:00	1:59	0			0		0		0		0	0
1/14/93	159	1:00	1:59	0			0		0		0		0	0
1/15/93	185	1:00	2:01	0			0		0		0		0	0
1/16/93	157	1:00	2:01	0			0		0		0		0	0
1/17/93	165	1:00	2:00	0			0		0		0		0	0

Weekly Inbound/Outbound Agent Calls

Agent: Smith,H

Printed: 1/21/93 3:14 PM
ACD: NASPS ACD1

Week Starting	-- Inbound ACD --			- Outbound ACD -			Extn In Calls	Avg Talk Time	Extn Out Calls	Avg Talk Time	Extn Out External Calls	Avg Talk Time	Assists	Trans Out
	Calls	Avg Talk Time	Avg After Call	Calls	Avg Talk Time	Avg After Call								
Totals:	8192	1:00	2:00	0			0		0		0		0	0
12/23/92	1275	1:00	2:01	0			0		0		0		0	0
12/30/92	4374	1:00	2:00	0			0		0		0		0	0
1/ 6/93	1737	1:00	2:00	0			0		0		0		0	0
1/13/93	796	1:00	2:00	0			0		0		0		0	0

Monthly Inbound/Outbound Agent Calls

Agent: Smith,H

Printed: 1/21/93 3:14 PM
ACD: NASPS ACD1

Month Starting	-- Inbound ACD --			- Outbound ACD -			Extn In Calls	Avg Talk Time	Extn Out Calls	Avg Talk Time	Extn Out External Calls	Avg Talk Time	Assists	Trans Out
	Calls	Avg Talk Time	Avg After Call	Calls	Avg Talk Time	Avg After Call								
Totals:	4133	2:39	2:01	0			0		0		0		0	0
11/ 1/93	1161	4:18	2:01	0			0		0		0		0	0
12: 1/93	2972	1:46	2:00	0			0		0		0		0	0

Figure 5-22: Inbound/Outbound Call Report Examples

Note Database items and calculations apply to the `hagent` table for interval reports, the `dagent` table for daily reports, the `wagent` table for weekly reports, and the `magent` table for monthly reports.

Table 5-10: Inbound/Outbound Call Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Agent	The name of the agent (selected in the report input window).	SYN(LOGID)
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Time (for interval reports only)	The intrahour intervals for which the report shows data (selected in the report input window).	STARTTIME
Date, Week Starting, Month Starting	The day, week, or month for which the report was run (selected in the report input window).	ROW_DATE
(Inbound ACD) Calls	The total number of all inbound ACD calls answered by this agent during the specified time period.	(sum(ACDCALLS + DA_ACDCALLS - O_ACDCALLS)) <INBOUND_ACDCALLS>
(Inbound ACD) Avg Talk Time	The average length of all inbound ACD calls answered by this agent during the specified time period.	sum(ACDTIME+ DA_ACDTIME - O_ACDTIME) / sum(ACDCALLS+ DA_ACDCALLS - O_ACDCALLS)
(Inbound ACD) Avg After Call	Average length of all after call work sessions by this agent on inbound ACD calls during the specified time period.	sum(ACWTIME + DA_ACWTIME - O_ACWTIME) / sum(ACDCALLS+ DA_ACDCALLS - OACDCALLS)
(Outbound ACD) Calls	The total number of all outbound ACD calls for this agent during the specified time period.	sum(O_ACDCALLS)
(Outbound ACD) Avg Talk Time	The average length of all outbound ACD calls for this agent during the specified time period.	sum(O_ACDTIME) / sum(O_ACDCALLS)
(Outbound ACD) Avg After Call	Average length of all after call work sessions by this agent on outbound ACD calls during the specified time period.	sum(O_ACWTIME) / sum(O_ACDCALLS)
Extn In Calls	The number of inbound extension calls received by this agent while in after call work or auxiliary work during the period covered. Does not include direct agent ACW in calls (DA_ACWINCALLS).	sum(ACWINCALLS + AUXINCALLS) sum(<EXT_CALL_IN>)
(Extn In) Avg Talk Time	Average time of this agent's inbound extension calls.	sum((ACWINTIME + AUXINTIME) / sum(ACWINCALLS + AUXINCALLS))

Table 5-10: Inbound/Outbound Call Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Extn Out Calls	The number of outbound calls dialed from this agent's extension during the period covered. Does not include direct agent ACW out calls (DA_ACWOUTCALLS).	sum(ACWOUTCALLS + AUXOUTCALLS) sum(<EXT_CALL_OUT>)
(Extn Out) Avg Talk Time	Average time length of this agent's outbound extension calls.	sum(ACWOUTTIME + AUXOUTTIME) / sum(ACWOUTCALLS + AUXOUTCALLS)
Extn Out External Calls	The number of outbound extension calls made by this agent to a location outside the switch during after call work sessions and auxiliary work. (Does not include DA_ACWOFFCALLS.)	sum(ACWOUTOFFCALLS + AUXOUTOFFCALLS)
(Extn Out External) Avg Talk Time	The average length of this agent's calls to a location outside the switch during after call work sessions or auxiliary work.	sum(ACWOUTOFFTIME + AUXOUTOFFTIME) / sum(ACWOUTOFFCALLS + AUXOUTOFFCALLS)
Assists	Number of calls referred to the supervisor by this agent during the specified time period.	sum(ASSISTS)
Trans Out	The number of calls transferred by this agent to another destination during the specified time period (for Generic 1, a measured call to a measured split or measured trunk to a measured trunk; for Generic 3 and Generic 2.2, any call transferred; for System 85 R2V4 and Generic 2.1, transfers to a VDN or split.	sum(TRANSFERRED)

Split/Skill Reports

From the Split/Skill Reports menu (Figure 5-23) you can get specific information on your splits or skills. This information could include looking at the percentage of calls answered within your set service level by split/skill, how many calls were handled by each agent in a split/skill, or summarizing the activity for an entire split/skill by time. Each split/skill report is described in this chapter.

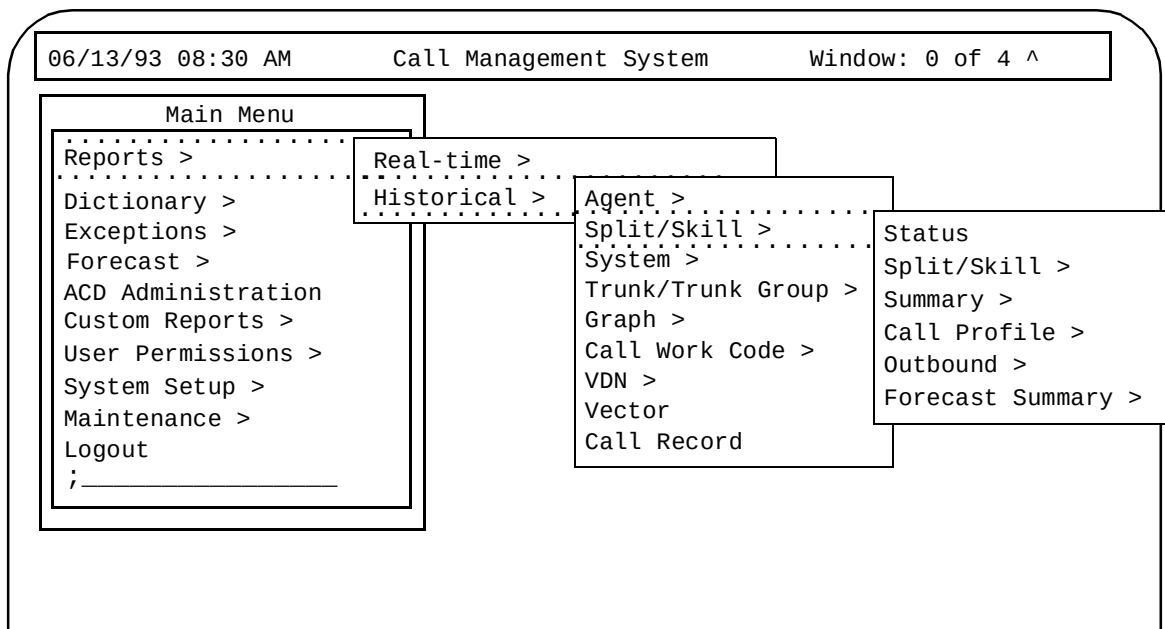


Figure 5-23: Split/Skill Reports Menu

Status Report

The Split/Skill Status report gives an overview of split/skill performance. This report lists the percentage of calls answered within your set service level, the total number of ACD calls for the split/skill, the total number of abandoned calls for the split/skill, the average speed of answer and average time to abandon for the split/skill.

Things to Know About This Report

- If you display this report on your terminal for today's date, the data in the report is updated automatically at the end of each intrahour interval. The totals are cumulative for the day up to the last completed interval. If you send this report to a printer or file, the report is generated one time with the current values.
- You cannot customize this report.
- This report is available in daily form only.
- For the % Within Service Level to be meaningful, you must have administered a split/skill service level in the ACD Administration: Split/Skill Call Profile Setup window. If you have not administered a split/skill service level and service level increments, "0" is assigned to all increments and the percent within service level will display as 0 percent.

Split/Skill Status Input Window

You must fill out the Split/Skill Status report input window to run your report. Field descriptions follow the input window.

06/03/93 10:30 AM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Split/Skill: Status Input NASPS ACD1

Run

Split/Skill: Billing

Date: 01/15/93

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-24: Split/Skill Status Input Window Example

Field Descriptions**Split/Skill:**

Enter the appropriate split/skill name or number. See on-line help for the valid numerical entries for your particular switch.

Date:

Enter the date you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a "-" offset based on today's date (for example, -1 for yesterday).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

**Split/Skill Status
Report Example**

A description of each report item follows the report example in the Split/Skill Status Report Description table.

```
Split/Skill Status
Date: 1/15/93          Printed: 1/21/93  3:38 PM
Split/Skill: Billing    ACD: NASPS ACD1

% Within Service Level: 72.92

ACD Calls:           921      Avg Speed of Answer:  :04
Abandoned Calls:     1        Avg Time to Abandon:  1:07
```

Figure 5-25: Split/Skill Status Report Example

Note You cannot customize this report.

Table 5-11: Split/Skill Status Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date	The day for which the report was run (selected in the report input window).	ROW_DATE
Split/Skill	The name or number of the split or skill (selected in the report input window).	SYN(SPLIT)
Printed	Date and time the report was sent to the printer.	No database item or calculation
ACD	The ACD name or number for which the report was run.	SYN(ACD)
% Within Service Level	The percentage of split/skill ACD calls offered to the split or skill that actually received an answer within your administered service level.	$100 * (\text{ACCEPTABLE} / \text{CALLSOFFERED})$ <PERCENT_SLVL_SPL_SUM>
Split/Skill ACD Calls	Total number of ACD calls queued to the split or skill and answered by an agent in the split or skill.	ACDCALLS
Abandoned Calls	The total number of calls queued to the split or skill that abandoned while in queue or ringing. If calls are queued to multiple splits/skills when they abandon, the abandon is counted only for the first split/skill to which the call queued.	ABNCALLS
Avg Speed of Answer	The average time split/skill ACD calls wait in queue or ringing at the agent before being answered.	ANSTIME/ACDCALLS
Avg Time to Abandon	The average time a caller waits before disconnecting.	ABNTIME/ABNCALLS

Split/Skill Report

The Split/Skill Report shows the calls handled, agent time and assists, and transfers and holds for each agent in a split/skill.

Things to Know About This Report

- This report shows only the time each agent worked in this particular split/skill. An agent could have worked in other splits/skills during the day.
- This report is available in daily, weekly, and monthly summaries.

Split/Skill Report Input Window

You must fill out the Split/Skill report input window to run your report. Field descriptions follow the input window.

06/03/93 10:30 AM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Split/Skill: Report: Daily Input acd1

Split/Skill: Sales Run

Date: 02/28/93

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-26: Split/Skill Report Daily Input Window Example

Field Descriptions**Split/Skill:**

Enter the appropriate split or skill name or number. See on-line help for the valid numerical entries for your particular switch.

Dates: (daily, weekly, and monthly)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).
- You can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). The range produces weeks and months that start within the range.

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message `No records found` appears on the status line.

The month start date must be the first day of the month.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (`/usr/<your login ID>`) unless you specify a full path name.

Split/Skill Report Examples

A description of each report item follows the report example follows the report example in the Split/Skill Report Description table.

Daily Split/Skill Report

Date: 1/15/93
Split/Skill: Billing

Printed: 1/21/93 3:19 P
M
ACD: NASPS ACD1

Agent	ACD Calls	Avg Talk Time	Avg After Call	ACD	ACW	Ring	Other	AUX	Avail	Staff	Assists	Trans Out	Calls Held	Avg Hold Time
Totals:	921	1:00	2:02	15:29:06	31:08:10	:00:00	:00		13:10:16	61:09:00	0	0	0	
Anderson, Mary	185	1:00	2:01	3:06:07	6:12:01	:00:00	:00	15:00	2:39:24	12:13:48	0	0	0	
Dennis, Jason	184	1:00	2:02	3:06:25	6:15:45	:00:00	:00	2:00	2:39:29	12:13:48	0	0	0	
Gallegos, Terry	182	1:00	2:03	3:02:57	6:13:36	:00:00	:00	18:01	2:38:32	12:13:48	0	0	0	
Thomas, Wayne	186	1:00	2:02	3:08:05	6:14:08	:00:00	:00	15:01	2:35:08	12:13:48	0	0	0	
Quinn, Nancy	184	1:00	2:02	3:05:32	6:12:40	:00:00	:00	15:00	2:37:43	12:13:48	0	0	0	

Weekly Split/Skill Report

Week Starting: 1/13/93
Split/Skill: Billing

Printed: 1/21/93 3:21 PM
ACD: NASPS ACD1

Agent	ACD Calls	Avg Talk Time	Avg After Call	ACD	ACW	Ring	Other	AUX	Avail	Staff	Trans Assists	Calls Out	Avg Held Time
Totals:	4001	1:00	2:01	67:44	135:02	:00	:00	10:26	81:57	296:33	0	0	0
Anderson, Mary	796	1:00	2:01	13:29	26:56	:00	:00	2:05	16:33	59:20	0	0	0
Dennis, Jason	803	1:00	2:00	13:34	26:58	:00	:00	2:03	16:33	59:18	0	0	0
Gallegos, Terry	800	1:00	2:01	13:34	27:00	:00	:00	2:09	16:20	59:18	0	0	0
Thomas, Wayne	803	1:00	2:01	13:35	27:01	:00	:00	2:06	16:14	59:18	0	0	0
Quinn, Nancy	799	1:00	2:01	13:29	27:04	:00	:00	2:01	16:15	59:18	0	0	0

Monthly Split/Skill Report

Month Starting: 12/ 1/92
Split/Skill: Billing

Printed: 1/21/93 3:21 PM
ACD: NASPS ACD1

Agent	ACD Calls	Avg Talk Time	Avg After Call	ACD	ACW	Ring	Other	AUX	Avail	Staff	Trans Assists	Calls Out	Avg Held Time
Totals:	14829	1:46	2:00	441:26	495:56	:00	:00	152:59	842:09	1942:28	0	0	0
Anderson, Mary	2972	1:46	2:00	88:29	99:44	:00	:00	30:41	168:16	389:15	0	0	0
Dennis, Jason	2961	1:45	2:00	87:21	98:46	:00	:00	30:43	168:43	387:14	0	0	0
Gallegos, Terry	2971	1:47	2:01	88:45	99:38	:00	:00	30:41	168:16	389:15	0	0	0
Thomas, Wayne	2971	1:47	2:00	88:52	98:53	:00	:00	30:26	169:15	389:15	0	0	0
Quinn, Nancy	2954	1:46	2:01	87:57	98:53	:00	:00	30:25	167:37	387:26	0	0	0

Figure 5-27: Split/Skill Report Examples

Note Database items and calculations apply to the `dagent` table for daily reports, the `wagent` table for weekly reports, the `magent` table for monthly reports. This is a split report, but it uses the agent tables.

Table 5-12: Split/Skill Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week Starting, Month Starting	The day, week, or month for which the report was run (selected in the report input window).	ROW_DATE
Split/Skill	The name or number of the split or skill (selected in the report input window).	SYN(SPLIT)
Printed	Date and time the report was sent to the printer.	No database item or calculation
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Agent	The names or login IDs of the agents that logged into the split/skill (selected in the report input window).	SYN(LOGID)
ACD Calls	The number of split/skill and direct agent ACD calls that were answered by the agent. Direct agent calls made to the agent are included if the split/skill is the first one the agent logged into. This total also includes O_ACDCALLS if you have the Outgoing Call Management application on ASAI. (O_ACDCALLS is the number of ACD-CALLS that were placed by an adjunct on behalf of a split/skill [predictive dialing].)	ACDCALLS + DA_ACDCALLS <TOTAL_ACDCALLS>
Avg Talk Time	Average time the agent spent talking on ACD calls for this split/skill during the period covered. This includes time talking on direct agent calls made to the agent if the split/skill is the first one the agent logged into. This total also includes O_ACDCALLS if you have the Outgoing Call Management application on ASAI. (O_ACDCALLS is the number of ACDCALLS that were placed by an adjunct on behalf of a split [predictive dialing].)	$(ACD\_TIME + DA\_ACD\_TIME) / (ACDCALLS + DA\_ACDCALLS)$ <AVG_AGENT_TALK_TIME>

Table 5-12: Split/Skill Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Avg After Call	The average time the agent spent in ACW for ACD and direct agent calls for this split/skill during the time period covered by the report. This includes time talking on direct agent calls made to the agent if the split/skill is the first one the agent logged into. This total also includes O_ACDCALLS if you have the Outgoing Call Management application on ASAI. (O_ACDCALLS is the number of ACDCALLS that were placed by an adjunct on behalf of a split/skill [predictive dialing].)	$(ACWTIME+DA\_ACWTIME) / (ACDCALLS+DA\_ACDCALLS)$ <AVG_AGENT_ACW_TIME>
(Agent Time) ACD	The total time the agent spent on split or skill ACD calls for this split/skill. If this split/skill is the first split/skill that the agent logged into, then direct agent time is included.	I_ACDTIME+I_DA_ACDTIME <TOTAL_I_ACDTIME>
(Agent Time) ACW	The total time the agent spent working in after call work activities for split/skill and direct agent ACD calls for or attributed to this split/skill.	I_ACWTIME+I_DA_ACWTIME <TOTAL_I_ACWTIME>
(Agent Time) Ring	The total time split/skill and direct agent calls rang before the agent answered. (Generic 2 and Generic 3 switches only)	I_RINGTIME
(Agent Time) Other	The total time the agent spent doing other work not related to this split/skill. For Generic 3, other work includes: while in Auto-In or Manual-In mode, an agent put any call on hold and performed no further action; the agent dialed to place a call or activate a feature; or a personal call rang at the agent with no other activity. For Generic 1, and Generic 3 without EAS, agents were logged into multiple splits and doing work for a split other than this one (on an ACD call, in call-related ACW, or on a personal call attributed to a split other than this one). For Generic 2.2 and Generic 3 with EAS, agents were logged into multiple skills and doing work for a skill other than this one (on an ACD call, in call-related ACW or on a personal call attributed to a skill other than this one). For all switches, I_OTHERTIME is collected for the time period after the link to the switch comes up or after the agent logs in and before the CMS receives notification of the agent's state from the switch.	I_OTHERTIME

Table 5-12: Split/Skill Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
(Agent Time) AUX	The total time the agent spent in auxiliary work for this splits/skills.	TI_AUXTIME
(Agent Time) Avail	The total time all agents spent waiting for an ACD call in this split/skill.	I_AVAILTIME
(Agent Time) Staff	The total time the agent was logged into this split/skill for the period covered.	I_STAFFTIME
Assists	The number of calls for which an agent requested supervisor assistance for this split/skill. Assists for direct agent calls are recorded only for the agent, not for the split/skill.	ASSISTS
Trans Out	The number of calls transferred by this agent to another destination during the specified time period (for Generic 1, a measured call to a measured split or measured trunk to a measured trunk; for Generic 3 or Generic 2.2, any call transferred; for System 85 R2V4 and Generic 2.1, transfers to a VDN or split).	TRANSFERRED
Calls Held	The number of times the agent put a call on hold. This is any type of call for Generic 2.2 and Generic 3 switches; ACD calls only for System 85 R2V4 and Generic 2.1 switches.	HOLDCALLS
Avg Hold Time	Average time callers spent on hold at the agent. This is any type of call for Generic 2.2 and Generic 3 switches; ACD calls only for System 85 R2V4 and Generic 2.1 switches.	HOLDTIME/HOLDCALLS <AVG_HOLD_TIME>

Summary Report

The Split/Skill Summary report summarizes the activity for an entire split or skill by time. You could use this report to analyze the overall performance of a split/skill or to compare splits/skills doing comparable work.

Things to Know About This Report

- Dequeued calls on Generic 3 with vectoring and Generic 2.2 with EAS are calls that queued to this split or skill as the second or third split/skill in the VDN, but the disposition of the call (answered, abandoned, outflowed) was recorded for another split/skill.
- Direct agent call data is not included in any of the Split/Skill Summary reports. Direct agent calls are not really split/skill calls. (If you wish to include them as split/skill calls, you can create a custom report using agent table data.)
- The Max delay item in the totals line of the report is the maximum delay over the period covered by the entire report.
- This report is available in interval, daily, weekly, and monthly forms.

Split/Skill Summary Input Window

You must fill out the Split/Skill Summary report input window to run your report. Field descriptions follow for each type of input window (that is, interval, daily, weekly, and monthly).

06/03/93 10:30 AM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Split: Summary: Interval Input acd1

Split/Skill: _____ Run

Date: _____

Times: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-28: Split/Skill Summary Interval Input Window Example

Field Descriptions**Split/Skill:** (interval, daily, weekly, and monthly)

Enter the appropriate split or skill name or number. See on-line help for the valid numerical entries for your particular switch.

Date: (interval) or **Dates:** (daily, weekly, and monthly)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).
- For daily, weekly, and monthly reports, you can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). For weekly and monthly reports, specifying a range produces all weeks and/or months that begin in the range.

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message `No records found` appears in the status line.

The month start date must be the first day of the month.

Times: (interval)

Enter the time you would like the report to cover.

- You can use AM/PM format (for example, 7:30AM-5:00PM).
- You can also use military time format (for example, 7:30-17:00).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- **Terminal** is the default destination.
- If you selected **Printer** and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected **File**, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Split/Skill Summary Report Examples

A description of each report item follows the report examples in the Split/Skill Summary Report Description table.

Split/Skill Report by Interval

Date: 1/15/93
Split/Skill: Billing

Printed: 1/21/93 3:23 PM
ACD: NASPS ACD1

Time	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Flow In	Flow Out	Extn Out Calls	Avg Talk Time	Avg Queue Time	% ACD Time	% Ans	Avg Pos Stf	Calls per Pos
Totals:	:09	1:07	92	1:00	2:03	1	1:10	13	19	0		0	93.79	82.14	5	5
11:00-11:15AM	:00	1:00	23	1:00	1:59	0	:00	5	7	0		0	89.44	76.67	5	5
11:15-11:30AM	:04		22	1:00	2:01	0	:52	6	8	0		0	92.56	73.33	5	4
11:30-11:45AM	:18		24	1:00	2:06	0	:51	1	1	0		0	98.93	96.00	5	5
11:45-12:00PM	:15	1:07	23	1:00	2:05	1	1:10	1	3	0		0	94.22	85.18	5	5

Daily Split/Skill Report

Split/Skill: Billing

Printed: 1/21/93 3:24 PM
ACD: NASPS ACD1

Date	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Flow In	Flow Out	Extn Out Calls	Avg Talk Time	Avg Queue Time	% ACD Time	% Ans
Totals:	:04	1:10	4001	1:00	2:01	4	1:28	437	680	0		0	68.38	85.40
1/13/93	:02	1:01	662	1:00	2:01	1	1:01	81	120	0		0	40.95	84.55
1/14/93	:06		796	1:00	2:00	0	1:10	88	119	0		0	77.03	86.99
1/15/93	:04	1:07	921	1:00	2:02	1	1:10	117	182	0		0	76.24	83.42
1/16/93	:04	1:28	793	1:00	2:01	1	1:28	60	119	0		0	88.90	86.86
1/17/93	:05	1:03	829	1:00	2:01	1	1:04	91	140	0		0	74.98	85.46

Weekly Split/Skill Report

Split/Skill: Billing

Printed: 1/21/93 3:25 PM
ACD: NASPS ACD1

Week Starting	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Flow In	Flow Out	Extn Out Calls	Avg Talk Time	Avg Queue Time	% ACD Time	% Ans
Totals:	:05	1:08	40912	1:00	2:00	27	1:28	3892	6725	0		0	55.91	85.83
12/23/92	:05	1:08	6360	1:00	2:01	9	1:16	588	1036	0		0	53.81	85.89
12/30/92	:05	1:04	10928	1:00	2:00	4	1:10	978	1738	0		0	56.36	86.25
1/ 6/93	:05	1:13	8695	1:00	2:0	6	1:24	911	1533	0		0	51.93	84.96
1/13/93	:04	1:10	4001	1:00	2:01	4	1:28	437	680	0		0	68.38	85.40

Monthly Split/Skill Report

Split/Skill: Billing

Printed: 1/21/93 3:26 PM
ACD: NASPS ACD1

Month Starting	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Flow In	Flow Out	Extn Out Calls	Avg Talk Time	Avg Queue Time	% ACD Time	% Ans
Totals:	:04	1:11	20895	2:28	1:59	266	****	3516	4535	0		0	42.73	81.32
11/ 1/93	:04	1:11	6066	4:11	1:57	254	****	1946	2026	0		0	36.49	72.68
12/ 1/93	:04	1:10	14829	1:46	2:00	12	2:39	1570	2509	0		0	48.26	85.47

Figure 5-29: Split/Skill Summary Report Examples

Note Database items and calculations apply to the `hsplit` table for interval reports, the `dsplit` table for daily reports, the `wsplit` table for weekly reports, the `msplit` table for monthly reports.

Table 5-13: Split/Skill Summary Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week Starting, Month Starting	The day, week, or month for which the report was run (selected in the report input window).	ROW_DATE
Split/Skill	The name or number of the split or skill (selected in the report input window).	SYN(SPLIT)
Printed	Date and time the report was sent to the printer.	No database item or calculation
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Time (for interval reports only)	The intrahour intervals for which the report shows data (selected in the report input window).	STARTTIME
Avg Speed Ans	The average time a caller waits in this split's or skill's queue or ringing before being answered by an agent.	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED>
Avg Aban Time	The average time a caller waits in this split's or skill's queue or ringing before hanging up.	ABNTIME/ABNCALLS <AVG_ABANDON_TIME>
ACD Calls	The number of split/skill calls answered by the split/skill during the time period covered by the report. This total also includes O_ACDCALLS if you have the Outgoing Call Management application of ASAI. (O_ACDCALLS is the number of ACDCALLS that were placed by an adjunct [predictive dialing].)	ACDCALLS
Avg Talk Time	Average time agents spent talking on ACD calls for this split/skill during the time period covered by the report.	ACDTIME/ACDCALLS <AVG_ACD_TALK_TIME>
Avg After Call	The average time agents spent in after call work for ACD calls during the time period covered by the report.	ACWTIME/ACDCALLS <AVG_ACW_TIME>
Aban Calls	The total number of ACD calls to the split/skill that disconnected while in queue or ringing.	ABNCALLS
Max Delay	The maximum time that a caller waited during the period covered by the report before being served, abandoning, being redirected, receiving a busy signal, or being disconnected. The value shown in the Totals line for this column is the maximum of the Max Delay values shown in the report.	MAXOCWTIME

Table 5-13: Split/Skill Summary Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Flow In	The number of calls that were redirected to this split's/skill's queue from another queue. For switches without vectoring, calls that intra-flow or interflow from one split's queue to this split's queue. For Generic 2 and System 85 switches with vectoring and without EAS, calls that are queued to one split and then successfully queue to this split (either by a "queue to main" step or by a successful "check backup" step). With multiple split/skill queuing (Generic 3 with vectoring and Generic 2.2 with EAS), an inflow is counted for this split/skill when a call queues to it as a nonprimary split/skill and is either answered by an agent in this split/skill or abandons from ringing an agent in this split/skill. For Generic 2.2 with EAS inflows are also counted for calls that are queued to one or more skills within a tens group and then queue to a skill in another tens group, for calls queued to a default ("zero") skill that subsequently queue to a "nonzero" skill and for calls queued to a "non-zero" skill that subsequently queue to the default ("zero") skill. Calls that ring at an agent and then are requeued to the same split/skill by the Redirection on No Answer feature (Generic 3 Version 2) are counted as inflows to the split/skill to which they are requeued. When a call leaves a vector, for example by routing to a split/skill or routing to another VDN, the next split/skill to which a call queues are not credited with an inflow.	INFLOWCALLS

Table 5-13: Split/Skill Summary Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Flow Out	The number of calls offered to the split/skill that were redirected to another destination. For switches without vectoring, outflows are counted for calls offered to the split that were redirected to other destinations via intraflow or interflow. For switches with vectoring, an outflow is counted • If the call routes to another VDN • If the call routes to a number or digits; • If the call queues to another split (Generic 2 without EAS) • If the call queues to a messaging split/skill (Generic 3) • For switches with multiple split queuing (G2.2 with EAS and G3), an outflow is counted for the primary split/skill when a call is queued to multiple splits/skills and is either answered by an agent in a nonprimary split/skill or abandons from ringing at an agent in a nonprimary split/skill. For Generic 2.2 with EAS, outflows are also counted for the primary skill for calls that are queued to a default ("zero") skill that subsequently queue to a "nonzero" skill and for calls queued to a "nonzero" skill that subsequently queue to the default ("zero") skill. Calls that queue to one skill group and then subsequently queue to another skill group count as outflows from all the skills to which they were queued in the first skill group. • If a call requeues to the same split/skill via the Redirection on No Answer feature (Generic 3 Version 2).	OUTFLOWCALLS

Table 5-13: Split/Skill Summary Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Extn Out Calls	The number of outbound extension calls made by agents logged into this split/skill during the period covered. For agents in multiple splits/skills, outbound AUX extension calls are included here if this split/skill is the first one the agent logged into. Calls made from direct agent ACW are not included.	ACWOUTCALLS+AUXOUTCALLS <EXT_CALL_OUT>
(Extn Out) Avg Talk Time	Average time agents in this split/skill spent talking on outbound extension calls. For agents in multiple splits/skills, outbound AUX extension calls are included here if this split/skill is the first one the agent logged into.	$(ACWOUTTIME+AUXOUTTIME) / (ACWOUTCALLS+AUXOUTCALLS)$ <AVG_TALK_TIME_OUT>
Dequeued Calls	For switches with multiple split/skill queuing, the number of calls queued to this split/skill as a nonprimary split/skill (i.e., this was not the first split/skill to which the call queued) and for which the call was counted in another split/skill (answered, abandoned, outflowed, busy, forced disconnect).	DEQUECALLS
Dequeued Avg Queue Time	For switches with multiple split/skill queuing, the average time a call waited until it was answered (or abandoned, outflowed, busy, or disconnected) by a split/skill other than the first split/skill in a VDN to which a call actually queued.	DEQUETIME/DEQUECALLS
% ACD Time	Percent of staffed time agents in this split/skill spent on ACD calls and after call work for this split/skill.	$100 * ((I\_ACD TIME + I\_ACW TIME) / I\_STAFF TIME)$ <PERCENT_ACD_TIME>
% Ans	Percent of calls offered to the split/skill that were answered by agents in this split/skill.	$100 * (ACDCALLS / CALLS OFFERED)$ <PERCENT_CALL_ANS>
Avg Pos Stf (Average Position Staffed) Interval report only	Average number of positions staffed in this split/skill during the interval.	$I\_STAFF TIME / (INTRVL * 60)$ <AVG_POS_STAFF>
Calls Per Pos (Calls Per Position) Interval report only	Average number of calls answered by each position staffed during the interval.	$(60 * INTRVL * ACDCALLS) / I\_STAFF TIME$ <CALLS_PER_POS>

Call Profile Report

The Split/Skill Call Profile report shows the number of calls answered and abandoned in time increments you administer. This report also displays your acceptable service level (defined in ACD Administration—Split/Skill Call Profile Setup window).

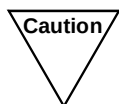
Since this report shows you how long it takes for calls to be handled or abandoned, it can tell you how long a caller is willing to wait for an agent before hanging up and what answering speed is required to reduce abandoned calls.

Things to Know About This Report

- Calls are displayed in ten columns, with each column representing a progressively longer wait time.
- This report is available in daily, weekly, and monthly versions.

Prerequisite System Administration

- You must first define your acceptable service level and service level increments for this split/skill in the Split/Skill Call Profile Setup window. If you do not define your service level and increments, zero (0) is used for all increments (and all calls appear in the first increment). See Chapter 9, "ACD Administration"—Split/Skill Call Profile Setup," for more information.



If you change the service level increments after initially defining them, data is distorted for the interval in which you made the change. CMS deletes the split/skill call profile data already collected for that interval and only keeps the split/skill call profile data that occurred in that interval after the change. Then CMS tries to combine the split call profile data gathered both before and after the change into a single daily record of split/skill call profile data. As a result, some data is placed in the wrong time intervals.

Daily, weekly, and monthly summaries that include the date of the increment change will look peculiar. The time increments shown in this report for the changed increment in the Call Profile Setup window will be the maximum values entered for each increment before or after the change. For example, if you change the increments from all "0s" to 1, 3, 5, 10, etc., the Split/Skill Call Profile report will show 1, 3, 5, 10, etc. If you change from 1, 3, 5, 10, ... to 1, 5, 7, 9, ..., the report will show 1, 5, 7, 10 for the date of the change.

To avoid misleading split/skill call profile data, change the time increments early in the day, preferably before agents begin staffing splits and before a large amount of data has been gathered. Also change the profile increments at the beginning of your reporting week and, if possible, the beginning of the month. If the beginning of the week does not coincide with the beginning of the month, you are not able to avoid some misleading profile data for the month in which you make profile changes.

Split/Skill Call Profile Input Window

You must fill out the Split/Skill Call Profile report input window to run your report. Field descriptions follow the input window.

The screenshot shows a window titled "Call Management System" with a status bar at the top displaying "06/03/93 10:30 AM" and "Windows: 1 of 4 ^". The main content area is titled "Rpts: Hist: Split/Skill: Call Profile: Daily Input acd1". It contains a form with the following fields and options:

- Split/Skill:** A text field containing "Sales".
- Date:** A text field containing "02/28/93".
- Report destination (Select one):** A list box with three options: "<x> Terminal", "< > Printer, Printer name _____", and "< > File, File name: _____".
- Run:** A button located to the right of the "Split/Skill" field.

Figure 5-30: Split/Skill Call Profile Daily Input Window Example

Field Descriptions**Split/Skill:**

Enter the appropriate split or skill name or number. See on-line help for the valid numerical entries for your particular switch.

Date: (daily, weekly, and monthly)

Enter the date you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).

Note

When you specify a date for a weekly report, that date must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message `No records found` appears on the status line.

The month start date must be the first day of the month.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (`/usr/<your login ID>`) unless you specify a full path name.

Split/Skill Call Profile Report Examples

A description of each report items follows the report example in the Split/Skill Call Profile Report Description table..

Daily Split/Skill Call Profile

Date: 1/13/93 Printed: 1/21/93 3:27 PM
 Split/Skill: Billing ACD: NASPS ACD1
 % Within Service Level: 73 Service Intervals Changed NO
 Acceptable Service Changed: NO

Secs. 0 - 5 - 10 - 15 - 20 - 25 - 30 - 35 - 40 - 45 - >

Ans	757	36	28	33	11	17	9	8	10	12
Aban	0	0	0	0	0	0	0	0	0	1

Total Calls Answered	921	Total Calls Abandoned	1
Average Speed of Answer	:04	Average Time to Abandon	1:07
Percentage Answered	83.4	Percentage Abandoned	0.1

Weekly Split/Skill Call Profile

Week starting: 1/13/93 Printed: 1/21/93 3:28 PM
 Split/Skill: Billing ACD: NASPS ACD1
 % Within Service Level: 73 Service Intervals Changed YES
 Service Intervals Changed: YES

Secs. 0 - 5 - 10 - 15 - 20 - 25 - 30 - 35 - 40 - 45 - >

Ans	3210	159	145	191	79	59	51	39	26	42
Aban	0	0	0	0	0	0	0	0	0	4

Total Calls Answered	4001	Total Calls Abandoned	4
Average Speed of Answer	:04	Average Time to Abandon	1:10
Percentage Answered	85.4	Percentage Abandoned	0.1

Monthly Split/Skill Call Profile

Month starting: 12/ 1/93 Printed: 1/21/93 3:28 PM
 Split/Skill: Billing ACD: NASPS ACD1
 % Within Service Level: 73 Service Intervals Changed YES
 Service Intervals Changed: YES

Secs. 0 - 5 - 10 - 15 - 20 - 25 - 30 - 35 - 40 - 45 - >

Ans	11785	661	669	688	319	228	152	131	59	137
Aban	0	0	0	0	0	0	0	0	0	12

Total Calls Answered	14829	Total Calls Abandoned	12
Average Speed of Answer	:04	Average Time to Abandon	1:10
Percentage Answered	85.5	Percentage Abandoned	0.1

Figure 5-31: Split/Skill Call Profile Report Examples

Note Database items and calculations apply to the `dsplit` table for daily reports, the `wsplit` table for weekly reports, the `msplit` table for monthly reports.

Table 5-14: Split/Skill Call Profile Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week Starting, Month Starting	The day, week, or month for which the report was run (selected in the report input window).	ROW_DATE
Split/Skill	The name or number of the split or skill (selected in the report input window).	SYN(SPLIT)
% Within Service Level	The percentage of split/skill ACD calls that were answered within your administered service level.	100 * (ACCEPTABLE/ CALLSOFFERED) <PERCENT_SERV_LVL_SPL>
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Service Intervals Changed	YES appears if you changed your service interval increments during the time period covered by the report. Otherwise, No appears or whatever you have administered in the Dictionary subsystem.	PERIODCHG
Acceptable Service Changed	YES appears if you changed your acceptable service level during the period covered by the report. Otherwise, No appears or whatever you have administered in the Dictionary subsystem.	SVCLEVELCHG
Secs.	The values administered for the service level increments. Each "Secs" (seconds) interval represents a progressively longer wait time for a call in queue, and each interval can be a different length.	PERIOD1-9
Ans (Answered)	The number of split/skill ACD calls answered within each service level increment.	ACDCALLS1-10
Aban (Abandoned)	The number of split/skill ACD calls that abandoned within each service level increment.	ABNCALLS1-10
Total Calls Answered	The total number of split/skill ACD calls answered by the agents in this split/skill during the time period covered by the report.	ACDCALLS
Average Speed of Answer	The average time a split/skill ACD call waits in queue and ringing before being answered by an agent.	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED>
Percentage Answered	The percentage of calls offered to the split/skill that were answered by an agent in the split/skill.	100 * (ACDCALLS/ CALLSOFFERED) <PERCENT_CALL_ANS>

Table 5-14: Split/Skill Call Profile Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Total Calls Abandoned	All split/skill ACD calls that abandoned from queue or from ringing before being answered by an agent during the time period covered by the report.	ABNCALLS
Average Time to Abandon	Average time split/skill ACD calls waited in queue or ringing before hanging up.	ABNTIME/ABNCALLS <AVG_ABANDON_TIME>
Percentage Abandoned	The percentage of calls offered to the split/skill that abandoned before being answered by an agent.	$100 * (ABNCALLS / (CALLSOFFERED))$ <PERCENT_CALL_ABAN>

Outbound Split/Skill Report

This report displays the numbers and average talk times for each type of outbound call for a given split/skill. It is useful primarily for splits/skills that use an adjunct to deliver outbound ACD calls or to dial outbound extension calls.

Things to Know About This Report

- This report is available in interval, daily, weekly, and monthly forms.
- This report requires the Outgoing Call Management application of ASAI.

Outbound Split Input Window

You must fill out the Outbound Split report input window to run your report. Field descriptions follow for each type of input window (that is, interval, daily, weekly, and monthly).

06/04/93 1:30 PM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Split/Skill: Outbound: Interval Input acd1

Split/Skill: Billing Run

Date: 1/15/93

Times: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-32: Outbound Split/Skill Interval Input Window Example

Field Descriptions**Split/Skill:** (interval, daily, weekly, and monthly)

Enter the appropriate split/skill name or number. See on-line help for the valid numerical entries for your particular switch.

Date: (interval) or **Dates:** (daily, weekly, and monthly)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).
- For daily, weekly, and monthly reports, you can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). For weekly and monthly reports, specifying a range produces all weeks and/or months that begin in the range.

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message `No records found` appears on the status line.

The month start date must be the first day of the month.

Times: (interval)

Enter the time you would like the report to cover.

- You can use AM/PM format (for example, 7:30AM-5:00PM).
- You can use military time format (for example, 7:30-17:00).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- `Terminal` is the default destination.
- If you selected `Printer` and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected `File`, enter a file name and then press Return. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (`/usr/<your login ID>`) unless you specify a full path name.

A description of each report item follows the report example in the Outbound Split/Skill Report Description table.

Outbound Split/Skill by Interval						
Date: 1/15/93		Printed: 1/21/93 3:29 PM				
Split/Skill: Billing		ACD: NASPS ACD1				
----- Auto-paced -----			----- Extension -----			
Time	Calls	Avg Talk Time	Avg After Call	Calls	Avg Talk Time	Adjunct-dialed Calls
Totals:	0			0		0
11:00-11:15AM	0			0		0
11:15-11:30AM	0			0		0
11:30-11:45AM	0			0		0
11:45-12:00PM	0			0		0

Daily Outbound Split/Skill						
Split/Skill: Billing			Printed: 1/21/93 3:30 PM			
			ACD: NASPS ACD1			
----- Auto-paced -----			----- Extension -----			
Date	Calls	Avg Talk Time	Avg After Call	Calls	Avg Talk Time	Adjunct-dialed Calls

Totals:	0			0		0

1/13/93	0			0		0
1/14/93	0			0		0
1/15/93	0			0		0
1/16/93	0			0		0
1/17/93	0			0		0

Weekly Outbound Split/Skill						
Split/Skill: Billing				Printed: 1/21/93 3:31 PM		
----- Auto-paced -----				----- Extension -----		
Week	Avg Talk	Avg After		Avg Talk	Adjunct-dialed	
Starting	Calls	Time	Call	Calls	Time	Calls
Totals:	0			0		0
12/23/92	0			0		0
12/30/93	0			0		0
1/ 6/93	0			0		0
1/13/93	0			0		0

Monthly Outbound Split/Skill						
Split/Skill: Billing				Printed: 1/21/93 3:32 PM		
----- Auto-paced -----				----- Extension -----		
Month	Calls	Avg Talk Time	Avg After Call	Calls	Avg Talk Time	Adjunct-dialed Calls
Starting						
Totals:	0			0		0
11/ 1/93	0			0		0
12/ 1/93	0			0		0

Figure 5-33: Outbound Split/Skill Report Examples

Note

Database items and calculations apply to the `hsplit` table for interval reports, the `dsplit` table for daily reports, the `wsplit` table for weekly reports, the `msplit` table for monthly reports.

Table 5-15: Outbound Split/Skill Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week Starting, Month Starting	The day that the report was run (selected in the report input window).	ROW_DATE
Split/Skill	The name or number of the split or skill (selected in the report input window).	SYN(SPLIT)
Printed	Date and time the report was sent to the printer.	No database item or calculation
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Time (for interval reports only)	The intrahour intervals for which the report shows data (selected in the report input window).	STARTTIME
Auto-paced Calls	The total number of outbound ACD calls placed by an adjunct processor and answered by agents in this split/skill.	O_ACDCALLS
Auto-paced Avg Talk Time	The average time agents spent on outbound ACD calls placed by an adjunct.	O_ACDTIME/O_ACDCALLS
Auto-paced Avg After Call	The average time agents in the split spent in after call work for outbound ACD calls placed by an adjunct.	O_ACWTIME/O_ACDCALLS
(Outbound) Extension Calls	The number of outbound extension calls made by agents in the split/skill during the period covered by the report. This includes outbound AUX calls for agents logged into multiple splits/skills if this is the split/skill into which they logged first but does not include calls made while the agent was in ACW for direct agent calls.	ACWOUTCALLS+AUXOUTCALLS and <EXT_CALL_OUT>
(Outbound) Extension Avg Talk Time	Average time agents in this split/skill spent talking on outbound extension calls.	(ACWOUTTIME+AUXOUTTIME) / (ACWOUTCALLS+AUXOUTCALLS)
(Outbound) Extension Adjunct-Dialed Calls	The number of outbound extension calls for this split/skill that were placed by an adjunct for an agent (keyboard-dialed calls).	ACWOUTADJCALLS+ AUXOUTADJCALLS

Forecast Summary Report

The Forecast Summary report summarizes the activity for an entire split or skill by time and gives you the forecasted number of agent positions required for a given interval and the forecasted calls for a given interval. You could use this report to analyze the overall performance of a split or skill and compare the forecasted numbers to your actual numbers.

Note

The Forecast Summary report is available only if you have purchased the Forecasting feature.

Things to Know About This Report

- Dequeued calls on Generic 3 with vectoring and Generic 2.2 with EAS are calls that queued to this split or skill as the second or third split/skill in the VDN, but the disposition of the call (answered, abandoned, outflowed) was recorded for another split/skill.
- Direct agent call data is not included in the Forecast Summary report. Direct agent calls are not really split/skill calls. If you wish to include them as split/skill calls, you can create a custom report using the agent tables.
- This report is available in the interval version only.

Prerequisite System Administration

You must do the following things to get the forecast data in this report:

- Define a current day configuration for the split/skill in the report.
- Run the Forecast Manager to collect forecast input data for the report. For **accurate** data, you should run the Forecast Manager daily for 4 weeks before running this report.
- See Chapter 14, "Forecasting", for more information.

Forecast Summary Input Window

You must fill out the Forecast Summary report input window to run your report. Field descriptions follow the input window example.

06/04/93 1:30 PM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Split/Skill: Forecast Summary: Interval Input acd1

Split/Skill: _____ Run

Date: _____

Times: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-34: Forecast Summary Interval Input Window Example

Field Descriptions

Split/Skill:

Enter the appropriate split or skill name or number. See on-line help for the valid numerical entries for your particular switch.

Date:

Enter the date you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can also use a "-" offset based on today's date (for example, -1 for yesterday).

Times:

Enter the time you would like the report to cover.

- You can use AM/PM format (for example, 7:30AM-5:00PM).
- You can also use military time format (for example, 7:30-17:00).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Forecast Summary Report Example

A description of each report item follows the report example.

Split/Skill Forecast Summary by Interval														Printed: 1/21/93 3:33 PM					
Date: 1/15/93 Split/Skill: Billing														ACD: NASPS ACD1					
														- Dequeued -					
Time	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Flow In	Flow Out	Extn Out Calls	Avg Talk Time	Calls	Avg Queue Time	% ACD Time	% Ans	Avg Pos Stf	Calls per Pos	Avg Pos Req	Fcst Calls
Totals:	:09	1:07	92	1:00	2:01	1	1:10	13	19	0		0	0	93.79	82.14	5	5		
11:00-11:15AM	:00		23	1:00	1:59	0	:00	5	7	0		0	0	89.44	76.67	5	5		
11:15-11:30AM	:04		22	1:00	2:01	0	:52	6	8	0		0	0	92.56	73.33	5	4		
11:30-11:45AM	:18		24	1:00	2:06	0	:51	1	1	0		0	0	98.93	96.00	5	5		
11:45-12:00PM	:15	1:07	29	1:00	2:05	1	1:10	1	3	0		0	0	94.22	85.18	5	5		

Figure 5-35: Forecast Summary Report Example

Note Database items for Avg Pos Req and Fcst Calls apply to the `f_cdayrep` table. The rest of the database items apply to the `hsplit` table for interval.

Table 5-16: Forecast Summary Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date	The day that the report was run (selected in the report input window).	ROW_DATE
Split/Skill	The name or number of the split or skill (selected in the report input window).	SYN(SPLIT)
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Time	The intrahour intervals for which the report shows data (selected in the report input window).	STARTTIME, START-TIME+INTRVL
Avg Speed Ans	The average time split/skill ACD calls wait in queue or ringing before being answered by an agent.	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED>
Avg Aban Time	The average time split/skill ACD calls waits in queue or ringing before hanging up.	ABNTIME/ABNCALLS <AVG_ABANDON_TIME>
ACD Calls	The number of split/skill ACD calls answered by the split/skill and handled by an agent during the time period covered by the report. This total also includes O_ACDCALLS if you have the Outgoing Call Management application of ASAI. (O_ACDCALLS is the number of ACDCALLS that were placed by an adjunct [predictive dialing].)	ACDCALLS
Avg Talk Time	Average time agents spent talking on ACD calls for this split/skill during the time period covered by the report.	ACDTIME/ACDCALLS <AVG_ACD_TALK_TIME>
Avg After Call	The average time agents spent in after call work for ACD calls to this split/skill during the time period covered by the report.	ACWTIME/ACDCALLS <AVG_ACW_TIME>
Aban Calls	The total number of ACD calls to the split/skill that disconnected while waiting in queue (if this was the first split/skill queued to) or ringing.	ABNCALLS

Table 5-16: Forecast Summary Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Max Delay	The maximum time during the time period covered by the report that a caller waited in queue or ringing before being served, abandoning, being redirected receiving a busy signal, or being disconnected. The value shown in the Totals line is the maximum of the Max Delay values shown in the report.	MAXOCWTIME
Flow In	The number of calls that were redirected to this split/skill's queue from another queue. For switches without vectoring, calls that intra-flow or interflow from one split's queue to this split's queue. For Generic 2 and System 85 switches with vectoring and without EAS, calls that are queued to one split and then successfully queue to this split (either by a "queue to main" step or by a successful "check backup" step). With multiple split/skill queuing (Generic 3 with vectoring and Generic 2.2 with EAS), an inflow is counted for this split/skill when a call queues to it as a nonprimary split/skill and is either answered by an agent in this split/skill or abandons from ringing an agent in this split/skill. For Generic 2.2 with EAS inflows are also counted for calls that are queued to one or more skills within a tens group and then queue to a skill in another tens group, for calls queued to a default ("zero") skill that subsequently queue to a "nonzero" skill and for calls queued to a "non-zero" skill that subsequently queue to the default ("zero") skill. Calls that ring at an agent and then are requeued to the same split/skill by the Redirection on No Answer feature (Generic 3 Version 2) are counted as inflows to the split/skill to which they are requeued. When a call leaves a vector, for example by routing to a split/skill or routing to another VDN, the next split/skill to which a call queues are not credited with an inflow.	INFLOWCALLS

Table 5-16: Forecast Summary Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Flow Out	The number of calls offered to the split/skill that were redirected to another destination. For switches without vectoring, outflows are counted for calls offered to the split that were redirected to other destinations via intraflow or interflow. For switches with vectoring, an outflow is counted: • If the call routes to another VDN; • If the call routes to a number or digits; • If the call queues to another split (Generic 2 without EAS); • If the call queues to a messaging split/skill (Generic 3); • For switches with multiple split queuing (G2.2 with EAS and G3), an outflow is counted for the primary split/skill when a call is queued to multiple splits/skills and is either answered by an agent in a nonprimary split/skill or abandons from ringing at an agent in a nonprimary split/skill. For Generic 2.2 with EAS, outflows are also counted for the primary skill for calls that are queued to a default ("zero") skill that subsequently queue to a "nonzero" skill and for calls queued to a "nonzero" skill that subsequently queue to the default ("zero") skill. Calls that queue to one skill group and then subsequently queue to another skill group count as outflows from all the skills to which they were queued in the first skill group. • If a call requeues to the same split/skill via the Redirection on No Answer feature (Generic 3 Version 2).	OUTFLOWCALLS
Extn Out Calls	The number of outbound calls made by agents logged into this split/skill during the period covered. For agents in multiple splits, outbound AUX extension calls are included here if this split/skill is the first one the agent logged into. This does not include direct agent ACW out calls.	ACWOUTCALLS+AUXOUTCALLS <EXT_CALL_OUT>

Table 5-16: Forecast Summary Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
(Extn Out) Avg Talk Time	The average time agents in this split/skill spent talking on outbound extension calls. For agents in multiple splits, outbound AUX extension calls are included here if this split/skill is the first one the agent logged into.	$(ACWOUTTIME + AUXOUTTIME) / (ACWOUTCALLS + AUXOUTCALLS)$ <AVG_TALK_TIME_OUT>
Dequeued Calls	For switches with multiple split/skill queuing, the number of calls queued to this split/skill as a nonprimary split/skill (i.e., this was not the first split/skill to which the call queued) and for which the call was counted in another split/skill (answered, abandoned, outflowed, busy, forced disconnect).	DEQUECALLS
Dequeued Avg Queue Time	The average time dequeued calls spent queued to this split/skill before being answered, abandoned, outflowing, etc. This item doesn't apply to nonvectoring switches and switches without multiple-split queuing.	DEQUETIME/DEQUECALLS
% ACD Time	Percentage of staffed time agents in this split/skill spent on ACD calls and after call work for this split/skill.	$100 * ((I\_ACDTIME + I\_ACWTIME) / I\_STAFFTIME)$ <PERCENT_ACDTIME>
% Ans	Percentage of calls offered to the split/skill that were answered by agents in the split/skill.	$100 * (ACDCALLS / CALLSOFFERED)$ <PERCENT_CALL_ANS>
Avg Pos Stf (Average Position Staffed)	Average number of positions staffed in the split/skill during the interval.	$I\_STAFFTIME / (INTRVL * 60)$
Calls Per Pos (Calls Per Position)	Average number of calls answered by each agent position staffed during the interval. (If an agent is staffed a portion interval, the calculation reports what the agent would have handled had the agent been staffed the entire interval.)	$(ACDCALLS / I\_STAFFTIME) * INTRVL$ <CALLS_PER_POS>
Avg Pos Req (Average Position Required)	Average number of agent positions required to answer ACD calls as forecasted by the Forecasting feature. (You must have the Forecasting feature).	NUMAGREQ This item comes from the <i>f_cdayrep</i> table.
Fcst Calls (Forecast Calls)	The number of calls forecast for this split/skill for the given time period covered by the report. (You must have the Forecasting feature.)	FCALLS This item comes from the <i>f_cdayrep</i> table.

System Reports

From the System Reports menu, you can get summary data on a set of measured splits/skills for a particular ACD, summary data over all splits/skills for a particular ACD, and call data on different splits/skills and ACDs at the same time. Each system report is described in this section.

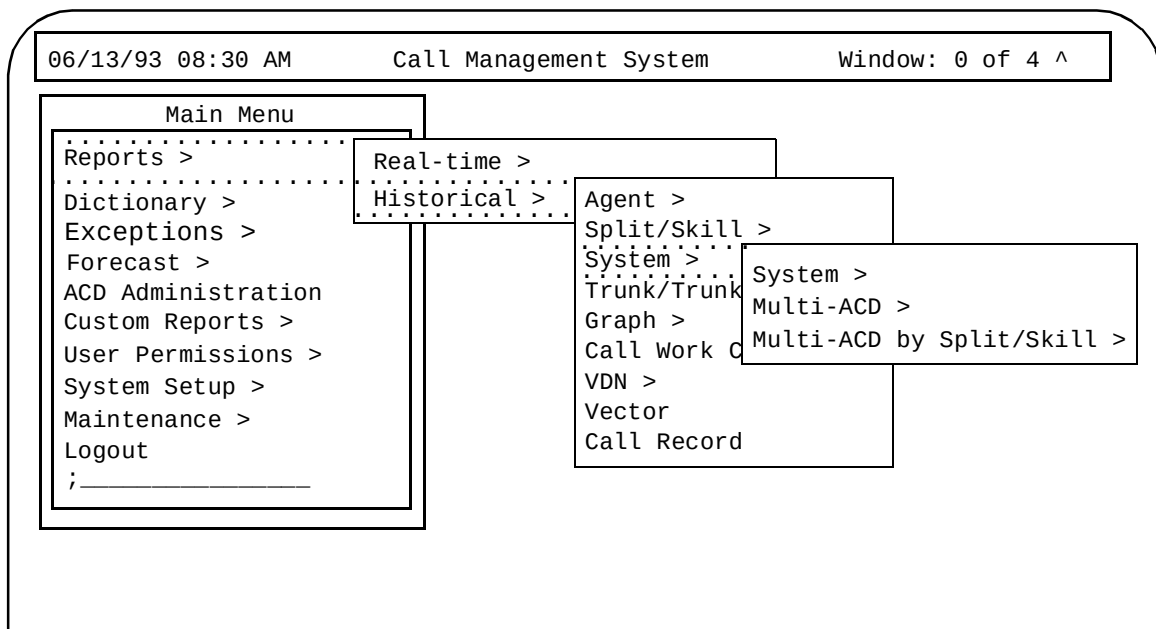


Figure 5-36: System Reports Menu

System Report

The System report summarizes the activity for a set of splits or skills for the same ACD. You can use this report to compare split/skill performance for splits or skills performing similar functions.

Things to Know About This Report

- This report is available in daily, weekly, or monthly forms.
- If you have a nonvectoring switch, forwarded calls that were accepted by the split. **Flow Out** represents the number of calls redirected (via call forwarding or call coverage) from this split to another destination. In many cases, the summary numbers for **Flow Out** of one split may not match **Flow In** numbers for another split. These numbers may not match because calls were intraflowed into unmeasured splits, extensions within the ACD, or elsewhere. Also, the **Flow In** and **Flow Out** for a given split are normally not equal.
- If you have a Generic 3 switch with vectoring or a Generic 2.2 switch with EAS, see the System Report Description table for a complete description of the report items **Flow In** and **Flow out**.
- Statistics in the report such as % **AUX** (percent auxiliary work) and **Number of Extension-Out Calls** are indicators of activities not directly related to ACD traffic.

System Report Input Window

You must fill out the System report input window to run your report. Field descriptions follow the input window.

06/03/93 10:30 AM Call Management System Windows: 1 of 4 ^

Rpts: Hist: System: Daily Input acd1

Run

Splits(s)/Skills(s): Sales;Customer Service;Accounts Payable

Date: 02/28/93

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File, File name: _____

Figure 5-37: System Report Daily Input Window Example

Field Descriptions

Splits/Skills:

Enter the appropriate split or skill names or numbers. See on-line help for the valid numerical entries for your particular switch.

Date: (daily, weekly, and monthly)

Enter the date you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).

Note

When you specify a date for a weekly report, that date must correspond to the week start day selected in the Storage Intervals window in the System Setup subsystem. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message No records found displays in the status line.

The month start date must be the first day of the month.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

System Report Examples

A description of each report item follows the report example in the System Report Description table.

Daily System													
Date: 1/15/93				Printed: 1/21/93 3:38 PM				ACD: NASPS ACD1					
Split/Skill	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Flow In	Flow Out	Extn Out Calls	Avg Talk Time	% ACD Time	% Ans
Totals	:15	1:11	4640	1:00	2:01	103	1:30	512	512	0		76.31	88.3
Billing	:04	1:07	921	1:00	2:02	1	1:10	117	182	0		76.24	83.42
Order_Inquiry	:15	1:09	945	1:00	2:01	26	1:30	156	171	0		77.58	82.75
Complaints	:27	1:13	925	1:00	2:02	48	1:29	122	42	0		75.90	91.13
Legal	:06		948	1:00	2:00	0	:58	40	77	0		77.68	92.49
Education	:25	1:09	901	1:00	2:01	28	1:23	77	40	0		74.15	92.98

Weekly System													
Week Starting: 1/13/93				Printed: 1/21/93 3:39 PM				ACD: NASPS ACD1					
Split/Skill	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Flow In	Flow Out	Extn Out Calls	Avg Talk Time	% ACD Time	% Ans
Totals	:16	1:09	20075	1:00	2:01	393	1:31	2087	2087	0		68.55	89.00
Billing	:04	1:10	4001	1:00	2:01	4	1:28	437	680	0		68.38	85.40
Order_Inquiry	:17	1:10	4076	1:00	2:00	79	1:30	590	674	0		69.62	84.41
Complaints	:26	1:10	4013	1:00	2:01	186	1:30	481	154	0		68.45	92.19
Legal	:08	1:04	4074	1:00	2:01	5	1:16	209	370	0		69.58	91.57
Education	:25	1:09	3911	1:00	2:01	119	1:31	370	209	0		66.71	92.26

Monthly System													
Month Starting: 12/ 1/92				Printed: 1/21/93 3:40 PM				ACD: NASPS ACD1					
Split/Skill	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Flow In	Flow Out	Extn Out Calls	Avg Talk Time	% ACD Time	% Ans
Totals	:16	1:09	76903	1:43	1:59	1798	21:34	8229	8229	0		48.69	88.46
Billing	:04	1:10	14829	1:46	2:00	12	2:39	1570	2509	0		48.26	85.47
Order_Inquiry	:17	1:09	15264	1:45	2:00	329	8:40	2301	2485	0		49.48	84.43
Complaints	:26	1:10	14495	1:47	2:01	722	21:34	1912	789	0		47.14	90.56
Legal	:09	1:10	15438	1:44	2:00	42	6:14	1068	1378	0		49.76	91.58
Education	:26	1:08	16877	1:34	1:54	693	20:21	1378	1068	0		48.80	90.55

Figure 5-38: System Report Examples

Note

Database items and calculations apply to the `dsplit` table for daily reports, the `wsplit` table for weekly reports, the `msplit` table for monthly reports.

Table 5-17: System Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week starting, Month starting	The day that the report was run (selected in the report input window).	ROW_DATE
Printed	Date and time the report was sent to the printer.	No database item or calculation
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Split/Skill	The names or numbers of the splits/skills (selected in the report input window).	SYN(SPLIT)
Avg Speed Ans	The average time split/skill ACD calls wait in queue or ringing before being answered by an agent.	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED>
Avg Aban Time	The average time split/skill ACD calls waited in queue or ringing before abandoning.	ABNTIME/ABNCALLS <AVG_ABANDON_TIME>
ACD Calls	The number of split/skill ACDs calls that were offered to the splits/skills and answered by the agents. This total also includes O_ACDCALLS if you have the Outgoing Call Management application of ASAI. (O_ACDCALLS is the number of ACDCALLS that were placed by an adjunct [predictive dialing].)	ACDCALLS
Avg Talk Time	Average time agents spent talking on ACD calls for the split/skill during the time period covered by this report.	ACDTIME/ACDCALLS <AVG_ACD_TALK_TIME>
Avg After Call	The average time agents spent in after call work associated with ACD calls for this split/skill during the time period covered by this report. (This does not include ACW time not associated with ACD calls.)	ACWTIME/ACDCALLS <AVG_ACW_TIME>
Aban Calls	The total number of callers that disconnected while waiting in queue or ringing.	ABNCALLS
Max Delay	The maximum time during the time period covered by the report that a caller waited in queue or ringing before being served, abandoning, being redirected receiving a busy signal, or being disconnected. The value shown in the Totals line is the maximum of the Max Delay values shown in the report.	MAXOCWTIME

Table 5-17: System Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Flow In	The number of calls that were redirected to this split's/skill's queue from another queue. For switches without vectoring, calls that intra-flow or interflow from one split's queue to this split's queue. For Generic 2 and System 85 switches with vectoring and without EAS, calls that are queued to one split and then successfully queue to this split (either by a "queue to main" step or by a successful "check backup" step). With multiple split/skill queuing (Generic 3 with vectoring and Generic 2.2 with EAS), an inflow is counted for this split/skill when a call queues to it as a nonprimary split/skill and is either answered by an agent in this split/skill or abandons from ringing an agent in this split/skill. For Generic 2.2 with EAS inflows are also counted for calls that are queued to one or more skills within a tens group and then queue to a skill in another tens group, for calls queued to a default ("zero") skill that subsequently queue to a "nonzero" skill and for calls queued to a "non-zero" skill that subsequently queue to the default ("zero") skill. Calls that ring at an agent and then are requeued to the same split/skill by the Redirection on No Answer feature (Generic 3 Version 2) are counted as inflows to the split/skill to which they are requeued. When a call leaves a vector, for example by routing to a split/skill or routing to another VDN, the next split/skill to which a call queues are not credited with an inflow.	INFLOWCALLS

Table 5-17: System Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Flow Out	The number of calls offered to the split/skill that were redirected to another destination. For switches without vectoring, outflows are counted for calls offered to the split that were redirected to other destinations via intraflow or interflow. For switches with vectoring, an outflow is counted: • If the call routes to another VDN; • If the call routes to a number or digits; • If the call queues to another split (Generic 2 without EAS); • If the call queues to a messaging split/skill (Generic 3); • For switches with multiple split queuing (G2.2 with EAS and G3), an outflow is counted for the primary split/skill when a call is queued to multiple splits/skills and is either answered by an agent in a nonprimary split/skill or abandons from ringing at an agent in a nonprimary split/skill. For Generic 2.2 with EAS, outflows are also counted for the primary skill for calls that are queued to a default ("zero") skill that subsequently queue to a "nonzero" skill and for calls queued to a "nonzero" skill that subsequently queue to the default ("zero") skill. Calls that queue to one skill group and then subsequently queue to another skill group count as outflows from all the skills to which they were queued in the first skill group • If a call requeues to the same split/skill via the Redirection on No Answer feature (Generic 3 Version 2).	OUTFLOWCALLS

Table 5-17: System Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Extn Out Calls	The number of outbound calls made by agents logged into the split/skill during the period covered. For agents in multiple splits, outbound AUX extension calls are included here if this split/skill is the first one the agent logged into. This does not include direct agent ACW out calls.	(ACWOUTCALLS+AUXOUTCALLS) <EXT_CALL_OUT>
(Extn Out) Avg Talk Time	The average time agents in this split/skill spent talking on outbound extension calls. For agents in multiple splits, outbound AUX extension calls are included here if this split/skill is the first one the agent logged into.	(ACWOUTTIME+AUXOUTTIME) / (ACWOUTCALLS+AUXOUTCALLS) <AVG_TALK_TIME_OUT>
% ACD Time	Percentage of time staffed agents spent in after call work and on ACD calls for this split/skill.	$100 * ((I\_ACD\_TIME + I\_ACW\_TIME) / I\_STAFF\_TIME)$ <PERCENT_ACD_TIME>
% Ans	Percentage of calls offered to the split/skill that were answered by agents in the split/skill.	$100 * (ACDCALLS / CALLSOFFERED)$ <PERCENT_CALL_ANS>

Multi-ACD
System Report

The Multi-ACD system report summarizes data over all splits/skills in the ACD for each ACD requested. This allows you to evaluate and compare different ACD configurations to determine workload and call-handling performance. You could then choose different ACD configurations to balance workloads and/or reduce abandoned calls.

Things to Know
About This Report

- This report is available in daily, weekly, and monthly versions.
- With vectoring, you may want to create a custom report that summarizes over all VDNs instead of over all splits/skills.

Multi-ACD System
Report Input Window

You must fill out the Multi-ACD System report input window to run your report. Field descriptions follow the input window.

06/03/93 10:30 AMCall Management SystemWindows: 1 of 4 ^

Rpts: Hist: System: Multi-ACD: Daily Inputacd1

ACDs: _____

Date: _____

Report destination (Select one):
<x> Terminal
< > Printer, Printer name _____
< > File,
File name: _____

Run

Figure 5-39: Multi-ACD System Daily Report Input Window Example

Field Descriptions**ACDs:**

Enter the appropriate ACD name(s) or number(s).

Date: (daily, weekly, and monthly)

Enter the date you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).

Note

When you specify a date for a weekly report, that date must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message `No records found` displays on the status line.

The month start date must be the first day of the month.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (`/usr/<your login ID>`) unless you specify a full path name.

Multi-ACD System Report Examples

A description of each report item follows the report example.

Daily Multi-ACD System Report

Date: 1/15/93 Printed: 1/21/93 3:41 PM

ACD	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Extn Out Calls	Avg Talk Time	% ACD Time	% Ans
Totals:	:41	1:09	79131	3:10	:47	8573	5:00	0		78.05	88.08
NASPS ACD1	:41	1:09	79131	3:10	:47	8573	5:00	0		78.05	88.08

Weekly Multi-ACD System Report

Week Starting: 1/13/93 Printed: 1/21/93 3:41 PM

ACD	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Extn Out Calls	Avg Talk Time	% ACD Time	% Ans
Totals:	:39	1:09	327299	3:08	:49	33651	5:00	0		66.98	88.12
NASPS ACD1	:41	1:09	79131	3:10	:47	8573	5:00	0		78.05	88.08

Monthly Multi-ACD System Report

Month Starting: 12/ 1/92 Printed: 1/21/93 3:42 PM

ACD	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Extn Out Calls	Avg Talk Time	% ACD Time	% Ans
Totals:	:22	1:09	1129213	3:14	:43	66898	21:34	0		35.04	92.14
NASPS ACD1	:22	1:09	1129213	3:14	:43	66898	21:34	0		35.04	92.14

Figure E-40: Multi-ACD System Report Examples

Note Database items and calculations apply to the `dsplit` table for daily reports, the `wsplit` table for weekly reports, the `msplit` table for monthly reports.

Table 5-18: Multi-ACD System Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week starting, Month starting	The day that the report was run (selected in the report input window).	ROW_DATE
Printed	Date and time the report was sent to the printer.	No database item or calculation
ACD	The ACD names or numbers for which the report was run.	SYN(ACD)
Avg Speed Ans	The average time split/skill ACD calls waited in queue or ringing at an agent station before being answered.	$\text{sum(ANSTIME)} / \text{sum(ACDCALLS)}$ <AVG_ANSWER_SPEED_SUM>
Avg Aban Time	The average time split/skill ACD calls waited in queue or ringing before abandoning.	$\text{sum(ABNTIME)} / \text{sum(ABNCALLS)}$ <AVG_ABANDON_TIME_SUM>
ACD Calls	The number of ACD calls that were offered to the splits/skills in the ACD and handled by the agents during the time period covered by this report. This total also includes O_ACDCALLS if you have the Outgoing Call Management application of ASAI. (O_ACDCALLS is the number of ACDCALLS that were placed by an adjunct [predictive dialing].)	sum(ACDCALLS)
Avg Talk Time	Average time agents spent talking on ACD calls for this ACD during the time period covered by this report.	$\text{sum(ACDTIME)} / \text{sum(ACDCALLS)}$ <AVG_ACD_TALK_TIM_SUM>
Avg After Call	The average time agents spent in after call work for ACD calls to this ACD during the time period covered by this report.	$\text{sum(ACWTIME)} / \text{sum(ACDCALLS)}$ <AVG_ACW_TIME_SUM>
Aban Calls	The total number of ACD calls to the ACD that disconnected while waiting in split/skill queues or ringing.	sum(ABNCALLS)
Max Delay	The maximum time during the time period covered by the report that a caller waited in queue or ringing at the agent station before being served, abandoning, being redirected receiving a busy signal, or being disconnected. The value shown in the Totals line for this column is the maximum of the Max Delay values shown in the report.	sum(MAXOCWTIME)

Table 5-18: Multi-ACD System Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Extn Out Calls	The number of outbound extension calls made by agents logged in during the period covered. This does not include direct agent ACW out calls.	sum(ACWOUTCALLS+ AUXOUTCALLS) <EXT_CALL_OUT>
(Extn Out) Avg Talk Time	Average time agents spent talking on outbound extension calls.	sum(ACWOUTTIME+ AUXOUTTIME)/ sum(ACWOUTCALLS+ AUXOUTCALLS) <AVG_TALK_TIME_OUT_SUM>
% ACD Time	Percentage of staffed time agents spent on after call work and ACD calls.	100*(sum(I_ACDTIME+ I_ACWTIME)/ sum(I_STAFFTIME)) <PERCENT_ACD_TIME_SUM>
% Ans	Percentage of calls that were answered by an agent.	100*(sum(ACDCALLS)/ sum(CALLS0FFERED)) <PERCENT_CALL_ANS_SUM>

Multi-ACD by Split/Skill Report

The Multi-ACD by Split/Skill report displays call-handling information on different splits/skills and ACDs at the same time. It allows you to evaluate and compare similar splits/skills in different ACDs and then determine workload and call-handling performance, agent reassignment, or other ACD configuration alternatives to balance workloads and/or reduce abandoned calls.

Things to Know About This Report

- You may specify a list of splits/skills for each ACD desired.
- You cannot customize this report.
- This report is available in daily, weekly, and monthly versions.

Multi-ACD by Split/Skill Input Window

You must fill out the Multi-ACD by Split/Skill report input window to run your report. Field descriptions follow for each type of input window (that is, daily, weekly, and monthly).

06/13/93 8:30 AM Call Management System Windows: 1 of 4 ^

Rpts: Hist: System: Multi-ACD by Split/Skill: Daily Input acd1

Date: _____ Run

First ACD: _____

First split(s)/skill(s): _____

Second ACD: _____

Second split(s)/skill(s): _____

Third ACD: _____

Third split(s)/skill(s): _____

Fourth ACD: _____

Fourth split(s)/skill(s): _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-41: Multi-ACD by Split/Skill Daily Input Window Example

Field Descriptions

Date: (daily, weekly, or monthly)

Enter the date you want the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).

Note

When you specify a date for a weekly report, that date must correspond to the week start day' selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message `No records found` displays in the status line.

The month start date must be the first day of the month.

First through Fourth ACD:

Enter the ACD name or number that corresponds to the following `Split(s)/Skill(s)` field.

First through Fourth Split(s)/Skill(s):

Enter the split/skill name(s) or number(s) for which you want to run the report. See on-line help for the valid numerical entries for your particular switch.

Report destination (Select one):

Enter an `x` next to `Terminal`, `Printer`, or `File`.

- `Terminal` is the default destination.
- If you selected `Printer` and want to use a printer other than your default printer, enter the printer name in addition to the `x`.
- If you selected `File`, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (`/usr/<your login ID>`) unless you specify a full path name.

Multi-ACD System Report by Split/Skill Examples

A description of each report item follows the report example.

Daily Multi-ACD System Report by Split/Skill

Date: 1/15/93 Printed: 1/21/93 3:42 PM
ACD: NASPS ACD1

Split/Skill	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Flow In	Flow Out	Extn Out Calls	Avg Talk Time	% ACD Time	% Ans
Totals	:15	1:11	4640	1:00	2:01	103	1:30	512	512	0		76.31	88.3
Billing	:04	1:07	921	1:00	2:02	1	1:10	117	182	0		76.24	83.42
Order_Inquiry	:15	1:09	945	1:00	2:01	26	1:30	156	171	0		77.58	82.75
Complaints	:27	1:13	925	1:00	2:02	48	1:29	122	42	0		75.90	91.13
Legal	:06		948	1:00	2:00	0	:58	40	77	0		77.68	92.49
Education	:25	1:09	901	1:00	2:01	28	1:23	77	40	0		74.15	92.98

Weekly Multi-ACD System Report by Split/Skill

Week Starting: 1/13/93 Printed: 1/21/93 3:44 PM
ACD: NASPS ACD1

Split/Skill	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Flow In	Flow Out	Extn Out Calls	Avg Talk Time	% ACD Time	% Ans
Totals	:16	1:09	20075	1:00	2:01	393	1:31	2087	2087	0		68.55	89.00
Billing	:04	1:10	4001	1:00	2:01	4	1:28	437	680	0		68.38	85.40
Order_Inquiry	:17	1:10	4076	1:00	2:00	79	1:30	590	674	0		69.62	84.41
Complaints	:26	1:10	4013	1:00	2:01	186	1:30	481	154	0		68.45	92.19
Legal	:08	1:04	4074	1:00	2:01	5	1:16	209	370	0		69.58	91.57
Education	:25	1:09	3911	1:00	2:01	119	1:31	370	209	0		66.71	92.26

Monthly Multi-ACD System Report by Split/Skill

Month Starting: 12/ 1/92 Printed: 1/21/93 3:46 PM
ACD: NASPS ACD1

Split/Skill	Avg Speed Ans	Avg Aban Time	ACD Calls	Avg Talk Time	Avg After Call	Aban Calls	Max Delay	Flow In	Flow Out	Extn Out Calls	Avg Talk Time	% ACD Time	% Ans
Totals	:16	1:09	76903	1:43	1:59	1798	21:34	8229	8229	0		48.69	88.46
Billing	:04	1:10	14829	1:46	2:00	12	2:39	1570	2509	0		48.26	85.47
Order_Inquiry	:17	1:09	15264	1:45	2:00	329	8:40	2301	2485	0		49.48	84.43
Complaints	:26	1:10	14495	1:47	2:01	722	21:34	1912	789	0		47.14	90.56
Legal	:09	1:10	15438	1:44	2:00	42	6:14	1068	1378	0		49.76	91.58
Education	:26	1:08	16877	1:34	1:54	693	20:21	1378	1068	0		48.80	90.55

Figure 5-42: Multi-ACD System Report by Split/Skill Examples

Note

This report cannot be customized. However, database items and calculations apply to the `dsplit` table for daily reports, the `wsplit` table for weekly reports, and the `msplit` table for monthly reports.

Table 5-19: Multi-ACD by Split/Skill Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date	The day that the report was run (selected in the report input window).	ROW_DATE
Printed	Date and time the report was sent to the printer.	No database item or calculation
Split/Skill	The split/skill name or number (selected in the report input window).	SYN(SPLIT)
ACD	The ACD name or number associated with the split(s) or skill(s).	SYN(ACD)
Avg Speed Ans	The average time split/skill ACD calls waited in queue or ringing before being connected to an agent.	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED>
Avg Aban Time	The average time split/skill ACD calls waited in queue or ringing before disconnecting	ABNTIME/ABNCALLS <AVG_ABANDON_TIME>
ACD Calls	The number of split/skill ACD calls answered by the split/skill during the time period covered by this report and handled by an agent. This total also includes O_ACDCALLS if you have the Outgoing Call Management application of ASAI. (O_ACDCALLS is the number of ACDCALLS that were placed by an adjunct [predictive dialing].)	ACDCALLS
Avg Talk Time	Average time agents spent talking on ACD calls for this split/skill during the time period covered by this report.	ACDTIME/ACDCALLS <AVG_ACD_TALK_TIME>
Avg After Call	The average time agents spent in after call work associated with ACD calls to this split/skill during the time period covered by this report.	ACWTIME/ACDCALLS <AVG_ACW_TIME>
Aban Calls	The total number of ACD calls to the split/skill that disconnected while waiting in queue or ringing.	ABNCALLS
Max Delay	The maximum time during the time period covered by the report that a caller waited in queue or ringing at the agent station before being served, abandoning, being redirected receiving a busy signal, or being disconnected. The value shown in the Totals line is the maximum of the Max Delay values shown in the report.	MAXOCWTIME

Table 5-19: Multi-ACD by Split/Skill Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Flow In	The number of calls that were redirected to this split's/skill's queue from another queue. For switches without vectoring, calls that intra-flow or interflow from one split's queue to this split's queue. For Generic 2 and System 85 switches with vectoring and without EAS calls that are queued to one split and then successfully queue to this split (either by a "queue to main" step or by a successful "check backup" step). With multiple split/skill queuing (Generic 3 with vectoring and Generic 2.2 with EAS), an inflow is counted for this split/skill when a call queues to it as a nonprimary split/skill and is either answered by an agent in this split/skill or abandons from ringing an agent in this split/skill. For Generic 2.2 with EAS inflows are also counted for calls that are queued to one or more skills within a tens group and then queue to a skill in another tens group, for calls queued to a default ("zero") skill that subsequently queue to a "nonzero" skill and for calls queued to a "non-zero" skill that subsequently queue to the default ("zero") skill. Calls that ring at an agent and then are requeued to the same split/skill by the Redirection on No Answer feature (Generic 3 Version 2) are counted as inflows to the split/skill to which they are requeued. When a call leaves a vector, for example by routing to a split/skill or routing to another VDN, the next split/skill to which a call queues are not credited with an inflow.	INFLOWCALLS

Table 5-19: Multi-ACD by Split/Skill Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Flow Out	The number of calls offered to the split/skill that were redirected to another destination. For switches without vectoring, outflows are counted for calls offered to the split that were redirected to other destinations via intraflow or interflow. For switches with vectoring, an outflow is counted • If the call routes to another VDN; • If the call routes to a number or digits; • If the call queues to another split (Generic 2 without EAS); • If the call queues to a messaging split/skill (Generic 3); • For switches with multiple split queuing (G2.2 with EAS and G3), an outflow is counted for the primary split/skill when a call is queued to multiple splits/skills and is either answered by an agent in a nonprimary split/skill or abandons from ringing at an agent in a nonprimary split/skill. For Generic 2.2 with EAS, outflows are also counted for the primary skill for calls that are queued to a default ("zero") skill that subsequently queue to a "nonzero" skill and for calls queued to a "nonzero" skill that subsequently queue to the default ("zero") skill. Calls that queue to one skill group and then subsequently queue to another skill group count as outflows from all the skills to which they were queued in the first skill group. • If a call requeues to the same split/skill via the Redirection on No Answer feature (Generic 3 Version 2).	OUTFLOWCALLS

Table 5-19: Multi-ACD by Split/Skill Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Extn Out Calls	The number of outbound extension calls made by agents logged into this split/skill during the period covered. For agents in multiple splits, outbound AUX extension calls are included here if this split/skill is the first one the agent logged into. This does not include direct agent ACW out calls.	(ACWOUTCALLS+AUXOUTCALLS) <EXT_CALL_OUT>
(Extn Out) Avg Talk Time	Average time agents in this split/skill spent talking on outbound extension calls. For agents in multiple splits, outbound AUX extension calls are included here if this split/skill is the first one the agent logged into.	(ACWOUTTIME+AUXOUTTIME) / (ACWOUTCALLS+AUXOUTCALLS) <AVG_TALK_TIME_OUT>
% ACD Time	Percentage of time agents staffed in this split/skill spent on ACD calls and in after call work for the split/skill.	$100 * ((I\_ACD\_TIME + I\_ACW\_TIME) / I\_STAFF\_TIME)$ <PERCENT_ACD_TIME>
% Ans	Percentage of calls offered to the split/skill that were answered by agents in the split/skill.	$100 * (ACD\_CALLS / CALLS\_OFFERED)$ <PERCENT_CALL_ANS>

Trunk/Trunk Group Reports

From the Trunk/Trunk Group menu (Figure 5-43), you can get reports that display traffic data for a single trunk, summarize the incoming and outgoing traffic of every trunk in a trunk group for a specific time period, the level of incoming and outgoing call traffic for an individual trunk group, or the busiest hour of the day for each trunk group you select.

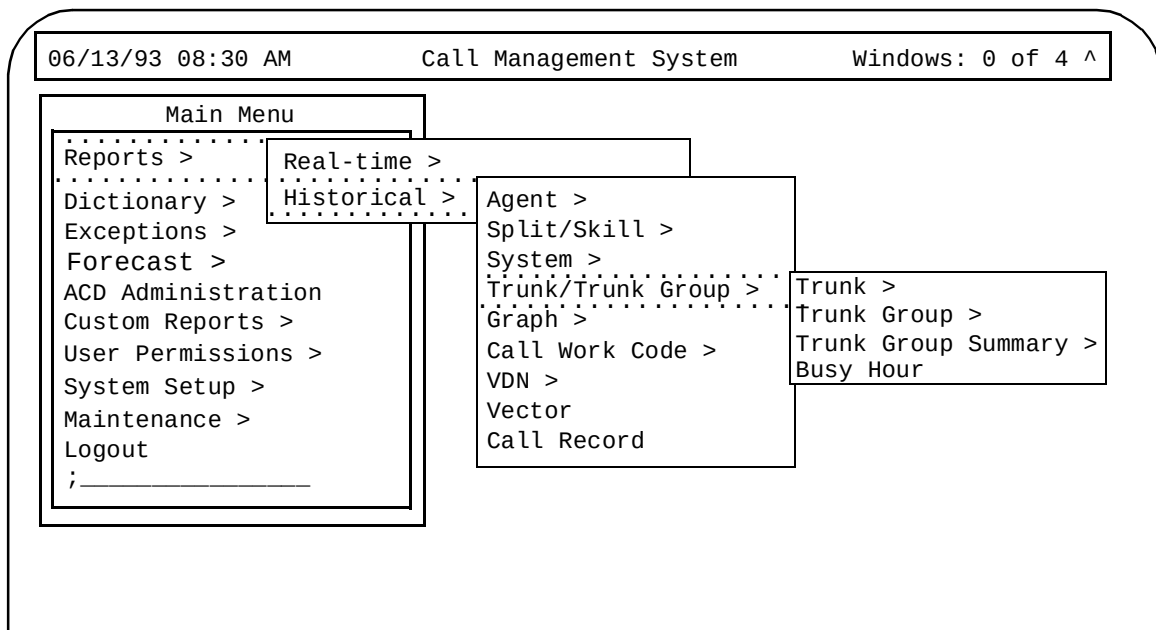


Figure 5-43: Trunk/Trunk Group Menu

Trunk States

The trunk states have the following meanings:

IDLE	The trunk is waiting for a call.
CONN	The caller and agent are connected on an ACD call.
QUEUED	An ACD call has seized a trunk and is queued to a split or skill waiting for an agent to answer.
SEIZED	A call is using the trunk, either incoming or outgoing.
MBUSY	The trunk is maintenance busy, out of service for maintenance purposes.
HOLD	The agent has put the caller on this trunk on hold.
UNKNOWN	CMS doesn't recognize the state of the trunk.
DABN	The queued caller abandoned the call. The trunk quickly goes to idle.
FBUSY	Forced busy. The caller receives forced busy signal if you have a Generic 3, or Generic 2/System 85 with Call Vectoring.
FDISC	The caller receives a forced disconnect. This appears only if you have the Vectoring feature.
RING	A call is ringing at the agent's voice terminal.

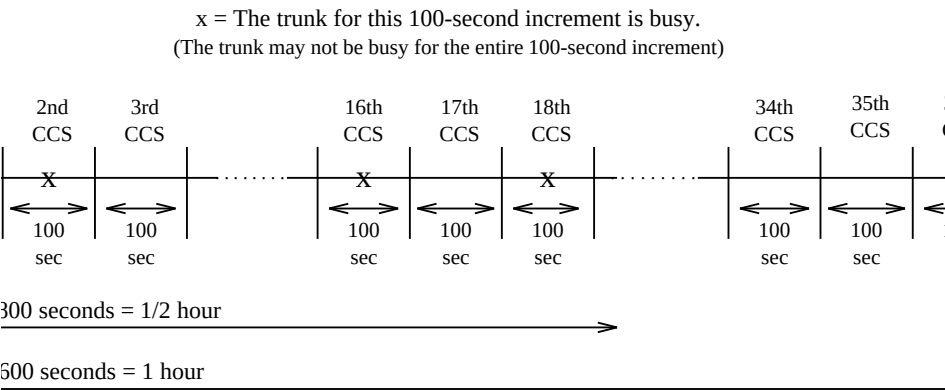
Trunk Report

The Trunk report displays call traffic data for a single trunk. With this report, you can review trunks in any measured trunk group.

You can use this report to verify that call traffic levels for a trunk are appropriate throughout the time period specified. You can also monitor outgoing calls made throughout the day.

Things to Know About This Report

- This report is available in interval, daily, weekly, and monthly versions.
- The report item Centum Call Seconds (CCS) is the number of 100-second increments in which the trunk was busy during the intrahour interval. A trunk is “seized” while the call is both in queue and connected to an agent. Therefore, wait time for abandoned calls is figured into the CCS figures. For example, since a half-hour has 1800 seconds, the maximum CCS for each trunk in a trunk group is 18 CCS. Multiplying 18 CCS by the number of trunks in a trunk group gives you the maximum occupancy for the trunk group, which you can then compare with your actual CCS. If your intrahour interval is 15 or 60 minutes, your number will be different. A CCS example follows.



Trunk Report Input Window

You must fill out the Trunk Report report input window to run your report. Field descriptions follow for each type of input window (that is, interval, daily, weekly, and monthly).

06/04/93 2:00 PM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Trunk/Trunk Group: Trunk: Interval Input acd1

Trunk location: _____ Run

Date: _____

Times: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File, File name: _____

Figure 5-44: Trunk Report Interval Input Window Example

Field Descriptions

Trunk location: (interval, daily, weekly, and monthly)

Enter the trunk number (for example, System 85: 010430101) that corresponds to the physical location of the equipment. See the table for specific switch limits.

	Module	Cabinet	Carrier	Slot	Circuit
Generic 2.1, & 2.2 System 85 R2V4	00-30	00-07	0-3	00-21	00-03
Generic 2.1 Universal Module	00-30	00	A-E	01-20	00-11
Generic 1.1, Generic 3i	N/A	01-03	A-E Must be uppercase	01-20	01-24
Generic 3r	N/A	01-22	A-E Must be uppercase	01-20	01-24

Date: (interval) or **Dates:** (daily, weekly, and monthly)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).
- For daily, weekly, and monthly reports, you can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). For weekly and monthly reports, specifying a range produces all weeks and/or months that begin in the range.

Note When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message `No records found` displays in the status line.

The month start date must be the first day of the month.

Times: (interval)

Enter the time you would like the report to cover.

- You can use AM/PM format (for example, 7:30AM-5:00PM).
- You can use military time format (for example, 7:30-17:00).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Trunk Report
Example

A description of each report item follows the report in the Trunk Report Description table.

Interval Trunk									
Date: mm/dd/yy					Printed: mm/dd/yy hh:mm AM				
Trunk group: xxxxxxxxxxxxxxxxxxxxxx					ACD: xxxxxxxxxxxxxxxxxxxxxx				
Trunk location: xxxxxxxxx									
	----- Inbound -----				----- Outbound -----				
Time	Calls	Calls	Avg Trk	Total	Calls	Calls	Avg Trk	Total	Time Maint Busy
	Carr	Aban	Holding Time		CCS	Carr	Aban		

Totals	xxxxx	xxxxx	mm:ss	xxxxxx	xxxxx	xxxxx	mm:ss	xxxxxxx	xx:xx

xx:xx-xx:xxAM	xxxxx	xxxxx	mm:ss	xxxxxx	xxxxx	xxxxx	mm:ss	xxxxxxx	xx:xx
xx:xx-xx:xxAM	xxxxx	xxxxx	mm:ss	xxxxxx	xxxxx	xxxxx	mm:ss	xxxxxxx	xx:xx
xx:xx-xx:xxAM	xxxxx	xxxxx	mm:ss	xxxxxx	xxxxx	xxxxx	mm:ss	xxxxxxx	xx:xx
xx:xx-xx:xxAM	xxxxx	xxxxx	mm:ss	xxxxxx	xxxxx	xxxxx	mm:ss	xxxxxxx	xx:xx
xx:xx-xx:xxAM	xxxxx	xxxxx	mm:ss	xxxxxx	xxxxx	xxxxx	mm:ss	xxxxxxx	xx:xx

Figure 5-45: Trunk Report Example

Note

Database items and calculations apply to the `httrunk` table for interval reports, the `dttrunk` table for daily reports, the `wttrunk` table for weekly reports, and the `mttrunk` table for monthly reports.

Table 5-20: Trunk Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date	The day that the report was run (selected in the report input window).	ROW_DATE
Trunk group	The trunk group associated with this trunk.	SYN(TKGRP)
Trunk location	Trunk number (physical equipment location) associated with the trunk.	EQLLOC
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number associated with the trunk group.	SYN(ACD)
Time (Interval only)	The intrahour intervals for which the report shows data (selected in the report input window).	
Inbound Calls Carr	Total number of inbound calls carried by this trunk for the specified time period.	INCALLS
Inbound Calls Aban	Total number of inbound calls abandoned by the caller for the specified time period.	ABNCALLS
Inbound Avg Trk Holding Time	Average holding time for all incoming calls, including queue time.	INTIME/INCALLS <AVG_TRK_HOLD_TIME_IN>
Inbound Total CCS	Total trunk occupancy by incoming calls during the specified time period.	I_INOCC(in seconds)/100
Outbound Calls Carr	The number of outbound calls that were carried by this trunk.	OUTCALLS
Outbound Calls Aban	The number of outbound calls (if you have the Outgoing Call Management application on ASAI) abandoned at the far end. (Generic 2.2 with the ASAI Gateway Interface or Generic 3 with ASAI)	O_ABNCALLS
Outbound Avg Trk Holding Time	Average holding time of all outgoing calls on this trunk.	OUTTIME/OUTCALLS <AVG_TRK_HOLD_TIM_OUT>
Outbound Total CCS	Total trunk occupancy of outgoing calls during the specified time period.	I_OUTOCC(in seconds)/100
Time Maint Busy	The total time of all maintenance-busy periods for this trunk for the time period.	MBUSYTIME

Trunk Group Report

The Trunk Group report summarizes the incoming and outgoing traffic of every trunk in a trunk group for the specified time period. You could use this report to verify that the number of trunks available to your splits is appropriate and to monitor the number of outgoing calls.

Also because it lists trunks by physical location on the switch and totals trunk failures, the Trunk Group report can be useful for troubleshooting problems with trunks.

Things to Know About This Report

- This report is available in daily, weekly, and monthly versions.
- The report item Centum Call Seconds (CCS) is the number of 100-second increments in which the trunk was busy during the intrahour interval. A trunk is "seized" while the call is both in queue and connected to an agent. Therefore, wait time for abandoned calls is figured into the CCS figures. For example, since a half-hour has 1800 seconds, the maximum CCS for each trunk in a trunk group is 18 CCS. Multiplying 18 CCS by the number of trunks in a trunk group gives you the maximum occupancy for the trunk group, which you can then compare with your actual CCS. If your intrahour interval is 15 or 60 minutes, your number will be different. Refer to the CCS example given earlier in this chapter.

Trunk Group Report Input Window

You must fill out the Trunk Group report input window to run your report. Field descriptions follow for each type of input window (that is, daily, weekly, and monthly).

06/04/93 2:00 PM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Trunk/Trunk Group: Trunk Group: Daily Input acd1

Trunk group: _____ Run

Date: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-46: Trunk Group Report Daily Input Window Example

Field Descriptions

Trunk group: (daily, weekly, and monthly)

Enter the appropriate trunk group name or number. See on-line help for the valid numerical entries for your particular switch.

Date: (interval) or **Dates:** (daily, weekly, and monthly)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).
- For daily, weekly, and monthly report, you can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). For weekly and monthly reports, specifying a range produces all weeks and/or months that begin in the range.

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message `No records found` displays in the status line.

The month start date must be the first day of the month.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- `Terminal` is the default destination.
- If you selected `Printer` and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected `File`, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (`/usr/<your login ID>`) unless you specify a full path name.

Trunk Group Report Examples

A description of each report item follows the report example in the Trunk Group Report Description table.

Daily Trunk Group

Date: 1/15/93 Printed: 1/21/93 3:51 PM
 Trunk group: Billing_TG ACD: NASPS ACD1

Trunk Location	----- Inbound -----				----- Outbound -----				Trunk Fail-ures
	Calls Carr	Calls Aban	Avg Trk Holding Time	Total CCS	Calls Carr	Calls Aban	Avg Trk Holding Time	Total CCS	
Totals	1213	1	:52	630.01	0	0		0	0
0101A0102	693	1	:43	296.07	0	0		0	0
0101A0103	441	0	1:03	279.48	0	0		0	0
0101A0104	73	0	1:08	49:57	0	0		0	0
0101A0105	6	0	1:22	4.89	0	0		0	0

Weekly Trunk Group

Week Starting: 1/13/93 Printed: 1/21/93 3:52 PM
 Trunk group: Billing_TG ACD: NASPS ACD1

Trunk Location	----- Inbound -----				----- Outbound -----				Time Maint Busy
	Calls Carr	Calls Aban	Avg Trk Holding Time	Total CCS	Calls Carr	Calls Aban	Avg Trk Holding Time	Total CCS	
Totals	1213	1	:52	630.01	0	0		0	0
0101A0102	3581	2	:39	1394.34	0	0		0	0
0101A0103	1880	2	1:03	1187.30	0	0		0	0
0101A0104	372	0	1:08	251.50	0	0		0	0
0101A0105	19	0	1:12	13.69	0	0		0	0

Monthly Trunk Group

Month Starting: 12/ 1/92 Printed: 1/21/93 3:53 PM
 Trunk group: Billing_TG ACD: NASPS ACD1

Trunk Location	----- Inbound -----				----- Outbound -----				Time Maint Busy
	Calls Carr	Calls Aban	Avg Trk Holding Time	Total CCS	Calls Carr	Calls Aban	Avg Trk Holding Time	Total CCS	
Totals	27525	12	1:09	*****	0	0		0	0
000000004	544	0	1:40	543.58	0	0		0	0
000000008	116	0	7:25	515.92	0	0		0	0
000000012	112	0	7:25	498.44	0	0		0	0
000000100	98	0	7:25	435.86	0	0		0	0

Figure 5-47: Trunk Group Report Examples

Note

Database items and calculations apply to the `dt trunk` table for daily reports, the `wt trunk` table for weekly reports, and the `mt trunk` table for monthly reports.

Table 5-21: Trunk Group Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week starting, Month starting	The day that the report was run (selected in the report input window).	ROW_DATE
Trunk group	The trunk group for which report was requested.	SYN(TKGRP)
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number associated with the trunk group.	SYN(ACD)
Trunk location	Trunk number (physical equipment location) associated with the trunk.	EQLLOC
Inbound Calls Carr	Total number of inbound calls carried by this trunk for the specified time period.	sum(INCALLS)
Inbound Calls Aban	Total number of inbound calls abandoned by the caller for the specified time period.	sum(ABNCALLS)
Inbound Avg Trk Holding Time	Average holding time for all incoming calls, including queue time.	sum(INTIME) / sum(INCALLS) <AVG_TRK_HOLD_IN_SUM>
Inbound Total CCS	Total trunk occupancy by incoming calls during the specified time period.	sum(I_INOCC) (in seconds) / 100
Outbound Calls Carr	The number of outbound calls that were carried by this trunk.	sum(OUTCALLS)
Outbound Calls Aban	The number of outbound calls (if you have the Outgoing Call Management application on ASAI) abandoned at the far end.	sum(O_ABNCALLS)
Outbound Avg Trk Holding Time	Average holding time of all outgoing calls on this trunk.	sum(OUTTIME) / sum(OUTCALLS) <AVG_TRK_HOLD_OUT_SUM>
Outbound Total CCS	Total trunk occupancy of outgoing calls during the specified time period.	sum(I_OUTOCC) (in seconds) / 100
Trunk Failures	The number of trunk failures for this trunk or total for the trunk group. Can be hardware failures or failures due to internal switch errors (System 85 and Generic 2 only).	sum(FAILURES)

Trunk Group Summary Report

The Trunk Group Summary report shows the level of incoming and outgoing call traffic for an individual trunk group. You could use this report to verify that the number of trunks available to your splits is appropriate and to monitor the number of outgoing calls.

Things to Know About This Report

- For both inbound and outbound calls, **CALLS CARRIED** = Calls Answered + Calls Abandoned + Other Calls. Also, **OTHER CALLS** = Calls Given A Busy Signal + Calls Disconnected By The Switch + Calls Answered By An Unmeasured Agent.
- A trunk group summary report can have two entries for one interval if the trunk group termination changed during that interval. For example, at the start of the interval, trunk group 2 terminates at VDN58803. During the interval the termination is changed to VDN58804. The system shows two trunk group records for reports (interval, daily, weekly, and monthly) containing the interval in which the termination was changed.
- The report item **Centum Call Seconds (CCS)** is the number of 100-second increments in which the trunk was busy during the intrahour interval. A trunk is "seized" while the call is both in queue and connected to an agent. Therefore, wait time for abandoned calls is figured into the CCS figures. For example, since a half-hour has 1800 seconds, the maximum CCS for each trunk in a trunk group is 18 CCS. Multiplying 18 CCS by the number of trunks in a trunk group gives you the maximum occupancy for the trunk group, which you can then compare with your actual CCS. If your intrahour interval is 15 or 60 minutes, your number will be different. Refer to the CCS example given earlier in this chapter.
- The report item **% Time All Trunks Busy**, which is a good indicator of how many callers are being blocked (getting a busy signal), should be a relatively low figure in most call centers.
- This report is available in interval, daily, weekly, and monthly versions.

Trunk Group Summary Input Window

You must fill out the Trunk Group Summary report input window to run your report. Field descriptions follow for each type of input window (that is, interval, daily, weekly, and monthly).

06/04/93 2:00 PM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Trunk/Trunk Group: Trunk Group Summary: Interval Input acd1

Trunk group: _____ Run

Date: _____

Times: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-48: Trunk Group Summary Interval Input Window Example

Field Descriptions

Trunk group: (interval, daily, weekly, and monthly)

Enter the appropriate trunk group name or number. See on-line help for the valid numerical entries for your particular switch.

Date: (interval) or **Dates:** (daily, weekly, and monthly)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a "-" offset based on today's date (for example, -1 for yesterday).
- For daily, weekly, and monthly report, you can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). For weekly and monthly reports, specifying a range produces all weeks and/or months that begin in the range.

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message `No records found` displays in the status line.

The month start date must be the first day of the month.

Times: (interval)

Enter the time you would like the report to cover.

- You can use AM/PM format (for example, 7:30AM-5:00PM).
- You can use military time format (for example, 7:30-17:00).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Trunk Group Summary Report Examples

A description of each report item follows the report example in the Trunk Group Summary Report Description table.

Interval Trunk Group Summary

Date: 1/15/93
Trunk group: Billing_TG
Number of trunks

Printed: 1/21/93 3:54 PM
ACD: NASPS ACD1

----- Inbound -----							----- Outbound -----							% Time		
Time	Calls Carr	Calls Ans	Calls Aban	Other Calls	Avg Trk Holding Time	Total CCS	Calls Carr	Calls Ans	Calls Aban	Other Calls	Avg Trk Holding Time	Total CCS	Far End Comp	Calls Blckd	All Trunks Busy	% Time Maint Busy
Totals	99	98	1	0	1:09	68:09	0	0	0	0		0	0	0	0.00	0.00
11:00-11:15AM	25	25	0	0	1:00	15.00	0	0	0	0		0	0	0	0.00	0.00
11:15-11:30AM	24	24	0	0	1:03	15.22	0	0	0	0		0	0	0	0.00	0.00
11:30-11:45AM	24	24	0	0	1:18	18.65	0	0	0	0		0	0	0	0.00	0.00
11:45-12:00PM	26	25	1	0	1:14	19.22	0	0	0	0		0	0	0	0.00	0.00

Daily Trunk Group Summary

Trunk group: Billing_TG
Number of trunks: 20

Printed: 1/21/93 3:55 PM
ACD: NASPS ACD1

----- Inbound -----							----- Outbound -----							% Time		
Date	Calls Carr	Calls Ans	Calls Aban	Other Calls	Avg Trk Holding Time	Total CCS	Calls Carr	Calls Ans	Calls Aban	Other Calls	Avg Trk Holding Time	Total CCS	Far End Comp	Calls Blckd	All Trunks Busy	% Time Maint Busy
Totals	5852	4244	4	1604	:49	2846.83	0	0	0	0		0	0	0	0.00	0.00
1/13/93	1613	701	1	911	:35	562.07	0	0	0	0		0	0	0	0.00	0.00
1/14/93	1035	827	0	208	:52	543.10	0	0	0	0		0	0	0	0.00	0.00
1/15/93	1213	986	1	226	:52	630.01	0	0	0	0		0	0	0	0.00	0.00
1/16/93	884	852	1	31	1:02	546.01	0	0	0	0		0	0	0	0.00	0.00

Weekly Trunk Group Summary

Trunk group: Billing_TG
Number of trunks: 20

Printed: 1/21/93 3:56 PM
ACD: NASPS ACD1

----- Inbound -----							----- Outbound -----							% Time		
Week Starting	Calls Carr	Calls Ans	Calls Aban	Other Calls	Avg Trk Holding Time	Total CCS	Calls Carr	Calls Ans	Calls Aban	Other Calls	Avg Trk Holding Time	Total CCS	Far End Comp	Calls Blckd	All Trunks Busy	% Time Maint Busy
Totals	72145	43745	27	29373	:46	*****	0	0	0	0		0	0	0	0.00	0.00
12/23/92	11824	6808	9	5007	:45	5315.88	0	0	0	0		0	0	0	0.00	0.00
12/30/92	38734	23376	8	15350	:46	*****	0	0	0	0		0	0	0	0.00	0.00
1/ 6/93	16735	9317	6	7412	:44	7338.87	0	0	0	0		0	0	0	0.00	0.00
1/13/93	5852	4244	4	1604	:49	2846.83	0	0	0	0		0	0	0	0.00	0.00

Monthly Trunk Group Summary

Trunk group: Billing_TG
Number of trunks: 20

Printed: 1/21/93 3:57 PM
ACD: NASPS ACD1

----- Inbound -----							----- Outbound -----							% Time		
Month Starting	Calls Carr	Calls Ans	Calls Aban	Other Calls	Avg Trk Holding Time	Total CCS	Calls Carr	Calls Ans	Calls Aban	Other Calls	Avg Trk Holding Time	Total CCS	Far End Comp	Calls Blckd	All Trunks Busy	% Time Maint Busy
Totals	42232	22179	266	19787	1:25	*****	0	0	0	0		0	0	0	0.00	0.00
11/ 1/92	14232	6146	254	7832	1:51	*****	0	0	0	0		0	0	0	0.00	0.00
12/ 1/92	28000	16033	12	11955	1:12	*****	0	0	0	0		0	0	0	0.00	0.00

Figure 5-49: Trunk Group Summary Report Examples

Note Database items and calculations apply to the `htkgrp` table for interval reports, the `dtkgrp` table for daily reports, the `wtkgrp` table for weekly reports, and the `mtkgrp` table for monthly reports.

Table 5-22: Trunk Group Summary Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week starting, Month starting	The day that the report was run (selected in the report input window).	ROW_DATE
Trunk group	The trunk group for which the report was requested.	SYN(TKGRP)
Number of trunks	The number of trunks in the trunk group.	TRUNKS
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number associated with the trunk group.	SYN(ACD)
Time (for interval reports only)	The intrahour intervals for which the report shows data (selected in the report input window).	STARTTIME
Inbound Calls Carr	Total number of inbound calls carried by this trunk group for the specified time period.	sum(INCALLS)
Inbound Calls Ans	Total number of inbound split/skill or direct agent calls answered by agents for the specified time period.	sum(ACDCALLS)
Inbound Calls Aban	Total number of inbound calls abandoned by the caller for the specified time period.	sum(ABNCALLS)
Inbound Other Calls	The number of inbound calls that were forced busy, disconnected, answered extension calls, or other inbound calls of any other disposition.	sum(OTHERCALLS)
Inbound Avg Trk Holding Time	Average trunk holding time for all incoming calls. (This is the average length of time a typical call made use of a trunk, that is, the trunk could not be used for another call during that time.)	sum(INTIME)/sum(INCALLS) <AVG_TRK_HOLD_IN_SUM>
Inbound Total CCS	Total trunk occupancy by incoming calls during the specified time period.	sum(I_INOCC) (in seconds)/100
Outbound Calls Carr	The number of outbound calls that were carried by this trunk group.	sum(OUTCALLS)
Outbound Calls Ans	Total number of outbound calls (if you have the Outgoing Call Management application on ASAI) that were offered to one or more splits/skills and handled by an agent in one of those splits/skills.	sum(O_ACDCALLS)

Table 5-22: Trunk Group Summary Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Outbound Calls Aban	The number of outbound calls (if you have the Outgoing Call Management application on ASAI) abandoned at the far end.	sum(O_ABNCALLS)
Outbound Other Calls	The number of outbound calls that were given a busy or disconnect by the switch, extension-out calls, and calls of unknown disposition.	sum(O_OTHERCALLS)
Outbound Avg Trk Holding Time	Average trunk holding time for outgoing calls on this trunk.	sum(OUTTIME) / sum(OUTCALLS) <AVG_TRK_HOLD_OUT_SUM>
Outbound Total CCS	Total trunk occupancy of outgoing calls during the specified time period.	sum(I_OUTOCC) (in seconds) / 100
Outbound Far End Comp	The number of outbound calls that were answered at the far end (Generic 1 and Generic 3 only).	sum(COMPLETED)
Outbound Calls Blckd	With Generic 2/System 85 only, the number of outbound call attempts that were blocked because all the trunks were busy.	sum(BLOCKAGE)
% Time All Trunks Busy	The percentage of time that all trunks were busy during the specified time period.	100 * sum(ALLINUSETIME / INTRVL)
% Time Maint Busy	The percentage of time that trunks were out of service for maintenance during the specified time period.	100 * sum(MBUSYTIME / INTRVL * TRUNKS)

Busy Hour by Trunk Group Report

The Busy Hour by Trunk Group report displays the busiest hour of the day for each trunk group you select.

Things to Know About This Report

- This report is only available in the daily form and cannot be customized.
- The busiest hour is calculated as a set of contiguous intervals that make up an hour (one 60-minute interval, two 30-minute intervals, or four 15-minute intervals) in which the total holding time for the trunks in the trunk group was the maximum for the day.

Busy Hour by Trunk Group Input Window

You must fill out the Busy Hour report input window to run your report. Field descriptions follow for each type of input window.

06/03/93 2:00 PM Call Management System Windows: 1 of 4 ^

Rpts: Hist: Trunk/Trunk Group: Busy Hour Input acd1

Trunk Groups: _____ Run

Date: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File, File name: _____

Figure 5-50: Busy Hour by Trunk Group Input Window Example

Field Descriptions

Trunk groups:

Enter the appropriate trunk group name(s) or number(s). See on-line help for the valid numerical entries for your particular switch.

Date:

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).



When you specify a date for a weekly report, that date must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message `No records found` displays in the status line.

The month start date must be the first day of the month.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Busy Hour by Trunk Group Report Example

A description of each report item follows the report example in the Busy Hour Report by Trunk Group Description table.

Busy Hour by Trunk Group										
Date: 1/15/93			Printed: 1/21/93 3:58 PM							
ACD: NASPS ACD1										
Trunk Group	Busy Hour	Avg Trk Holding Time	Calls Carried	Inbound Calls Carried	Outbound Calls Carried	ACD Calls Answered	Calls Aban	Other Calls	% Time All Trunks Busy	%Occ
Order_Inquiry_TG	12:00AM		0	0	0	0	0	0	0.00	0.00
Complaints_TG	09:30AM	:01:35	101	101	0	95	6	0	0.00	13.31
Legal_TG	12:00AM		0	0	0	0	0	0	0.00	0.00
Education_TG	11:00AM	:01:33	100	100	0	98	2	0	0.00	12.99
Pet_Owners_TG	12:00AM		0	0	0	0	0	0	0.00	0.00
Pet_Owners_HI_TG	12:00AM		0	0	0	0	0	0	0.00	0.00

Figure 5-51: Busy Hour by Trunk Group Report Example

Note

You cannot customize this report.

Table 5-23: Busy Hour Report by Trunk Group Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date	The day for which the report was run (selected in the report input window).	ROW_DATE
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number associated with the trunk group.	SYN(ACD)
Trunk group	The trunk group for which the report was requested.	SYN(TKGRP)
Busy Hour	The start time of the hour in which the trunk group was the busiest.	BH_STARTTIME
Avg Trk Holding Time	The average holding time for all incoming and outgoing calls in the trunk group.	$(BH\_INTIME+BH\_OUTTIME) / (BH\_INCALLS+BH\_OUTCALLS)$
Calls Carried	Total number of all incoming and outgoing calls carried by this trunk group.	BH_INCALLS+BH_OUTCALLS
Inbound Calls Carried	The total number of all incoming calls carried by this trunk group.	BH_INCALLS
Outbound Calls Carried	The total number of all outgoing calls carried by this trunk group.	BH_OUTCALLS
ACD Calls Answered	Total number of all ACD calls carried by this trunk group and handled by an agent.	BH_ACDCALLS+BH_OACDCALLS
Calls Aban	Total number of all calls abandoned by callers on this trunk group. With vectoring, this includes calls that were abandoned from vector processing. With Generic 2.2, this includes calls that were abandoned from the VDN. With Generic 3, this includes all calls that were abandoned.	BH_ABNCALLS+BH_OABNCALLS
Other Calls	The number of calls that received a busy signal, calls disconnected, extension calls, and calls of unknown disposition.	BH_OTHERCALLS + BH_00OTHERCALLS
% Time All Trunks Busy	The percentage of time during the hour that all trunks were busy.	BH_ALLINUSETIME/36
% Occ	Percentage of time during the hour that trunks were occupied by incoming and outgoing calls.	$(BH\_I\_INOCC+BH\_I\_OUTOCC) / 36$

Graph Reports

Historical graph reports allow you to see selected reports in a bar-graph form and are only available with the separately purchased Graphics Package. These reports display various historical call-handling information like number of calls waiting, how long callers waited to be answered, and your percent within your service level. Graph reports can be displayed on color or monochrome terminals.

The Graph menu follows, along with additional graph-report information and descriptions for each graph report.

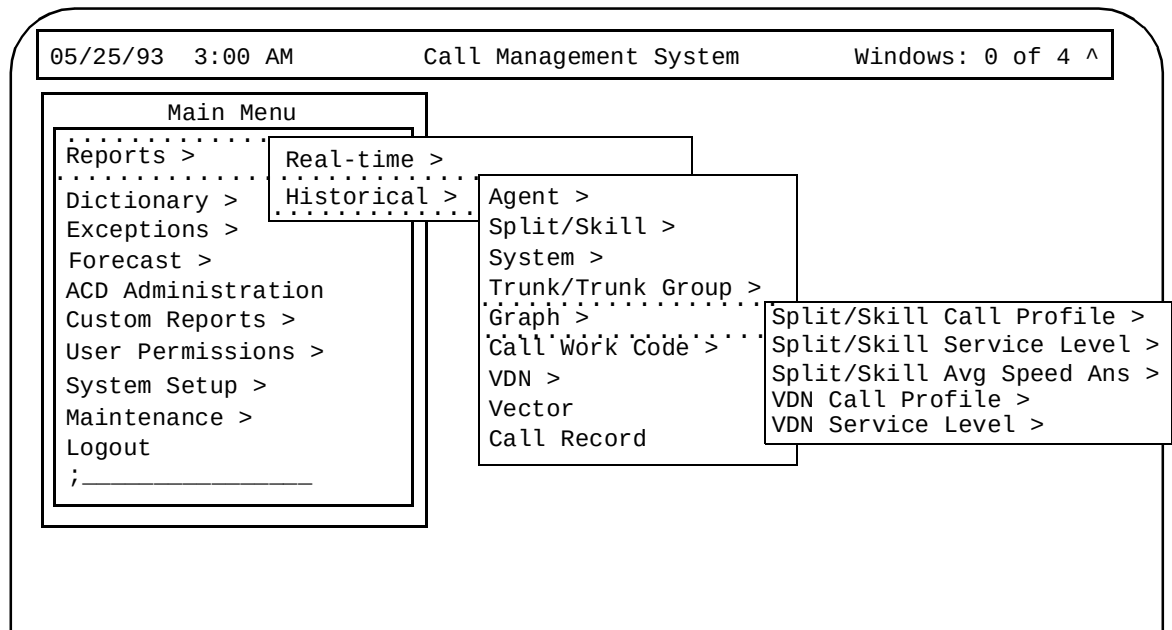


Figure 5-52: Historical Graph Reports Menu

Intensity/Color of Bars

The intensity/color of the bars on a graph report depends on whether the data has crossed either the *first* or *second* threshold limit. With monochrome terminals, three levels of intensity are used to display the bars. With color terminals, you can select your own colors to display the three levels of intensity. You could use the three levels of intensity/color to designate **Normal**, **Caution**, or **Warning** conditions. The following table helps to explain the three intensity/color levels.

Condition	Monochrome Terminal	Color Terminal	Default Color
Normal	Dim reverse video	First color choice	Green
Caution (First threshold)	Bold reverse video	Second color choice	Yellow
Warning (Second threshold)	Blink reverse video	Third color choice	Red

Things to Know About Graph Reports

- Graph reports are designed to work on character terminals only.
- With color terminals, you change the colors by selecting the `Options` menu item from the `Commands` SLK. See Chapter 2, "User Basics"—Changing Your Terminal's Colors," for the procedures.
- Bar graphs use standard Dictionary calculations.
- When the value of the data displayed on a bar is greater than the maximum value given for that bar, "****" are displayed on the top line of the bar.
- Bar graphs are printed using periods as the bar. Once the *first threshold* is met, the bar is printed using the plus (+) sign. When the *second threshold* is met, the bar is printed using the pound (#) sign.
- If your thresholds and maximums do not change much on a day-to-day basis, you can set up the input parameters once and then save them as your default values. See Chapter 2, "User Basics"—Defaults," for the procedures.

Graph Terms

The following terms will help you understand and use the graph reports.

First threshold	The lower limit you enter for a particular condition in the report. The bar(s) change color/intensity when the defined limit is met or exceeded. You are telling the system that when this limit is met, you want to be notified that a Caution condition could exist.
Second threshold	The upper limit you enter for a particular condition in the report. When this defined limit is met, the bar(s) change color/intensity. You are telling the system that when this second limit is met or exceeded, you want to be notified that a possible Warning condition exists.
Normal condition	The bars in the graph are within your acceptable limits.
Caution condition	The bars in the graph have changed color or intensity indicating that the data being displayed met or exceeded your defined <i>first threshold</i> limit, or the bars have changed from the Warning condition back to the Caution condition.
Warning condition	The bars in the graph have changed color or intensity indicating that the data being displayed met or exceeded your defined <i>second threshold</i> limit.

Split/Skill Call Profile Graph

The Split/Skill Call Profile Graph report is a bar graph showing, in increments of progressively longer wait times, the number of incoming calls handled and abandoned in a split/skill during the specified time period. This report also displays your acceptable service level (defined in ACD Administration—Split/Skill Call Profile Setup window).

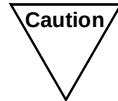
Since a bar graph can quickly show you how long it takes for calls to be handled or abandoned, it can visually show you how long a caller is willing to wait for an agent before hanging up and what answering speed is required to reduce abandoned calls.

Things to Know About This Report

- Calls are displayed in ten columns, with each column representing a progressively longer wait time.
- This report is available in daily, weekly, and monthly versions.

Prerequisite System Administration

- You must first define your acceptable service level and service level increments for this split/skill in the Split/Skill Call Profile Setup window. See Chapter 9, "ACD Administration"—Split/Skill Call Profile Setup," for more information.



If you change the service level increments after initially defining them, data is distorted for the interval in which you made the change. CMS deletes the split/skill call profile data already collected for that interval and only keeps the split/skill call profile data that occurred in that interval after the change. Then CMS tries to combine the split/skill call profile data gathered both before and after the change into a single daily record of split call profile data. As a result, some data is placed in the wrong time intervals.

Daily, weekly, and monthly summaries that include the date of the increment change will look peculiar. The time increments shown on the report for the changed increment in the Call Profile Setup window will be the maximum values entered for each increment before or after the change. For example, if you change the increments from all "0s" to 1, 3, 5, 10, etc., the Split/Skill Call Profile report will show 1, 3, 5, 10, etc. If you change from 1, 3, 5, 10, ... to 1, 5, 7, 9, ..., the report will show 1, 5, 7, 10 for the date of the change.

To avoid misleading split/skill call profile data, change the time increments early in the day, preferably before agents begin staffing splits and before a large amount of data has been gathered. Also change the profile increments at the beginning of your reporting week and, if possible, the beginning of the month. If the beginning of the week does not coincide with the beginning of the month, you will not be able to avoid some misleading profile data for the month in which you make profile changes.

- If you are using names for splits/skills, the names must first be entered in the Dictionary subsystem. See Chapter 7, "Dictionary", for more information.

Split/Skill Call Profile Graph Input Window

Use the Split/Skill Call Profile Graph input window to set the parameters for the Split/Skill Call Profile Graph report. You must fill out this window to run the report. Field descriptions follow the window.

The screenshot shows a window titled "Call Management System" with a status bar at the top displaying "06/03/93 2:15 PM" and "Windows: 1 of 4 ^". The main content area has a title bar "Rpts: Hist: Graph: Split/Skill Call Profile: Daily Input ACD1". Below the title bar is a form with the following fields and controls:

- Split/Skill:** A text input field.
- Date:** A text input field.
- Maximum number of calls answered:** A text input field.
- First calls abandoned threshold:** A text input field.
- Second calls abandoned threshold:** A text input field.
- Report destination (Select one):** A dropdown menu with the following options:
 - <x> Terminal
 - < > Printer, Printer name _____
 - < > File,
 - File name: _____
- Run:** A button located to the right of the "Split/Skill" field.

Figure 5-53: Split/Skill Call Profile Graph Daily Input Window Example

Field Descriptions

Split/Skill:

Enter the split/skill name or number that you want to view in this graph.
See on-line help for the valid numerical entries for your particular switch.

Date: (daily, weekly, and monthly)

Enter the date for the day or the start date for the week or the month you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).



When you specify a date for a weekly report, that date must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message `No records found` displays in the status line.

The month start date must be the first day of the month.

Maximum number of calls answered:

Enter the maximum number of calls that you anticipate could be answered during any increment.

- This number appears on the vertical axis of the bar graph under Answered.
- The bars in this graph equal or exceed this number when they are at maximum height.

First calls abandoned threshold:

Enter the number of abandoned calls that separate the Normal condition from the Caution condition.

- This number must be less than the number entered in the `Second calls abandoned threshold` field.
- The bars in this graph change color/intensity when the first threshold is met or exceeded.

Note

Database items and calculations apply to the `dsplit` table for daily reports, the `wsplit` table for the weekly reports, and the `msplit` table for the monthly reports.

Table 5-24: Split/Skill Call Profile Graph Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week starting, or Month starting	The day, week, or month for which the report was run (selected in the report input window).	ROW_DATE
Split/Skill	The name or number of the split or skill you are currently viewing.	SYN(SPLIT)
% Within Service Level	Percent of split/skill ACD calls that were answered by an agent within the predefined acceptable service level.	100 * (ACCEPTABLE/ CALLSOFFERED) <PERCENT_SERV_LVL_SPL>
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Service Intervals Changed	A YES appears if you changed your service intervals increments during the period covered by the report. Otherwise, NO appears.	PERIODCHG
Acceptable Service Changed	A YES or NO appears if you changed your acceptable service level during the period covered by the report. Otherwise, NO appears.	SVCLEVELCHG
(Calls) Answered	The number of split/skill ACD calls answered during the current interval within the specified service level increment.	ACDCALLS1-10
Secs. (Seconds)	The values administered for the service level increments. Each increment of seconds represents a progressively longer wait time for a call.	PERIOD1-9
Abandoned	The number of split/skill ACD calls that abandoned within each of the service level increments. Calls in each increment are represented by numbers. The bars do not change in height, but do change color when an upper or lower threshold is reached.	ABNCALLS1-10

Split/Skill Service Level Graph

This bar graph report displays the percentage of split/skill ACD calls answered within your designated service level for the given time period. This report allows you to see quickly where the split/skill has difficulty in maintaining the target service level.

Note

Activation of thresholds is reversed for the bars in this report. That is, as the percentage of calls within the service level goes down (and bars get shorter), bars change to the Caution color, and then to the Warning color.

Things to Know Before You Start

- Percentages for each increment or day are displayed in separate bars on the graph. Actual numbers do not display.
- If you changed your acceptable service level in the middle of the day, the Split Service Level Graph report may show incorrect data. The data may be incorrect because, when CMS tries to summarize intrahour data into a daily record, CMS may incorrectly assign data stored at one service level to a different service level defined later in the day.
- Activation of thresholds is reversed for the bars in this report. That is, as the percentage of calls within the service level goes down (and the bars get shorter), the bars change to the Caution color/intensity, and then to the Warning color/intensity.
- This report is available in interval and daily versions.

Prerequisite System Administration

- You must first define your acceptable service level for this split/skill in the Split/Skill Call Profile Setup window. See Chapter 9, "ACD Administration"—Split/Skill Call Profile Setup," for more information.
- If you are using names for splits/skills, the names must first be entered in the Dictionary subsystem. See Chapter 7, "Dictionary", for more information.

Split/Skill Service Level Graph Input Window

Use the Split/Skill Service Level Graph input window to set the parameters for the Split/Skill Service Level Graph report. You must fill out this window to run the report. Field descriptions follow the window.

06/03/93 2:15 PM Call Management System Windows: 1 of 1 ^

Rpts: Hist: Graph: Split/Skill Service Level: Interval Input ACD1

Split/Skill: _____ Run

Date: _____

Times: _____

Second Service Level Percentage Threshold: _____

First Service Level Percentage Threshold: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-55: Split/Skill Service Level Graph Interval Input Window Example

Field Descriptions**Split/Skill:**

Enter the appropriate split/skill name or number. See on-line help for the valid numerical entries for your particular switch.

Date: (interval) or **Dates:** (daily)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).
- For a daily report, you can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93).

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message `No records found` displays in the status line.

The month start date must be the first day of the month.

Times: (Interval only)

Enter the time you would like the report to cover.

- You can use AM/PM format (for example, 7:30AM-5:00PM).
- You can also use military time format (for example, 7:30-17:00).

Second Service Level Percentage Threshold

Enter the service level percentage below which you want the graph to change from the Normal condition to the Caution condition. This threshold is actually the Caution condition level.

- This number must be greater than the number entered in the First Service Level Percentage Threshold.
- Because the bars in this report work in reverse, the Caution condition bar(s) are lower than the Normal condition bar(s). Any percentage that meets or falls below the value entered in this field indicates a Caution condition.

First Service Level Percentage Threshold:

Enter the service level percentage below which you want the graph to change from the Caution condition to the Warning condition. This threshold is actually the Warning condition level.

- This number must be less than the number entered in the `Second Service Level Percentage Threshold` field.
- Because the bars in this report work in reverse, the Warning condition bar(s) are lower than the Caution condition bar(s). Any percentage that meets or falls below the value enter in this field indicates a Warning condition.

Report destination (Select one):

Enter an `x` next to `Terminal`, `Printer`, or `File`.

- `Terminal` is the default destination.
- If you selected `Printer` and want to use a printer other than your default printer, enter the printer name in addition to the `x`.
- If you selected `File`, enter a file name and then press `Return`. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (`/usr/<your login ID>`) unless you specify a full path name.

Split/Skill Service Level Graph Report Example

A description of each report item follows the report example in the Split/Skill Service Level Graph Report Description table.

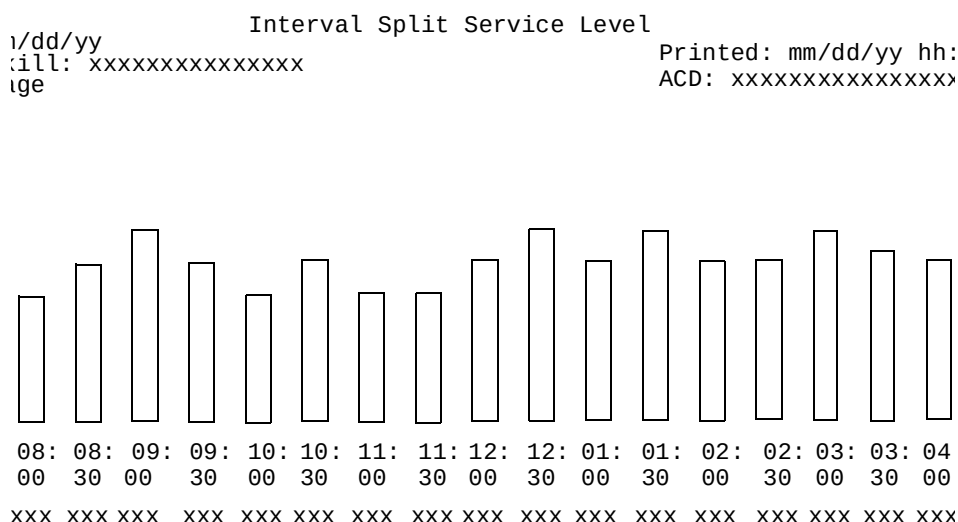


Figure 5-56: Split/Skill Service Level Graph Report Example

Note Database items and calculations apply to the `hsplit` table for interval reports and the `dsplit` table for daily reports.

Table 5-25: Split/Skill Service Level Graph Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date	The day for which the report was run (selected in the report input window).	ROW_DATE
Split/Skill	The name or number of the split or skill you are currently viewing.	SYN(SPLIT)
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Percentage	Percentage of ACD calls that were answered by an agent within the predefined acceptable service level for the time period shown in the report.	100 * (ACCEPTABLE/ CALLSOFFERED) <PERCENT_SERV_LVL_SPL>
Secs	Shows actual administered service level (in case it changes).	SERVLEVEL

Split/Skill Avg
Speed Answer
Graph

This bar graph report shows the average speed of answer for split or skill ACD calls during the time period covered in the report. This allows you to see quickly where the split/skill has difficulty in maintaining the appropriate speed of answer.

Things to Know
About This Report

- The number of seconds that calls wait for each increment or day are displayed in separate bars on the graph.
- This report is available in interval and daily versions.

Prerequisite System
Administration

- If you are using names for splits/skills, the names must first be entered in the Dictionary subsystem. See Chapter 7, "Dictionary", for more information.

Avg Speed Answer
Graph Input Window

Use the Average Speed Answer Graph input window to set the parameters for the Avg Speed Answer Graph report. You must fill out this window to run the report. Field descriptions follow the window.

06/03/93 2:15 PMCall Management SystemWindows: 1 of 1 ^

Rpts: Hist: Graph: Split/Skill Avg Speed of Answer: Interval InputACD1

Split/Skill: _____Run

Date: _____

Times: _____

Maximum average speed of answer (secs): _____

First avg answer speed threshold: _____

Second avg answer speed threshold: _____

Report destination (Select one):
<x> Terminal
< > Printer, Printer name _____
< > File,
File name: _____

Figure 5-57: Avg Speed Answer Graph Interval Input Window Example

Field Descriptions

Split/Skill:
Enter the appropriate split or skill name or number. See on-line help for the valid numerical entries for your particular switch.

Date: (interval) or **Dates:** (daily)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can also use a “-” offset based on today's date (for example, -1 for yesterday).
- For a daily report, you can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93).

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message **No records found** displays in the status line.

The month start date must be the first day of the month.

Times: (interval)

Enter the time you would like the report to cover.

- You can use AM/PM format (for example, 7:30AM-5:00PM).
- You can also use military time format (for example, 7:30-17:00).

Maximum average speed of answer (secs):

Enter (in seconds) the maximum average speed of answer for ACD calls in this split.

- The bars in the graph equal or exceed this number when they are at maximum height.

First avg answer speed threshold

Enter the number of seconds that separate the average speed of answer Normal condition from the Caution condition.

- This number must be less than the number entered in the **Second avg answer speed threshold**.
- The bars in the graph change color/intensity when this first threshold is met or exceeded.

Second avg answer speed threshold:

Enter the number of seconds that separate the average speed of answer Caution condition from the Warning condition.

- This number must be greater than the number entered in the First avg answer speed threshold.
- The bars in the graph change color/intensity when this second threshold is met or exceeded.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Avg Speed Answer Graph Report Examples

A description of each report item follows the report examples in the Avg Speed Answer Graph Description table.

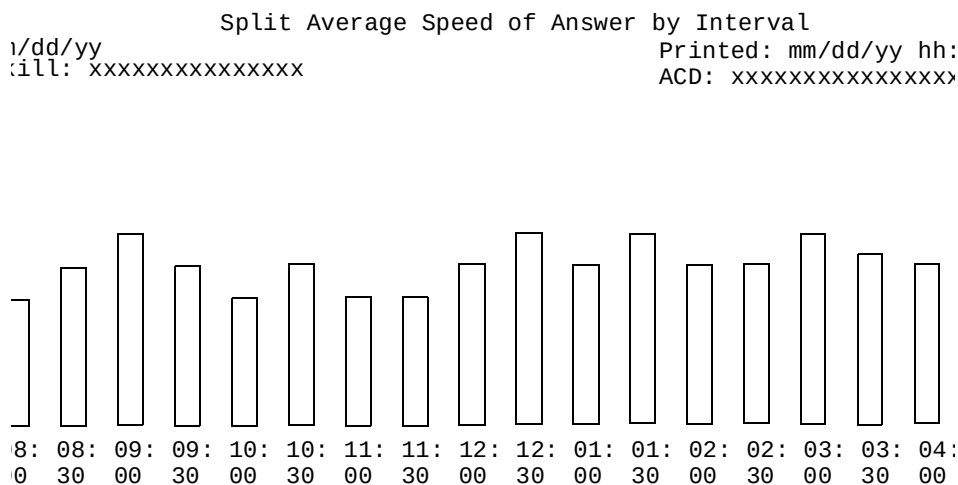


Figure 5-58: Avg Speed Answer Interval Report Example

e

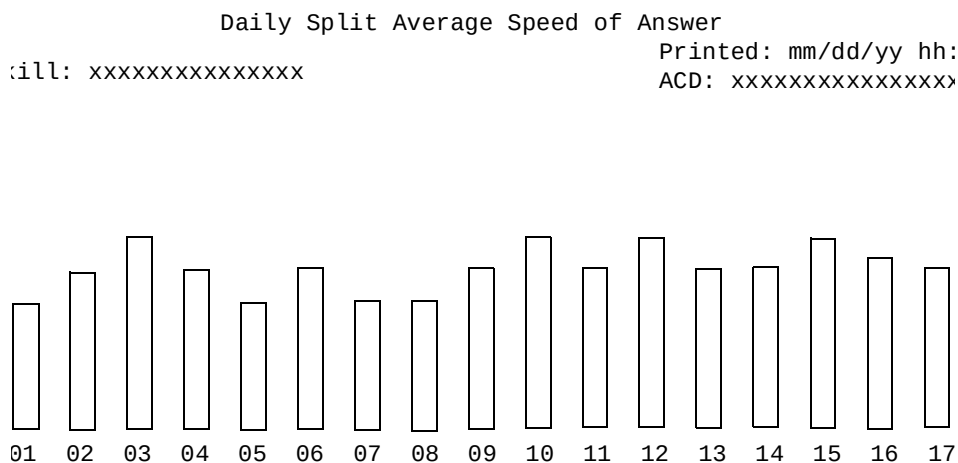


Figure 5-59: Avg Speed Answer Daily Report Example

Note

Database items and calculations apply to the `hsplit` table for interval reports and the `dsplit` table for daily reports.

Table 5-26: Avg Speed Answer Graph Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date	The day for which the report was run (selected in the report input window).	ROW_DATE
Split/Skill	The name or number of the split or skill you are currently viewing.	SYN(SPLIT)
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Seconds	The value in seconds of the average speed of answer for the split/skill during the time period covered in the report.	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED>

VDN Call Profile Graph

The VDN Call Profile Graph report displays, in segments of progressively longer wait time, the numbers of answered/connected and abandoned calls that were being processed by a VDN in the selected time frame. These wait time segments, or service level increments, are defined in the VDN Call Profile Setup window in the ACD Administration subsystem.

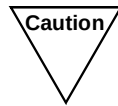
The VDN Call Profile Graph report also displays the acceptable service level administered for the VDN and the percentage of calls that have been answered/connected within that service level.

Things to Know About This Report

- If you have not purchased the CMS Vectoring feature and Graphics package, you do not see this menu item.
- The report can display daily, weekly, or monthly data.
- The bars representing answered/connected calls vary in height according to the number of answered/connected calls.
- The bars representing abandoned calls vary in color or intensity depending on how the number of abandons compares to the upper and lower thresholds you set for abandons.
- An **answered** VDN call is an ACD call answered by a measured agent. A VDN **connected** call is any non-ACD call that is answered, for example, an attendant (a non-ACD call).

Prerequisite System Administration

- Names for VDNs must be administered in the Dictionary subsystem.
- You must first define your acceptable service level and service level increments for this VDN in the VDN Call Profile Setup window (see Chapter 9, "ACD Administration"—VDN Call Profile Setup). If you do not define your service level and increments, zero (0) is used for all increments and all calls appear in the first increment.



If you change the service level increments after initially defined, data is distorted for the interval in which you made the change. CMS deletes the VDN call profile data already collected for that interval and only keeps the VDN call profile data that occurred in that interval after the change. Then CMS tries to combine the VDN call profile data gathered both before and after the change into a single daily record of split call profile data. As a result, some data is placed in the wrong time intervals.

Daily, weekly, and monthly summaries that include the date of the increment change will look peculiar. The time increments shown on the report for the changed increment in the Call Profile Setup window will be the maximum values entered for each increment before or after the change. For example, if you change the increments from all "0s" to 1, 3, 5, 10, etc., the VDN Call Profile Graph report will show 1, 3, 5, 10, etc. If you change from 1, 3, 5, 10, ... to 1, 5, 7, 9, ..., the report will show 1, 5, 7, 10 for the date of the change.

To avoid misleading VDN call profile data, change the time increments early in the day, preferably before agents log in and before a large amount of data has been gathered. Also change the profile increments at the beginning of your reporting week and, if possible, the beginning of the month. If the beginning of the week does not coincide with the beginning of the month, you will not be able to avoid some misleading profile data for the month in which you make profile changes.

VDN Call Profile Graph Input Window

From this window, you set the parameters for the VDN Call Profile Graph report. You must fill out this window to run the report. Field descriptions follow the window.

Figure 5-60: VDN Call Profile Daily Graph Input Window Example

Field Descriptions

VDN:

Enter the name or number of the VDN that you want to view in this graph.

Date: (daily, weekly, and monthly)

Enter the date for the day or the start date for the week or the month you would like the report to cover.

- You can use the month/day/year (for example, 5/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).

Note

When you specify a date for a weekly report, that date must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message `No records found` displays in the status line.

The month start date must be the first day of the month.

Maximum number of calls ans/conn:

Enter the maximum number of calls that you anticipate will be answered as ACD calls and connected as non-ACD calls within any single service level increment with the report's time frame.

- This number appears on the vertical axis of the bar graph under Ans/Conn.
- The bars in the graph equal this number when they are at maximum height.

First calls abandoned threshold:

Enter a number of abandoned calls that separate the Normal condition from the Caution condition.

- This number must be less than the number entered in the Second calls abandoned threshold field.
- The bars in this graph change color/intensity when the first threshold is met or exceeded.

Second calls abandoned threshold:

Enter a number of abandoned calls that separate the Caution condition from the Warning condition.

- This number must be greater than the number entered in the First calls abandoned threshold field.
- The bars in this graph change color/intensity when the second threshold is met or exceeded.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Note

All database items and calculations apply to the `dvdn` table for daily reports, `wvdn` for weekly reports, and `mvdn` for monthly reports.

Table 5-27: VDN Call Profile Graph Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week starting, Month starting	The day, week, or month for which the report was run (selected in the report input window).	ROW_DATE
VDN	The number or name of the VDN for which the report shows data (selected in the report input window).	SYN(VDN)
% Within Service Level	The percentage of incoming calls to the VDN that were answered by a measured agent or connected to a non-ACD destination within the service level (as specified in the VDN Call Profile Setup window).	$100 * (\text{sum}(\text{ACCEPTABLE}) / \text{sum}(\text{INCALLS}))$ <PERCENT_SERV_LVL_VDN>
Printed	The day and time CMS printed or displayed the report.	No database item or calculation.
ACD	The ACD that contains the associated VDN in the report.	SYN(ACD)
Service Intervals Changed	A YES appears if you changed your service intervals increments during the period covered by the report. Otherwise, NO appears.	PERIODCHG
Ans/Conn	The number of calls that, while connected to this VDN, were answered by an agent or were connected (to a non-ACD destination) within each of the service level increments. With Generic 2.2 and Generic 3, <i>connected</i> means calls that were answered at a non-ACD destination. With Generic 2.1 and System 85, <i>connected</i> means calls that rang at a non-ACD destination.	$\text{sum}(\text{ANSCONNCALLS1}),$ $\text{sum}(\text{ANSCONNCALLS2}),$ – $\text{sum}(\text{ANSCONNCALLS10})$
Secs.	The lower and upper limit in seconds of each service level increment (as defined in the VDN Call Profile Setup window). These increments represent progressively longer wait time segments in which calls may be answered or abandoned.	PERIOD1, PERIOD2 – PERIOD9
Abandoned	The number of incoming calls on the ACD that, while connected to this VDN, were abandoned from vector processing, queue, or ringing within each of the service level increments. Calls in each increment are represented by numbers. Bars do not change in height, but change color when an upper or lower threshold is reached.	$\text{sum}(\text{ABNCALLS1}),$ $\text{sum}(\text{ABNCALLS2})$ – $\text{sum}(\text{ABNCALLS10})$

VDN Service Level Graph

The VDN Service Level report displays, for each intrahour interval (or day) specified, the percentage of calls that were answered/connected within the service level (as specified on the VDN Call Profile Setup window).

Note

Activation of thresholds is reversed for the bars in this report. That is, as the percentage of calls within service level goes down (and bars get shorter), bars change to the Caution color, and then to the Warning color.

Things to Know About This Report

- If you have not purchased the CMS Vectoring feature and Graphics package, you do not see this menu item.
- Percentages are represented only as bars on a graph. Actual numbers do not appear.
- When you change the length of the service level, CMS deletes any Call Profile data already collected for the current intrahour interval. Consequently, the Interval VDN Service Level report may show incorrect data for the intrahour interval in which you made the change.

Prerequisite System Administration

- You must first define your acceptable service level and service level increments for this VDN in the VDN Call Profile Setup window. See Chapter 9, "ACD Administration"—VDN Call Profile Setup," for more information.
- If you are using names for split, the names must first be entered in the Dictionary subsystem. See Chapter 7, "Dictionary", for more information.

VDN Service Level Input Window

From this window, set the parameters for the VDN Service Level Graph report. You must fill out this window to run the report. Field descriptions follow the window.

06/03/93 2:45 PM Call Management System Windows: 1 of 1 ^

Rpts: Hist: Graph: VDN Service Level: Interval Input acd1

Run

VDN: _____

Date: _____

Times: _____

Second Service Level Percentage Threshold: _____

First Service Level Percentage Threshold: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File, File name: _____

Figure 5-62: VDN Service Level Interval Graph Input Window Example

Field Descriptions

VDN:

Enter the name or number of the VDN you want to include in the report.

Date: (interval) or Dates: (daily)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 5/21/93).
- You can also use a "-" offset based on today's date (for example, -1 for yesterday).

Times: (interval)

Enter the start time(s) of the interval(s) you would like the report to cover

- You can use AM/PM format (for example, 7:30AM-5:00PM).
- You can also use military time format (for example, 07:30-1700).

Second Service Level Percentage Threshold:

Enter a service level percentage that separates the Normal condition from the Caution condition. This threshold is actually the Caution condition level.

- This number must be greater than the number entered in the First Service Level Percentage Threshold field.
- Because the bars in this report work in reverse, the Caution condition bar(s) are lower than the Normal condition bar(s) and higher than the Warning condition bar(s). Any percentage that meets or falls below the value entered in this field indicates a Caution condition.

First Service Level Percentage Threshold:

Enter the service level percentage that separates the Caution condition from the Warning condition. This threshold is actually the Warning condition level.

- This number must be less than the number entered in the Second Service Level Percentage Threshold field.
- Because the bars in this report work in reverse, the Warning condition bar(s) are lower than the Caution condition bar(s). Any percentage that meets or falls below the value entered in this field indicates a Warning condition.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

VDN Service Level
Graph Report

A description of each report item follows the report example in the VDN Service Level Report Description table.

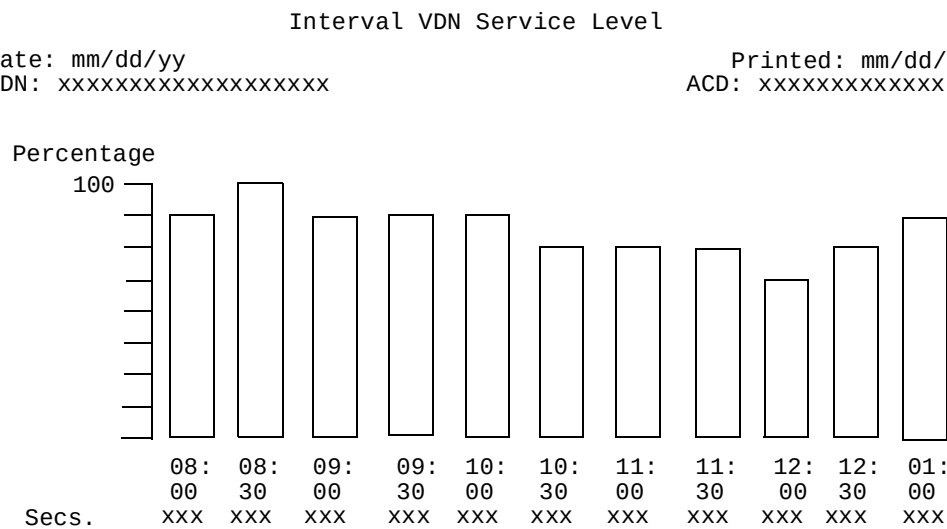


Figure 5-63: VDN Service Level Graph Report Example

Note

All database items and calculations apply to the hvdn and dvdn tables.

Table 5-28: VDN Service Level Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date	For Interval reports only, the day for which the report was run (selected in the report input window).	ROW_DATE
VDN	The number or name of the VDN for which the report shows data (selected in the report input window).	SYN(VDN)
Printed	The day and time CMS printed or displayed the report.	No database item or calculation.
ACD	The ACD sending calls to the VDN. This ACD is always the current ACD.	SYN(ACD)
Percentage (Within Service Level)	The percentage of incoming calls to the VDN that were answered by a measured agent or connected to a non-ACD destination within the service level (as specified in the VDN Call Profile Setup window). Data is for each specified intrahour interval or day (selected in the report input window).	$100 * (\text{sum}(\text{ACCEPTABLE}) / \text{sum}(\text{INCALLS}))$ <PERCENT_SERV_LEVL_VDN>
Secs	Each Secs (seconds) interval represents a progressively longer wait time for both answered and abandoned calls in queue. Each service level increment can be a different length (defined in the VDN Call Profile window).	PERIOD1-9
Times	For intrahour reports only, the intrahour intervals for which Percent Within Service Level is measured.	STARTTIME
Dates	For daily reports only, the dates for which Percent Within Service Level is measured.	ROW_DATE

Call Work Code Report

You would use this report to track certain call activities of your call center like special sale items, complaints, how many times a customer made a purchase based on a special sales campaign, etc. Agents enter a specific call work code that is associated with a particular call activity.

Things to Know About This Report

- To get data in this report, you must have purchased the Call Work Codes feature on the DEFINITY Generic 2.2 switch or the DEFINITY Generic 3 switch.
 - The Call Work Code report is available in daily, weekly, and monthly versions.
 - See Chapter 2, "User Basics" for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- If you are using names for call work codes, the names must first be defined and entered in the Dictionary subsystem. See Chapter 7, "Dictionary"—Call Work Codes," for more information.
- Because call work codes directly affect the amount of storage space required for each file system and the disk space, you must allocate the number of call work codes to be saved by CMS in the System Setup—Data Storage Allocation window. See Chapter 11, "System Setup"—Data Storage Allocation," for more information.
- You must identify and specify where you want to store call work code data in the System Setup—Free Space Allocation window. See Chapter 11, "System Setup"—Free Space Allocation," for more information.
- You must assign which call work codes will collect a particular call activity that your call center wants to track in the Call Work Codes window in the ACD Administration subsystem. See Chapter 9, "ACD Administration"—Call Work Codes," for more information.

Call Work Code Input Window

You must fill out this window to run the Call Work Code report. Field descriptions follow the input window example.

06/04/93 11:30 PM Call Management System Windows: 1 of 1 ^

Rpts: Hist: Call Work Code: Daily Input acd1

Call Work Code(s): _____ Run

Date: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File, File name: _____

Figure 5-64: Call Work Code Daily Input Window Example

Field Descriptions

Call work code(s):

Enter the call work code name(s) or number(s).

Dates: (daily, weekly, and monthly)

Enter the date(s) you would like the report to cover.

- You can use the month/day/year (for example, 3/21/93).
- You can use a "-" offset based on today's date (for example, -1 for yesterday).
- You can separate individual data entry items using a semicolon (for example, 3/21/93;3/23/93;3/25/93), and you can enter ranges by placing a hyphen between entries (for example, 3/21/93-3/25/93). The range produces weeks and months that start within the range.

Note

When you specify a date for a weekly report, that date or range of dates must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (4/6/93). If the date and day do not match, the message **No records found** displays in the status line.

The month start date must be the first day of the month.

Report destination (Select one):

Enter an x next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the x.
- If you selected File, enter a file name and then press Return. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Call Work Code Report Example

A description of each report item follows the report example in the Call Work Code Report Description.

Weekly Call Work Code Report						
Week starting: mm/dd/yy			Printed: mm/dd/yy hh:mm AM			
			ACD: xxxxxxxxxxxxxxxxxxxx			
Call Work Code	Call Work Code Name	ACD Calls	Total Talk Time	Total After Call	Avg Talk Time	Avg After Call
Totals:		xxxxx	hh:mm:ss	hh:mm:ss	hh:mm:ss	hh:mm:ss
xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx	xxxx	hh:mm:ss	hh:mm:ss	hh:mm:ss	hh:mm:ss
xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx	xxxx	hh:mm:ss	hh:mm:ss	hh:mm:ss	hh:mm:ss
xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx	xxxx	hh:mm:ss	hh:mm:ss	hh:mm:ss	hh:mm:ss
xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx	xxxx	hh:mm:ss	hh:mm:ss	hh:mm:ss	hh:mm:ss
xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx	xxxx	hh:mm:ss	hh:mm:ss	hh:mm:ss	hh:mm:ss

Figure 5-65: Call Work Code Report Example

Note Database items and calculations apply to the `dcwc` table for daily reports, the `wcwc` table for weekly reports, and the `mcwc` table for monthly reports.

Table 5-29: Call Work Code Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date	The day that the report was run (selected in the report input window).	ROW_DATE
Printed	Date and time the report was sent to the printer.	No database item or calculation.
ACD	The ACD name or number associated with the call work code(s).	SYN(ACD)
Call Work Code	The call work code number.	CWC
Call Work Code Name	Name associated with the call work code number.	SYN(CWC)
ACD Calls	The number of inbound split/skill and direct agent ACD calls with the call work code.	ACDCALLS
Total Talk Time	The total talk time associated with the call work code.	ACDTIME
Total After Call	The total after call work time associated with the call work code.	ACWTIME
Avg Talk Time	The average talk time associated with the call work code.	ACDTIME/ACDCALLS <AVG_ACD_TALK_TIME>
Avg After Call	The average after call work time associated with the call work code.	ACWTIME/ACDCALLS <AVG_ACW_TIME>

VDN Reports

Note If you have not purchased the CMS Vectoring feature, none of the VDN menu items appear on your terminal.

The VDN Reports (Figure 5-66) give you the following specific information about VDNs and vectors:

- A summary of incoming ACD call-handling performance for a specified VDN
- Specific call data for a single VDN
- The numbers of calls answered by a measured agent or calls connected to a non-ACD destination (like an attendant) and the abandoned calls that were processed by a VDN in a selected time period
- For the busiest hour in a selected day, call-handling data for selected VDNs
- Call-handling data for several VDNs and ACDs.

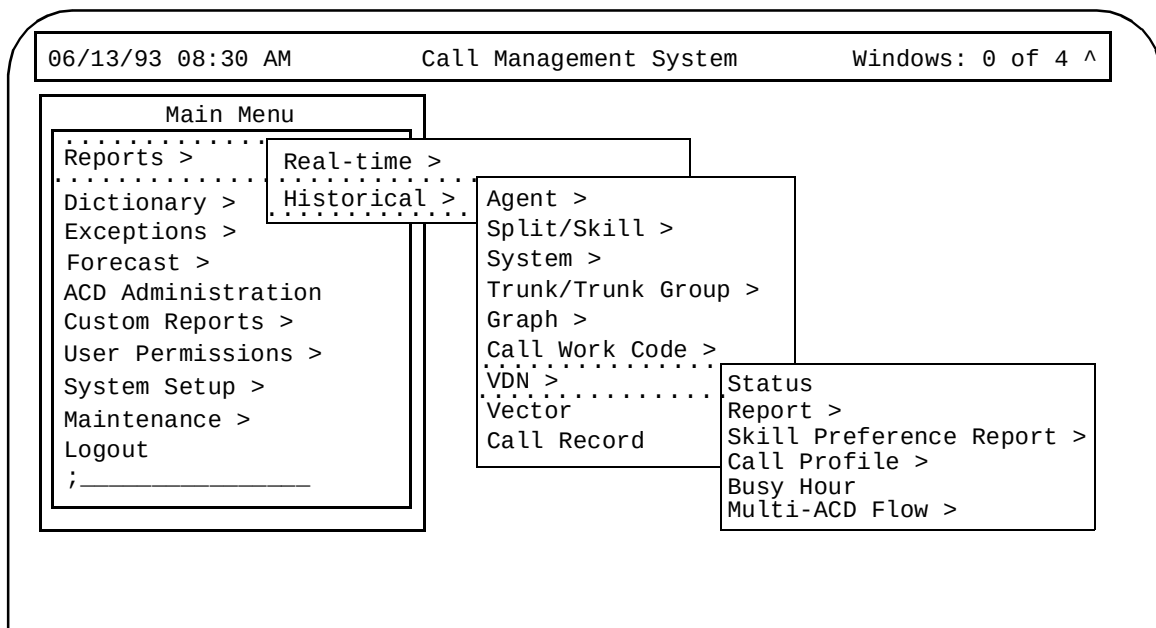


Figure 5-66: VDN Reports Menu

VDN Status Report

The VDN Status report shows, for the specified VDN and date, a summary of incoming ACD call-handling performance. The information includes the percentage of calls answered/connected within your set service level, the total number of calls connected to a non-ACD destination, the total number of abandoned calls, the average speed of answer, and the average time to abandon for the VDN.

The VDN Status report, which provides data for one day only, uses intrahour interval data that is summed up to the last interval in the day. If you run the report on your terminal for the current day, the report shows a daily total up to the last intrahour interval. If you leave the report on your terminal, CMS updates the data in the report automatically as each new intrahour interval is archived.

Things to Know About This Report

- The Average Time to Abandon figures in all calls that were abandoned during vector processing, including calls that abandoned after a “go to vector” step.
- Other calls may be carried by the VDN but not displayed in this report. For example, calls that are disconnected or given a forced busy are not included.
- ACD Calls contains only calls that queued to splits/skills or direct agents and were answered by agents. It does not include calls that receive forced busy or disconnect treatment or that route to a nonsplit/nonskill or direct agent destination.
- You cannot customize this report.

Prerequisite System Administration

- You must have **read** permission for the VDN you want to report on.
- CMS must have archived the data you want and must still contain the data in the appropriate VDN tables.

VDN Status Input Window

You must fill out the VDN Status report input window to run your report. Field descriptions follow the window.

06/04/93 3:30 PM Call Management System Windows: 1 of 1 ^

Rpts: Hist: VDN: Status Input acd1

VDN: _____ Run

Date: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File, File name: _____

Figure 5-67: VDN Status Input Window Example

Field Descriptions

VDN:

Enter the name or number of the VDN you want to include in the report.

Date:

Enter the date you want to include in the report.

- You can use the month/day/year (for example, 5/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

VDN Status Report Example

A description of each report item follows the report example in the VDN Status Report Description table.

VDN Status			
Date: 3/11/93	Printed: 3/12/93	9:31	AM
VDN: Westravel_VDN	ACD:acd1		
% Within Service Level	77.77		
ACD Calls Answered	2411	Avg Speed of Answer	:14
Other Calls Connected	0	Avg Time to Connect:	
Abandoned Calls	7	Avg Time to Abandon	1:08

Figure 5-68: VDN Status Report Example

Note

You cannot customize this report.

Table 5-30: VDN Status Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date	The day for which the report was run (selected in the report input window).	ROW_DATE
Printed	The day and time CMS printed or displayed the report.	No database item or calculation.
VDN	The number or name of the VDN for which the report shows data (selected in the report input window).	SYN(VDN)
ACD	The ACD name or number for which the report was run.	SYN(ACD)
Percentage (Within Service Level)	The percentage of incoming calls to the VDN that were answered by a measured agent or connected to a non-ACD destination within the service level (as specified in the VDN Call Profile window).	$100 * (\text{sum}(\text{ACCEPTABLE}) / \text{sum}(\text{INCALLS}))$ <PERCENT_SERV_LEVL_VDN>
ACD Calls Answered	The number of ACD calls that were answered by an agent in a split/skill or as a direct agent call (while being carried by the VDN).	ACDCALLS
Avg Speed of Answer	The average time, in minutes and seconds, that calls waited before an agent answered.	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED>
Other Calls Connected	The number of calls that were connected to a non-ACD destination (while being carried by the VDN). With Generic 2.2 and Generic 3, connected means calls <i>answered</i> at a non-ACD destination. With Generic 2.1 and System 85, connected means calls <i>rang</i> at the non-ACD destination.	CONNECTCALLS
Avg Time to Connect	The average time, in minutes and seconds, that calls waited before connecting to a non-ACD destination. CMS tracks time starting from the moment a call connects to the VDN and ending the moment the call connects to the destination. With Generic 2.2 and Generic 3, connected means calls <i>answered</i> at a non-ACD destination. With Generic 2.1 and System 85, connected means calls <i>rang</i> at the non-ACD destination.	CONNECTTIME/CONNECTCALLS
Abandoned Calls	The number of calls that were abandoned (while being carried by this VDN).	ABNCALLS
Avg Time to Abandon	The average time, in minutes and seconds, that calls waited before abandoning.	ABNTIME/ABNCALLS <AVG_ABANDON_TIME>

VDN Report

The VDN Report gives you historical information for a specified VDN and timeframe.

The interval, daily, weekly, and monthly VDN Reports display, for a single VDN, various types of data that show how well calls on that VDN were handled.

Prerequisite System Administration

- You must have read permission for the VDN you want to report on.
- CMS must have archived the data you want and must still contain the data in the appropriate VDN tables.

Switch Features That Affect Report Data

- If, with a Generic 2/System 85, calls connect to a destination via a “route to” step to the ASAI Gateway, those calls will be recorded under “VDN Flow Out” report item. Those calls will **not** be included as abandons or answered calls in the VDN reports because the calls are neither answered nor abandoned while connected to the VDN.
- On a Generic 2.2 and Generic 3, the “go to vector” command allows the ACD to process calls using more than one vector, even though those calls remain connected to the original VDN. Thus, for a report item like “Calls Ans in Main,” the main splits in which calls are answered may be referenced in a vector other than the first vector to which the VDN is assigned.

VDN Report Input Window

You must fill out the VDN report input window to run your report. Field descriptions follow the window.

06/04/93 3:00 PM Call Management System Windows: 1 of 1 ^

Rpts: Hist: VDN: Report: Interval Input acd1

VDN: _____ Run

Date: _____

Times: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-69: VDN Report Interval Input Window Example

Field Descriptions**VDN:**

Enter the name or number of the VDN you want to include in the report.

Date: (interval) or **Dates:** (daily, weekly, and monthly) |

Enter the date(s) you want to include in the report.

Times: (interval) |

Enter the start time(s) of the interval(s) you want to include in the report.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

VDN Report Examples (EAS)

A description of each report item follows the report examples in the VDN Report Description table.

Interval VDN Report

Date: 1/15/93
VDN: Billing_VDN

Printed: 1/21/93 4:11 PM
ACD: NASPS ACD1

Time	Vector No.	Calls Offered	VDN Flow In	Calls Ans	Avg Speed Ans	Avg Talk Time	Avg After Call	Calls Ans in Main	Calls Ans in Backup	Other Calls Connect	Avg Connect Time	Calls Aban	Avg Aban Time	Calls Forced Busy	Calls Forced Disc	VDN Flow Out	Avg Time In VDN	- VDN Skill Preference	1st	2nd	3rd
Totals:		99	0	98	:09	1:00	2:02	79	19	0		1	1:07	0	0	0	1:09				
11:05-11:20AM	112	25	0	25	:00	1:00	1:57	18	7	0		0		0	0	0	1:03				
11:20-11:35AM	1	24	0	24	:03	1:00	2:01	16	8	0		0		0	0	0	1:03				
11:35-11:50AM	3	24	0	24	:18	1:00	2:06	23	1	0		0		0	0	0	1:18				
11:50-12:05PM	24	26	0	25	:14	1:00	2:04	22	3	0		1	1:07	0	0	0	1:14				

Daily VDN Report

VDN: Billing_VDN
Vector: Billing_Vec

Printed: 1/21/93 4:12 PM
ACD: NASPS ACD1

Date	Vector No.	Calls Offered	VDN Flow In	Calls Ans	Avg Speed Ans	Avg Talk Time	Avg After Call	Calls Ans in Main	Calls Ans in Backup	Other Calls Connect	Avg Connect Time	Calls Aban	Avg Aban Time	Calls Forced Busy	Calls Forced Disc	VDN Flow Out	Avg Time In VDN	- VDN Skill Preference	1st	2nd	3rd
Totals:		5840	0	4232	:04	1:00	2:01	3552	680	0		4	1:10	0	1604	0	:49				
1/13/93		1613	0	701	:02	1:00	2:01	581	120	0		1	1:01	0	911	0	:35				
1/14/93		1035	0	827	:06	1:00	2:00	708	119	0		0		0	208	0	:52				
1/15/93		1213	0	986	:04	1:00	2:02	804	182	0		1	1:07	0	226	0	:52				
1/16/93		872	0	840	:04	1:00	2:04	721	119	0		1	1:28	0	31	0	1:02				
1/17/93		1107	0	878	:04	1:00	2:01	738	140	0		1	1:03	0	228	0	:51				

Weekly VDN Report

VDN: Billing_VDN
Vector: Billing_Vec

Printed: 1/21/93 4:12 PM
ACD: NASPS ACD1

Week Starting	Vector No.	Calls Offered	VDN Flow In	Calls Ans	Avg Speed Ans	Avg Talk Time	Avg After Call	Calls Ans in Main	Calls Ans in Backup	Other Calls Connect	Avg Connect Time	Calls Aban	Avg Aban Time	Calls Forced Busy	Calls Forced Disc	VDN Flow Out	Avg Time In VDN	- VDN Skill Preference	1st	2nd	3rd
Totals:		73133	0	43733	:05	1:00	2:00	37008	6725	0		27	1:08	0	29373	0	:46				
12/23/92		11824	0	6808	:05	1:00	2:01	5772	1036	0		9	1:08	0	5007	0	:45				
12/30/92		19367	0	11688	:05	1:00	2:00	9950	1738	0		4	1:04	0	7675	0	:46				
1/ 6/93		16735	0	9317	:04	1:00	2:00	7784	1533	0		6	1:13	0	7412	0	:44				
1.13.93		5840	0	4232	:04	1:00	2:01	3552	680	0		4	1:10	0	1604	0	:49				

Monthly VDN Report

VDN: Billing_VDN
Vector: Billing_Vec

Printed: 1/21/93 4:12 PM
ACD: NASPS ACD1

Month Starting	Vector No.	Calls Offered	VDN Flow In	Calls Ans	Avg Speed Ans	Avg Talk Time	Avg After Call	Calls Ans in Main	Calls Ans in Backup	Other Calls Connect	Avg Connect Time	Calls Aban	Avg Aban Time	Calls Forced Busy	Calls Forced Disc	VDN Flow Out	Avg Time In VDN	- VDN Skill Preference	1st	2nd	3rd
Totals:		34398	0	18602	:04	2:18	2:01	15113	3489	0		210	1:13	0	15586	0	1:22				
11/ 1/93		7116	0	2866	:06	5:18	2:02	1874	992	0		200	1:13	0	4050	0	2:13				
12/ 1/93		27282	0	15736	:04	1:45	2:00	13239	2497	0		10	1:08	0	11536	0	1:09				

Figure 5-70: VDN Report Examples

VDN Report Examples (Non-EAS)

A description of each report item follows the report examples in the VDN Report Description table.

Interval VDN Report

Date: 6/ 1/94

VDN: 3247 CLEMMONS ACCOUNT

Printed: 6/28/94 1:16 PM

ACD: NASPS_ACD1

Time	Vector No.	Calls Offered	VDN Flow In	Calls Ans	Avg Speed Ans	Avg Talk Time	Avg After Call	Calls Ans in Main	Calls Ans in Backup	Other Calls Connect	Avg Connect Time	Calls Aban	Avg Aban Time	Calls Forced Busy	Calls Forced Disc	VDN Flow Out	Avg Time in VDN
Totals:		51	0	47	:08	1:24	:00	47	0	0		2	:58	0	2	0	1:45
8:30- 9:00AM	33	2	0	2	:06	:24	:00	2	0	0		0		0	0	0	:32
9:00- 9:30AM	33	3	0	3	:05	:12	:00	3	0	0		0		0	0	0	:26
10:00-10:30AM	33	1	0	1	:01	1:23	:00	1	0	0		0		0	0	0	1:24
10:30-11:00AM	33	3	0	3	:04	1:09	:00	3	0	0		0		0	0	0	2:20
11:00-11:30AM	33	2	0	2	:07	:21	:00	2	0	0		0		0	0	0	:33
11:30-12:00PM	33	8	0	8	:07	1:08	:00	8	0	0		0		0	0	0	1:27
12:00-12:30PM	33	4	0	4	:02	2:34	:00	4	0	0		0		0	0	0	3:16
12:30- 1:00PM	33	2	0	0				0	0	0		2	:58	0	0	0	:58
1:00- 1:30PM	33	4	0	4	:10	2:02	:00	4	0	0		0		0	0	0	2:37
1:30- 2:00PM	33	6	0	6	:27	1:18	:00	6	0	0		0		0	0	0	2:18
2:30- 3:00PM	33	5	0	5	:05	2:24	:00	5	0	0		0		0	0	0	2:30
3:00- 3:30PM	33	4	0	4	:03	:56	:00	4	0	0		0		0	0	0	1:15
3:30- 4:00PM	33	5	0	5	:04	1:31	:00	5	0	0		0		0	0	0	1:49
4:30- 5:00PM	33	1	0	0				0	0	0		0		0	0	1	:11
5:00- 5:30PM	33	1	0	0				0	0	0		0		0	1	0	:10

Daily VDN Report

VDN: 3247 CLEMMONS ACCOUNT

Printed: 6/28/94 1:17 PM

ACD: NASPS_ACD1

Date	Vector No.	Calls Offered	VDN Flow In	Calls Ans	Avg Speed Ans	Avg Talk Time	Avg After Call	Calls Ans in Main	Calls Ans in Backup	Other Calls Connect	Avg Connect Time	Calls Aban	Avg Aban Time	Calls Forced Busy	Calls Forced Disc	VDN Flow Out	Avg Time in VDN
Totals:		292	0	247	:08	1:18	:00	247	0	0		25	:21	0	20	0	1:32
5/23/94	33	57	0	47	:08	2:14	:00	47	0	0		6	:14	0	4	0	2:24
5/24/94	33	62	0	57	:06	1:05	:00	57	0	0		3	1:18	0	2	0	1:25
5/25/94	33	46	0	36	:09	1:10	:00	36	0	0		6	:12	0	4	0	1:28
5/26/94	33	59	0	46	:11	:53	:00	46	0	0		7	:10	0	6	0	1:01
5/27/94	33	68	0	61	:09	1:11	:00	61	0	0		3	:22	0	4	0	1:26

Weekly VDN Report

VDN: 3247 CLEMMONS ACCOUNT

Printed: 6/28/94 1:18PM

ACD: NASPS_ACD1

Week Starting	Vector No.	Calls Offered	VDN Flow In	Calls Ans	Avg Speed Ans	Avg Talk Time	Avg After Call	Calls Ans in Main	Calls Ans in Backup	Other Calls Connect	Avg Connect Time	Calls Aban	Avg Aban Time	Calls Forced Busy	Calls Forced Disc	VDN Flow Out	Avg Time in VDN
Totals:		1289	7	1096	:06	1:20	:00	1096	0	0		147	:12	0	46	0	1:31
5/ 1/94	33	321	2	268	:07	1:23	:00	268	0	0		43	:15	0	10	0	1:32
5/ 8/94	33	343	4	293	:05	1:16	:00	293	0	0		41	:06	0	9	0	1:25
5/15/94	33	333	1	288	:06	1:22	:00	288	0	0		38	:10	0	7	0	1:36
5/22/94	33	292	0	247	:08	1:18	:00	247	0	0		25	:21	0	20	0	1:32

Monthly VDN Report

VDN: 3247 CLEMMONS ACCOUNT

Printed: 6/28/94 1:19PM

ACD: NASPS_ACD1

Month Starting	Vector No.	Calls Offered	VDN Flow In	Calls Ans	Avg Speed Ans	Avg Talk Time	Avg After Call	Calls Ans in Main	Calls Ans in Backup	Other Calls Connect	Avg Connect Time	Calls Aban	Avg Aban Time	Calls Forced Busy	Calls Forced Disc	VDN Flow Out	Avg Time in VDN
Totals:		8152	41	6536	:09	1:29	:00	6536	0	0		991	:13	0	625	0	1:37
1/ 1/94	33	2081	6	1583	:15	1:38	:00	1583	0	0		284	:14	0	214	0	1:46
2/ 1/94	33	1534	5	1369	:07	1:40	:00	1369	0	0		88	:17	0	77	0	1:54
3/ 1/94	33	1841	10	1450	:07	1:28	:00	1450	0	0		247	:11	0	144	0	1:32
4/ 1/94	33	1405	13	1038	:07	1:13	:00	1038	0	0		224	:11	0	143	0	1:15
5/ 1/94	33	1291	7	1096	:06	1:20	:00	1096	0	0		148	:13	0	47	0	1:31

Note

Database items and calculations apply to the `hvdn` table for interval reports, the `dvdn` table for daily reports, the `wvdn` table for weekly reports, and the `mvdn` table for monthly reports.

Table 5-31: VDN Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week starting, Month starting	The day(s) for which the report was run (selected in the report input window).	ROW_DATE
VDN	The number or name of the VDN for which the report shows data (selected in the report input window).	SYN(VDN)
Printed	The day/time CMS printed the report.	No database item or calculation.
ACD	The ACD name or number that is sending calls to the VDN.	SYN(ACD)
Time (for Interval reports only)	The intrahour intervals for which the report shows data (selected in the report input window).	STARTTIME
Vector No.	The number of the vector to which the VDN is assigned. If the VDN-vector association changed during the reporting period, two rows appear in the report for that period, one for each vector associated with the VDN.	VECTOR
Calls Offered	The number of calls to the VDN within the specified time period. Calls are counted regardless of whether they were answered in the VDN, were abandoned, or were routed to some other destination.	INCALLS sum(INCALLS) (for the "Totals" line)
VDN Flow In	The number of calls that, in the specified time period, were redirected to this VDN via the "route to VDN" vector command. Calls are counted regardless of whether they were answered in the VDN, were abandoned, or were routed to some other destination.	INFLOWCALLS sum(INFLOWCALLS) (for the "Totals" line)
Calls Ans	The number of split/skill and direct agent ACD calls that were answered in the specified time period while carried by the VDN. This includes calls from "queue to main," "check backup," "route to" split/skill, and "adjunct routing" to a split/skill or direct agent.	ACDCALLS sum(ACDCALLS) (for the "Totals" line)
Avg Speed Ans	The average time, in minutes and seconds, split/skill and direct agent ACD calls waited before they were answered by an agent.	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED> sum(AVG_ANSWER_SPEED) (for the "Totals" line)

Table 5-31: VDN Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Avg Talk Time	The average time, in minutes and seconds, split/skill and direct agent ACD calls were connected to an agent.	ACDTIME/ACDCALLS <AVG_ACD_TALK_TIME> sum(AVG_ACD_TALK_TIME) (for the "Totals" line)
Avg After Call	The average amount of time, in the specified time period, that agents spent in after-call work for split/skill and direct agent ACD calls to this VDN.	ACWTIME/ACDCALLS
Calls Ans in Main	The number of calls that were answered by an agent in a main split/skill while carried by the VDN during the specified time period using the "queue to main" vector command. This item does not include direct agent calls.	ACDCALLS - BACKUPCALLS and sum(ACDCALLS) - sum(BACKUPCALLS) (for the "Totals" line)
Calls Ans in Backup	The number of calls that were answered by an agent in a backup split/skill (split/skill other than the main split/skill) while carried by the VDN. The call can be directed to a backup split/skill by a "check backup," "messaging split/skill," or "route to split/skill" vector command. This item does include direct agent calls.	BACKUPCALLS and sum(BACKUPCALLS) (for the "Totals" line)
Other Calls Connect	The number of calls that were connected to a non-ACD destination (while being carried by the VDN). With Generic 2.2 and Generic 3, connected means calls <i>answered</i> at a non-ACD destination. With Generic 2.1 and System 85, connected means calls <i>rang</i> at the non-ACD destination.	CONNECTCALLS
Avg Connect Time	The average time, in minutes and seconds, that calls waited before connecting to a non-ACD destination. CMS tracks time starting from the moment a call connects to the VDN and ending the moment the call connects to the destination. With Generic 2.2 and Generic 3, connected means calls <i>answered</i> at a non-ACD destination. With Generic 2.1 and System 85, connected means calls <i>rang</i> at the non-ACD destination.	CONNECTTIME/CONNECTCALLS <AVG_CONNECT_TIME>
Calls Aban	The number of calls to the ACD that abandoned while being carried by this VDN. The number of calls applies to the specified time period.	ABNCALLS sum(ABNCALLS) (for the "Totals" line)

Table 5-31: VDN Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Avg Aban Time	The average time, in minutes and seconds, that all calls waited in this VDN before they were abandoned. This average, which applies to the specified time period, includes direct agent calls (Generic 3 only).	ABNTIME/ABNCALLS <AVG_ABANDON_TIME> sum(AVG_ABANDON_TIME) (for the "Totals" line)
Calls Forced Busy	The number of calls that, for the specified time period, received a forced busy signal while being carried by the VDN.	BUSYCALLS sum(BUSYCALLS) (for the "Totals" line)
Calls Forced Disc	The number of calls that, in the specified time period, received a forced disconnect while being carried by the VDN. For Generic 2.1, System 85, and Generic 3, calls are counted if callers were disconnected after listening to the entire announcement; otherwise they are counted as abandoned calls.	DISCCALLS sum(DISCCALLS) (for the "Totals" line)
VDN Flow Out	The number of calls that, for the specified time period, were routed to another VDN or external destination via a "route to" step or "adjunct routing" step (Generic 3 only). It does not include calls routed to a new vector via a "go to vector" step.	OUTFLOWCALLS sum(OUTFLOWCALLS) (for the "Totals" line)
Avg Time in VDN	The average time, in minutes and seconds, that calls were carried by the VDN, including talk time. This average, which applies to the specified time period, is for all calls, including direct agent calls (Generic 3 only), abandoned calls, disconnected calls, interflowed calls, and so on.	INTIME/INCALLS <AVG_VDN_TIME> sum(AVG_VDN_TIME) (for the "Totals" line)
1st (VDN Skill Preference)	The first skill assigned to this VDN.	SKILL1
2nd (VDN Skill Preference)	The second skill assigned to this VDN.	SKILL2
3rd (VDN Skill Preference)	The third skill assigned to this VDN	SKILL3

VDN Call Profile Report

The VDN Call Profile report displays, in segments of progressively longer wait time, the numbers of answered/connected and abandoned calls that are processed by the VDN in the selected time period. These wait time segments, or service level increments, are defined in the VDN Call Profile Setup window in the ACD Administration subsystem.

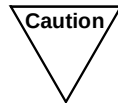
The VDN Call Profile report also displays the acceptable service level administered for the VDN and the percentage of calls that have been answered/connected within that service level.

Things to Know About This Report

- The report can display daily, weekly, or monthly data.
- You must first define your acceptable service level and service level increments for this VDN in the VDN Call Profile Setup window. If you do not define your service level and increments, zero (0) is used for all increments and all calls appear in the first increment. See Chapter 9, "ACD Administration"—VDN Call Profile Setup," for more information.
- The following types of calls are not considered in the VDN Call Profile report:
 - Calls receiving a forced busy.
 - Calls receiving a forced disconnect.
 - Calls that outflow (for example, route to another VDN).

Prerequisite System Administration

- You must first define your acceptable service level and service level increments for this VDN in the VDN Call Profile Setup window (see Chapter 9, "ACD Administration"—VDN Call Profile Setup"). If you do not define your service level and increments, zero (0) is used for all increments and all calls appear in the first increment).



If you change the service level increments after initially defining them, data will be distorted for the interval in which you made the change. CMS deletes the VDN call profile data already collected for that interval and only keeps the VDN call profile data that occurred in that interval after the change. Then CMS tries to combine the VDN call profile data gathered both before and after the change into a single daily record of VDN call profile data. As a result, some data is placed in the wrong time intervals.

Daily, weekly, and monthly summaries that include the date of the increment change will look peculiar. The time increments shown on the report for the changed increment in the Call Profile Setup window will be the maximum values entered for each increment before or after the change. For example, if you change the increments from all "0s" to 1, 3, 5, 10, etc., the VDN Call Profile report will show 1, 3, 5, 10, etc. If you change from 1, 3, 5, 10, ... to 1, 5, 7, 9, ..., the report will show 1, 5, 7, 10 for the date of the change.

To avoid misleading VDN call profile data, change the time increments early in the day, preferably before agents log into CMS and before a large amount of data has been gathered. Also change the profile increments at the beginning of your reporting week and, if possible, the beginning of the month. If the beginning of the week does not coincide with the beginning of the month, you will not be able to avoid some misleading profile data for the month in which you make profile changes.

VDN Call Profile Input Window

You must fill out the VDN Call Profile report input window to run your report. Field descriptions follow for each type of input window (that is, daily, weekly, and monthly).

06/04/93 3:30 PM Call Management System Windows: 1 of 1 ^

Rpts: Hist: VDN: Call Profile: Daily Input acd1

VDN: _____ Run

Date: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File, File name: _____

Figure 5-71: VDN Call Profile Daily Input Window Example

Field Descriptions

VDN:

Enter the name or number of the VDN you want to include in the report.

Date: (daily, weekly, monthly)

Enter the date you want to include in the report.

- You can use the month/day/year (for example, 5/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).

Note

When you specify a date for a weekly report, that date must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (3/12/90). If the date and day do not match, the message `No records found` displays in the status line.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

VDN Call Profile Report Examples

A description of each report item follows the report example in the VDN Call Profile Report Description table.

Daily VDN Call Profile																						
Date: 1/15/93													Printed: 1/21/93 4:15 PM									
VDN: Billing_VDN													ACD: NASPS ACD1									
% Within Service Level: 72													Service Intervals Changed: NO									
													Acceptable Service Changed: NO									
Secs.	0	-	5	-	10	-	15	-	20	-	25	-	30	-	35	-	40	-	45	-	>	
Ans/Conn	822		36		28		33		11		17		9		8		10		12			
Aban	0		0		0		0		0		0		0		0		0		0			
Total Calls Ans/Conn							986										Total Calls Abandoned				1	
Average Speed of Ans/Conn							:04										Average Time to Abandon				1:07	
Percentage Ans/Conn							81.3										Percentage Abandoned				0.1	
Weekly VDN Call Profile																						
Date: 1/13/93													Printed: 1/21/93 4:29 PM									
VDN: Billing_VDN													ACD: NASPS ACD1									
% Within Service Level: 63													Service Intervals Changed: YES									
													Acceptable Service Changed: YES									
Secs.	0	-	5	-	10	-	15	-	20	-	25	-	30	-	35	-	40	-	45	-	>	
Ans/Conn	3446		158		144		188		79		59		51		39		26		42			
Aban	0		0		0		0		0		0		0		0		0		4			
Total Calls Ans/Conn							4232										Total Calls Abandoned				1	
Average Speed of Ans/Conn							:04										Average Time to Abandon				1:10	
Percentage Ans/Conn							72.5										Percentage Abandoned				0.1	
Monthly VDN Call Profile																						
Date: 12/ 1/92													Printed: 1/21/93 4:30 PM									
VDN: Billing_VDN													ACD: NASPS ACD1									
% Within Service Level: 50													Service Intervals Changed: YES									
													Acceptable Service Changed: YES									
Secs.	0	-	5	-	10	-	15	-	20	-	25	-	30	-	35	-	40	-	45	-	>	
Ans/Conn	12684		661		671		690		319		228		152		135		59		137			
Aban	0		0		0		0		0		0		0		0		0		10			
Total Calls Ans/Conn							15736										Total Calls Abandoned				10	
Average Speed of Ans/Conn							:04										Average Time to Abandon				1:08	
Percentage Ans/Conn							57.7										Percentage Abandoned				0.0	

Figure 5-72: VDN Call Profile Report Examples

Note

All database items and calculations apply to the `dvdn` table for daily reports, `wvdn` for weekly reports, and `mvdn` for monthly reports.

Table 5-32: VDN Call Profile Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week Starting, Month Starting	The day, week, or month for which the report was run (selected in the report input window).	ROW_DATE
Printed	The day and time CMS printed or displayed the report.	No database item or calculation.
VDN	The number or name of the VDN for which the report shows data (selected in the report input window).	SYN(VDN)
% Within Service Level	The percentage of incoming calls to the VDN that were answered by a measured agent or connected to a non-ACD destination within the service level (as specified in the VDN Call Profile Setup window).	$100 * (\text{sum}(\text{ACCEPTABLE}) / \text{sum}(\text{INCALLS}))$ <PERCENT_SERV_LEVEL_VDN>
Service Intervals Changed	The indication YES/NO as to whether the call profile increments (in the VDN Call Profile window) were changed within the time frame of the report.	PERIODCHG
Acceptable Service Changed	The indication YES/NO as to whether the acceptable service level (in the VDN Call Profile Setup window) was changed within the time frame of the report.	SVCLEVELCHG
Secs.	The lower and upper limits in seconds of each service level increment (as defined in the VDN Call Profile Setup window). These increments represent progressively longer wait time segments in which calls may be answered by a measured agent, connected to a non-ACD destination, or abandoned.	PERIOD1, PERIOD2–PERIOD9
Ans/Conn	The number of calls that, while carried by this VDN, were answered by a measured agent or were connected to a non-ACD destination within each of the service level increments. With Generic 2.2 and Generic 3, connected means calls <i>answered</i> at a non-ACD destination. With Generic 2.1 and System 85, connected means calls <i>rang</i> at the non-ACD destination.	$\text{sum}(\text{ANSCONNCALLS1}),$ $\text{sum}(\text{ANSCONNCALLS2}) -$ $\text{sum}(\text{ANSCONNCALLS10})$
Aban	The number of incoming calls to the VDN that were abandoned within each of the service level increments.	$\text{sum}(\text{ABNCALLS1}),$ $\text{sum}(\text{ABNCALLS2}) -$ $\text{sum}(\text{ABNCALLS10})$

Table 5-32: VDN Call Profile Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Total Calls Answered/Connected	The number of calls that, while being carried by this VDN, were answered by an agent or were connected (to a non-ACD destination). With Generic 2.2 and Generic 3, connected means calls <i>answered</i> at a non-ACD destination. With Generic 2.1 and System 85, connected means calls <i>rang</i> at the non-ACD destination.	sum(ACDCALLS)+ sum(CONNECTCALLS)
Average Speed of Answer/Connect	The average time, in minutes and seconds, that calls in this interval waited before they were answered by an agent or were connected (to a non-ACD destination). This average includes direct agent calls (Generic 3 only). With Generic 2.2 and Generic 3, connected means calls <i>answered</i> at a non-ACD destination. With Generic 2.1 and System 85, connected means calls <i>rang</i> at the non-ACD destination.	(sum(ANSTIME + CONNECTTIME)) / (sum(ACDCALLS + CONNECTCALLS))
Percentage Answered/Connected	The percentage of calls answered by a measured agent or connected to a non-ACD destination within the service level. With Generic 2.2 and Generic 3, connected means calls <i>answered</i> at a non-ACD destination. With Generic 2.1 and System 85, connected means calls <i>rang</i> at the non-ACD destination.	100*(sum(ACDCALLS+ CON- NECTCALLS)/ sum(INCALLS)) <PERCENT_VDN_ANSCONN>
Total Calls Abandoned	The number of calls that were abandoned while being carried by the VDN.	sum(ABNCALLS)
Average Time to Abandon	The average time that calls waited before abandoning.	sum(ABNTIME) / sum(ABNCALLS) <AVG_ABANDON_TIME>
Percentage Abandoned	The percentage of calls that abandoned while carried by this VDN.	100*(sum (ABNCALLS)/sum(INCALLS)) <PERCENT_VDN_ABAN>

VDN Skill Preference Report

This report shows the number of calls answered, average talk time, and average after call time for calls to the VDN by skill preference for which they were answered. The report lists information for the first, second, and third VDN skill preferences.

Things to Know About This Report

- The report is available in interval, daily, weekly, or monthly versions.
- If the VDN skill preferences are referred to explicitly in the vector (for example, "queue to main skill xx" instead of "queue to main skill 1st"), the calls answered for that skill are included in this report.

VDN Skill Preference Report Input Window

You must fill out the VDN Skill Preference report input window to run your report. Field descriptions follow for each type of input window (that is, interval, daily, weekly, and monthly).

06/04/93 3:30 PM Call Management System Windows: 1 of 1 ^

Rpts: Hist: VDN: Skill Preference Report: Interval Input acd1

VDN: _____

Date: _____

Times: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Run

Figure 5-73: VDN Skill Preference Interval Input Window Example

Field Descriptions**VDN:**

Enter the name or number of the VDN you want to include in the report.

Date: (interval) or **Dates:** (daily, weekly, and monthly)

Enter the date(s) you want to include in the report.

Times: (interval)

Enter the start time(s) of the interval(s) you want to include in the report.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Printed: mm/dd/yy hh:mm AM
ACD: xxxxxxxxxxxxxxxxxxxxxxxxx

		----- 1st Skill -----							----- 2nd Skill -----				----- 3rd Skill -----							
	Vector	Calls	Avg	Calls	Avg	ACD	Avg	Avg	ACD	Avg	Avg	ACD	Avg	Avg	ACD	Avg	Avg	ACD	Avg	Avg
Time	No.	Offered	Speed	Aban	Aban	Calls	Talk	After	No.	Calls	Talk	After	No.	Calls	Talk	After	No.	Calls	Talk	After
Totals:		xxxx	mm:ss	xxxx	mm:ss	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss
xx:xx-xx:xxAM	xxx	xxxx	mm:ss	xxxx	mm:ss	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss
xx:xx-xx:xxAM	xxx	xxxx	mm:ss	xxxx	mm:ss	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss
xx:xx-xx:xxAM	xxx	xxxx	mm:ss	xxxx	mm:ss	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss
xx:xx-xx:xxAM	xxx	xxxx	mm:ss	xxxx	mm:ss	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss

Printed: mm/dd/yy hh:mm AM
ACD: xxxxxxxxxxxxxxxxxxxxxxxxx

Date	Vector No.	Calls Offered	----- 1st Skill -----							----- 2nd Skill -----				----- 3rd Skill -----						
			Avg Speed	Avg Aban	ACD Calls	Avg Talk	Avg After	ACD Calls	Avg Talk	Avg After	ACD Calls	Avg Talk	Avg After	ACD Calls	Avg Talk	Avg After	ACD Calls	Avg Talk	Avg After	
			Ans	Aban	Ans	Time	Call	No.	Ans	Time	Call	No.	Ans	Time	Call	No.	Ans	Time	Call	
Totals:		xxxx	mm:ss	xxxx	mm:ss	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss
mm/dd/yy	xxx	xxxx	mm:ss	xxxx	mm:ss	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss
mm/dd/yy	xxx	xxxx	mm:ss	xxxx	mm:ss	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss
mm/dd/yy	xxx	xxxx	mm:ss	xxxx	mm:ss	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss
mm/dd/yy	xxx	xxxx	mm:ss	xxxx	mm:ss	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss	xxx	xxxx	mm:ss	mm:ss

Table 5-33: VDN Skill Preference Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
VDN	The name or number of the VDN for which the report was run.	SYN(VDN)
Printed	Date and time the report was sent to be printed.	No database item or calculation.
ACD	Name or number of the ACD for which the report was run.	SYN(ACD)
Date, Week starting, Month starting	Dates for which the report was run. For weekly and monthly reports, these dates are the start-ing dates of the weeks or months.	ROW_DATE
Time (interval version)	Intervals which the report covers.	STARTTIME, STARTTIME + INTERVAL
Vector No.	The number of the vector to which the VDN is assigned. If the VDN-vector association changed during the reporting period, two rows will appear in the report for that period, one for each vector associated with the VDN.	VECTOR
Calls Offered	The number of inbound calls that were directed to the VDN.	INCALLS
Avg Speed Ans	The average speed of answer for split/skill and direct agent ACD calls in the VDN.	ANSTIME / ACDCALLS
Calls Aban	The number of calls to the VDN that were abandoned by the caller.	ABNCALLS
Avg Aban Time	The average time callers to the VDN waited before abandoning.	ABNTIME / ABNCALLS
ACD Call Ans	The number of skill and direct agent ACD calls that were answered by an agent. This includes calls from "queue to main", "check backup", "messaging skill", "route to" skill and "adjunct routing" to a skill or direct agent.	ACDCALLS
Avg Talk Time	The average time agents spent talking on skill and direct agent ACD calls to this VDN.	ACDTIME / ACDCALLS
Avg After Call	The average time agents spent in after call work associated with skill and direct agent calls to this VDN.	ACWTIME / ACDCALLS
1st Skill No.	The first VDN skill assigned to this VDN.	SKILL1
1st Skill ACD Calls Ans	The number of ACD calls to the VDN answered by an agent in the first VDN skill.	SKILLCALLS1
1st Skill Avg Talk Time	The average talk time for calls to this VDN answered by agents in the first VDN skill preference.	SKILLTIME1 / SKILLCALLS1
1st Skill Avg After Call	The average after call work time for calls to this VDN answered by agents in the first VDN skill preference.	SKILLACWTIME1 / SKILLCALLS1

Table 5-33: VDN Skill Preference Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
2nd Skill No.	The second VDN skill assigned to this VDN.	SKILL2
2nd Skill ACD Calls Ans	The number of ACD calls to the VDN answered by an agent in the second VDN skill preference.	SKILLCALLS2
2nd Skill Avg Talk Time	The average talk time for calls to this VDN answered by agents in the second VDN skill.	SKILLTIME2 / SKILLCALLS2
2nd Skill Avg After Call	The average after call work time for calls to this VDN answered by agents in the second VDN skill.	SKILLACWTIME2 / SKILLCALLS2
3rd Skill No.	The third VDN skill assigned to this VDN.	SKILL3
3rd Skill ACD Calls Ans	The number of ACD calls to the VDN answered by an agent in the third VDN skill.	SKILLCALLS3
3rd Skill Avg Talk Time	The average talk time for calls to this VDN answered by agents in the third VDN skill.	SKILLTIME3/SKILLCALLS3
3rd Skill Avg After Call	The average after call work time for calls to this VDN answered by agents in the third VDN skill.	SKILLACWTIME3 / SKILLCALLS3

Busy Hour by VDN Report

The Busy Hour by VDN report shows call handling data for the busiest hour in the selected day for each selected VDN.

The busiest hour is the set of contiguous intervals, totaling an hour, that had the highest number of incoming calls for the VDN. For example, if your system stores data in 15-minute intervals, the busiest hour might be the four intervals from 10:15 AM to 11:15 AM or the four intervals from 4:30 PM to 5:30 PM.

Things to Know About This Report

- This report is only available in the daily form and cannot be customized.
- The “Calls Offered” report item includes all calls that entered the VDN.

Busy Hour by VDN Input Window

You must fill out the Busy Hour by VDN report input window to run your report. Field descriptions follow the window.

Figure 5-75: Busy Hour by VDN Input Window Example

Field Descriptions

VDNs :

Enter the name(s) or number(s) you want to include in the report.

Date :

Enter the date you want to include in the report.

- You can also use a “-” offset based on today's date (for example, -1 for yesterday).

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Busy Hour by VDN Report Example

A description of each report item follows the report example in the Busy Hour by VDN Report Description table.

Busy Hour by VDN								
Date: mm/dd/yy						Printed: mm/dd/yy hh:mm AM		
						ACD: xxxxxxxxxxxxxxxxxxxx		
VDN	Busy Hour	Calls Offered	Calls Answered	Avg Talk Time	Calls Aban	Calls Forced Busy	Calls Forced Disc	Other Calls
xxxxxxxxxxxxxxxxxxxxxx	xx:xx-xx:xxAM	xxxxxx	xxxxxx	h:mm:ss	xxxxx	xxxxx	xxxxx	xxxxx
xxxxxxxxxxxxxxxxxxxxxx	xx:xx-xx:xxAM	xxxxxx	xxxxxx	h:mm:ss	xxxxx	xxxxx	xxxxx	xxxxx
xxxxxxxxxxxxxxxxxxxxxx	xx:xx-xx:xxAM	xxxxxx	xxxxxx	h:mm:ss	xxxxx	xxxxx	xxxxx	xxxxx
xxxxxxxxxxxxxxxxxxxxxx	xx:xx-xx:xxAM	xxxxxx	xxxxxx	h:mm:ss	xxxxx	xxxxx	xxxxx	xxxxx
xxxxxxxxxxxxxxxxxxxxxx	xx:xx-xx:xxAM	xxxxxx	xxxxxx	h:mm:ss	xxxxx	xxxxx	xxxxx	xxxxx

Figure 5-76: Busy Hour by VDN Report Example

Note

You cannot customize this report.

Table 5-34: Busy Hour by VDN Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date	The day for which the report was run (selected in the report input window).	ROW_DATE
Printed	The day and time CMS printed or displayed the report.	No database item or calculation.
ACD	The ACD associated with the VDNs in the report. This ACD is always the current ACD.	SYN (ACD)
VDN	The number or name of each VDN for which the report shows data (selected in the report input window).	SYN (VDN)
Busy Hour	The busiest hour is the set of contiguous intervals, totaling an hour, that had the highest number of incoming calls for the associated VDN.	BH_STARTTIME
Calls Offered	The number of calls that entered the VDN in the busy hour.	BH_VDNCALLS
Calls Answered	The number of calls that connected to the VDN during the busy hour and were answered by an agent as split/skill or direct agent calls.	BH_ACDCALLS
Avg Talk Time	The average time during the busy hour that agents spent talking to callers on split/skill and direct agent ACD calls to the associated VDN.	BH_ACDTIME/BH_ACDCALLS
Calls Aban	The number of calls that entered the VDN and abandoned during the busy hour.	BH_ABNCALLS
Calls Forced Busy	The number of calls that received a forced busy signal while being processed by the VDN (in the busy hour).	BH_BUSYCALLS
Calls Forced Disc	The number of calls that received a forced disconnect while being processed by the VDN (in the busy hour).	BH_DISCCALLS
Other Calls	The number of calls that connected to a non-ACD destination while being processed by the VDN (in the busy hour).	BH_OTHERCALLS- BH_BUSYCALLS-BH_DISCCALLS

Multi-ACD Call Flow by VDN Report

The Multi-ACD Call Flow by VDN report (daily, weekly, and monthly) shows call-handling data for the VDNs and the ACDs you select.

Switch Features That Affect Report Data

- You must have the Lookahead Interflow feature active on your ACD to get Lookahead Attempts and Completions data.
- You must have a Generic 3 to get adjunct routing data.
- Adjunct routing accomplished on a Generic 2 using a “route to” step and an ASAI Gateway is reported as VDN Flow Interflow data only, not as adjunct routing.

Things to Know About This Report

- The `VDN Flow Out` report item includes only calls that route to another VDN and route to an external (off-switch) destination.
- The `VDN Flow Interflow` report item includes both lookahead interflow and non-lookahead interflow call completions.
- You cannot customize this report.

Multi-ACD Call Flow by VDN Input Window

You must fill out this report input window before you can run your report. Field descriptions follow the window.

06/04/93 3:00 PM		Call Management System		Windows: 1 of 4 ^	
Rpts: Hist: System: Multi-ACD Flow: Daily Input acd1					
Date: _____					Run
ACD: _____					
VDNs: _____					
ACD: _____					
VDNs: _____					
ACD: _____					
VDNs: _____					
Report destination (Select one):					
<x> Terminal					
< > Printer, Printer name _____					
< > File,					
File name: _____					

Figure 5-77: Multi-ACD Call Flow by VDN Daily Input Window Example

Field Descriptions**Date:**

Enter the date you want to include in the report.

- You can use the month/day/year (for example, 5/21/93).
- You can use a “-” offset based on today's date (for example, -1 for yesterday).

Note

When you specify a date for a weekly report, that date must correspond to the week start day selected in the System Setup—Storage Intervals window. For example, if you specify the week to begin on Tuesday, you must enter a date that falls on a Tuesday (3/12/90). If the date and day do not match, the message `No records found` displays in the status line.

ACD:

Enter the ACD name or number that corresponds to the following VDN(s) field.

VDNs:

Enter the name(s) or number(s) of the VDN(s) you want to include in the report.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- **Terminal** is the default destination.
- If you selected **Printer** and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected **File**, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (`/usr/<your login ID>`) unless you specify a full path name.

Multi-ACD Call Flow by VDN Report Examples

A description of each report item follows the report examples in the Multi-ACD Call Flow Report by VDN Description table.

Daily Multi-ACD Call Flow by VDN													
Date: 1/15/93		Printed: 1/21/93 4:31 PM											
VDN	ACD	Calls Offered	Calls Ans	Calls Aban	Calls Busy/Disc	Calls Handled/Backup	----VDN Flow----		Inter-flow	-Lookahead Attempts	Interflow- Completions	-Adjunct Attempts	Routing - Completions
Totals		29951	22423	4935	2593	512	0	0	0	0	0	0	0
Billing_VDN	NASPS ACD1	1213	966	1	226	182	0	0	0	0	0	0	0
Order Inquiry VDN	NASPS ACD1	1212	960	26	226	171	0	0	0	0	0	0	0
Complaints_VDN	NASPS ACD1	1218	845	48	325	42	0	0	0	0	0	0	0
Legal_VDN	NASPS ACD1	1211	985	0	226	77	0	0	0	0	0	0	0
Education_VDN	NASPS ACD1	1217	864	28	325	40	0	0	0	0	0	0	0
Pet_Owners_VDN	NASPS_ACD1	11291	8418	2873	0	0	0	0	0	0	0	0	0
Pet_Owners_HI_VDN	NASPS_ACD1	1270	948	188	134	0	0	0	0	0	0	0	0
Veterinarians_VDN	NASPS_ACD1	11319	8417	1771	1131	0	0	0	0	0	0	0	0

Weekly Multi-ACD Call Flow by VDN													
Week Starting: 1/13/93		Printed: 1/21/93 4:32 PM											
VDN	ACD	Calls Offered	Calls Ans	Calls Aban	Calls Busy/Disc	Calls Handled/Backup	----VDN Flow----		Inter-flow	-Lookahead Attempts	Interflow- Completions	-Adjunct Attempts	Routing - Completions
Totals		141425	90467	27801	23157	2084	0	0	0	0	0	0	0
Billing_VDN	NASPS ACD1	5840	4232	4	1604	680	0	0	0	0	0	0	0
Order Inquiry VDN	NASPS ACD1	5833	4150	77	1606	674	0	0	0	0	0	0	0
Complaints_VDN	NASPS ACD1	5851	3674	185	1992	154	0	0	0	0	0	0	0
Legal_VDN	NASPS ACD1	5837	4224	5	1608	369	0	0	0	0	0	0	0
Education_VDN	NASPS ACD1	5848	3737	119	1992	207	0	0	0	0	0	0	0
Pet_Owners_VDN	NASPS_ACD1	53018	33245	19773	0	0	0	0	0	0	0	0	0
Pet_Owners_HI_VDN	NASPS_ACD1	6113	3924	728	1461	0	0	0	0	0	0	0	0
Veterinarians_VDN	NASPS_ACD1	53085	33281	6910	12894	0	0	0	0	0	0	0	0

Monthly Multi-ACD Call Flow by VDN													
Month Starting: 12/ 1/92		Printed: 1/21/93 4:34 PM											
VDN	ACD	Calls Offered	Calls Ans	Calls Aban	Calls Busy/Disc	Calls Handled/Backup	----VDN Flow----		Inter-flow	-Lookahead Attempts	Interflow- Completions	-Adjunct Attempts	Routing - Completions
Totals		574874	343479	137660	193735	8175	0	0	0	0	0	0	0
Billing_VDN	NASPS ACD1	27282	15736	10	11536	2497	0	0	0	0	0	0	0
Order Inquiry VDN	NASPS ACD1	27279	15421	322	11536	2471	0	0	0	0	0	0	0
Complaints_VDN	NASPS ACD1	27311	13330	700	13281	784	0	0	0	0	0	0	0
Legal_VDN	NASPS ACD1	27280	15705	39	11536	1364	0	0	0	0	0	0	0
Education_VDN	NASPS ACD1	34494	16517	691	17286	1059	0	0	0	0	0	0	0
Pet_Owners_VDN	NASPS_ACD1	237372	116574	120798	0	0	0	0	0	0	0	0	0
Pet_Owners_HI_VDN	NASPS_ACD1	56195	33264	1438	21493	0	0	0	0	0	0	0	0
Veterinarians_VDN	NASPS_ACD1	237661	116932	13662	107067	0	0	0	0	0	0	10	0

Figure 5-78: Multi-ACD Call Flow by VDN Report Examples

Note Database items and calculations apply to the `dvdn` table for daily reports, the `wvdn` table for weekly reports, and the `mvdn` table for monthly reports.

Table 5-35: Multi-ACD Call Flow Report by VDN Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week starting, Month starting	The day, week, or month for which the report was run (selected in the report input window).	ROW_DATE
Printed	The day and time CMS printed or displayed the report.	No database item or calculation.
VDN	The number or name of each VDN for which the report shows data (selected in the report input window). If the same VDN name or number is used on two or more ACDs, that name or number will be repeated for each ACD.	SYN(VDN)
ACD	The ACD that contains the associated VDN in the report.	SYN(ACD)
Calls Offered	The number of calls that entered the VDN in the specified time period.	INCALLS sum(INCALLS) (for the "Totals" line)
Calls Ans	The number of split/skill and direct agent ACD calls that, in the specified time period, were answered by an agent while connected to the VDN.	ACDCALLS sum(ACDCALLS) (for the "Totals" line)
Calls Aban	The number of calls to the ACD that, while carried by this VDN, were abandoned. The number of calls applies for the specified time period.	ABNCALLS sum(ABNCALLS) (for the "Totals" line)
Calls Busy/Disc	The number of calls that, in the specified time period received a forced busy signal or disconnect while carried by the VDN.	BUSYCALLS+DISCCALLS <BUSY_DISCONNECT> sum<BUSY_DISCONNECT> (for the "Totals" line)
Calls Handled/Backup	The number of calls that, in the specified time period, were answered by an agent in a backup split/skill (split/skill other than the main split/skill) while carried by the VDN. This report item also includes messaging split/skill calls, check backup calls, route to split/skill calls, and direct agent calls.	BACKUPCALLS sum(BACKUPCALLS) (for the "Totals" line)

Table 5-35: Multi-ACD Call Flow Report by VDN Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
VDN Flow In	The number of calls that, in the specified time period, were redirected via a “route to” VDN. Calls are counted regardless of whether they remained connected to the VDN, were abandoned, or were subsequently routed to some other destination.	INFLOWCALLS sum(INFLOWCALLS) (for the “Totals” line)
VDN Flow Out	The number of calls that, in the specified time period, were routed to another destination via a “route to” VDN or external destination. It does not include calls routed to another vector via a “go to vector” step.	OUTFLOWCALLS sum(OUTFLOWCALLS) (for the “Totals” line)
VDN Flow Interflow	The number of calls that, in the specified time period, were routed from this VDN to a destination outside the switch. This report item includes Lookahead Interflow calls.	INTERFLOWCALLS sum(INTERFLOWCALLS) (for the “Totals” line)
Lookahead Interflow Attempts	The number of times that, in the specified time period, the switch attempted to route from this VDN using the Lookahead Interflow feature.	LOOKATTEMPTS sum(LOOKATTEMPTS) (for the “Totals” line)
Lookahead Interflow Completions	The number of calls that, in the specified time period, the switch successfully routed from this VDN using the Lookahead Interflow feature.	LOOKFLOWCALLS sum(LOOKFLOWCALLS) (for the “Totals” line)
Adjunct Routing Attempts	The number of times that, in the specified time period, a VDN (Generic 3 only) attempted to request routing from an adjunct. This report item includes unsuccessful adjunct routing attempts, which means the adjunct was not able, within the given amount of time established in the vector, to route the call.	ADJATTEMPTS sum(ADJATTEMPTS) (for the “Totals” line)
Adjunct Routing Completions	The number of calls that, in the specified time period, were successfully routed by an adjunct via an “adjunct routing” command in a vector. This report item includes direct agent calls completed via the adjunct.	ADJROUTED sum(ADJROUTED) (for the “Totals” line)

Vector Report

Note

If you have not purchased the CMS Vectoring feature, this menu item does not appear.

The interval, daily, weekly, and monthly Vector reports display, for a single vector, various types of data that show how well calls on that vector have been handled.

Switch Features That Affect Report Data

With a Generic 2/System 85, of calls connect to a destination via a "route to" step to the ASAI Gateway, those calls are recorded under Vector Flow Out. Those calls are **not** included as abandons or answered calls in the vector reports because the calls are neither answered nor abandoned while connected to the vector.

Vector Report Input Window

You must fill out the Vector report input window to run your report. The field descriptions follow.

The screenshot shows a window titled "Call Management System" with a status bar at the top displaying "06/04/93 3:30 PM" and "Windows: 1 of 1 ^". The main content area is titled "Rpts: Hist: Vector: Interval Input" and "acd1". It contains several input fields: "Vector: _____", "Date: _____", and "Times: _____". There is a "Run" button next to the "Vector" field. Below these fields is a section titled "Report destination (Select one):" with three options: "<x> Terminal", "< > Printer, Printer name _____", and "< > File, File name: _____".

Figure 5-79: Vector Report Interval Input Window Example

Field Descriptions

Vector:

Enter the name or number of the vector you want to include in the report.

Date: (interval) or **Dates:** (daily, weekly, and monthly)

Enter the date(s) you want to include in the report.

Times: (interval)

Enter the start time(s) of the interval(s) you want to include in the report.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Vector Report Examples

A description of each report item follow the report examples in the Vector Report Description table.

Interval Vector Report												
Date: 1/15/93		Printed: 1/21/93 4:37 PM										
Vector: Billing_Vec		ACD: NASPS ACD1										
Time	Calls Offered	Avg Speed Ans	Calls Ans in Main	Calls Ans in Backup	Avg Calls Aban	Avg Aban Time	Calls Forced Busy	Calls Forced Disc	Vector Flow In	Vector Flow Out	Other Calls Connect	Avg Time in Vector
Totals:	99	:09	79	19	1	1:07	0	0	0	0	0	:09
11:00-11:15AM	25	:00	18	7	0		0	0	0	0	0	:00
11:15-11:30AM	24	:03	16	8	0	2:01	0	0	0	0	0	:03
11:30-11:45AM	24	:18	23	1	0	2:06	0	0	0	0	0	:18
11:45-12:00PM	26	:14	22	3	1	1:07	0	0	0	0	0	:16

Daily Vector Report												
Vector: Billing_Vec		Printed: 1/21/93 4:38 PM										
		ACD: NASPS ACD1										
Date	Calls Offered	Avg Speed Ans	Calls Ans in Main	Calls Ans in Backup	Avg Calls Aban	Avg Aban Time	Calls Forced Busy	Calls Forced Disc	Vector Flow In	Vector Flow Out	Other Calls Connect	Avg Time in Vector
Totals:	5840	:04	3552	680	4	1:10	0	1604	0	0	0	:05
1/13/93	1613	:02	581	120	1	1:01	0	911	0	0	0	:09
1/14/93	1035	:06	708	119	0	2:01	0	208	0	0	0	:05
1/15/93	1213	:04	804	182	1	1:07	0	226	0	0	0	:03
1/16/93	872	:04	721	119	1	1:28	0	31	0	0	0	:04
1/17/93	1107	:04	738	140	1	1:03	0	228	0	0	0	:04

Weekly Vector Report												
Vector: Billing_Vec		Printed: 1/21/93 4:39 PM										
		ACD: NASPS ACD1										
Week Starting	Calls Offered	Avg Speed Ans	Calls Ans in Main	Calls Ans in Backup	Avg Calls Aban	Avg Aban Time	Calls Forced Busy	Calls Forced Disc	Vector Flow In	Vector Flow Out	Other Calls Connect	Avg Time in Vector
Totals:	53766	:05	27058	4987	23	1:09	0	21698	0	0	0	:09
12/23/92	11824	:05	5772	1036	9	1:08	0	5007	0	0	0	:10
12/30/92	19367	:05	9950	1738	4	1:04	0	7675	0	0	0	:10
1/ 6/93	16735	:04	7784	1533	6	1:13	0	7412	0	0	0	:10
1/13/93	5840	:04	3552	680	4	1:10	0	1604	0	0	0	:05

Monthly Vector Report												
Vector: Billing_Vec		Printed: 1/21/93 4:38 PM										
		ACD: NASPS ACD1										
Month Starting	Calls Offered	Avg Speed Ans	Calls Ans in Main	Calls Ans in Backup	Avg Calls Aban	Avg Aban Time	Calls Forced Busy	Calls Forced Disc	Vector Flow In	Vector Flow Out	Other Calls Connect	Avg Time in Vector
Totals:	44754	:04	17840	4804	434	1:12	0	21676	0	0	0	:06
11/ 1/93	17472	:05	4601	2307	424	1:12	0	10140	0	0	0	:04
12/ 1/93	27282	:04	13239	2497	10	1:08	0	11536	0	0	0	:08

Figure 5-80: Vector Report Examples

Note

Database items and calculations apply to the `hvector` table for interval reports, the `dvector` table for daily reports, the `wvector` table for weekly reports, and the `mvector` table for monthly reports.

Table 5-36: Vector Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Date, Week starting, Month starting	The day for interval and date for daily, weekly, and monthly which the report was run (selected in the report input window).	ROW_DATE
Vector	The number or name of the vector for which the report shows data (selected in the report input window).	SYN(VECTOR)
Printed	The date and time CMS printed or displayed the report.	No database item or calculation.
ACD	The ACD that contains the vector. This ACD is always the ACD that was current when you ordered the report.	SYN(ACD)
Time (for Interval reports only)	The intrahour intervals for which the report shows data (selected in the report input window).	STARTTIME, STARTTIME+INTRVL
Calls Offered	The number of calls that entered the vector in the specified time period.	INCALLS sum(INCALLS) (for the "Totals" line)
Avg Speed Ans	The average time, in minutes and seconds, that split/skill and direct agent ACD calls waited before they were answered by an agent. This item includes only calls that were answered as a result of processing by this vector.	ANSTIME/ACDCALLS <AVG_ANSWER_SPEED> sum(AVG_ANSWER_SPEED) (for the "Totals" line)
Calls Ans in Main	The number of calls that, in the specified time period, were answered by an agent in a main split/skill because of processing by this vector. This report item does not includes direct agent calls.	ACDCALLS - BACKUPCALLS sum(ACDCALLS) - sum(BACKUPCALLS) (for the "Totals" line)
Calls Ans In Backup	The number of calls that, in the specified time period, were answered by an agent in a backup split/skill using a vector command other than "queue to main". This report item also includes messaging split/skill calls, check backup calls, route to split/skill calls, and direct agent calls.	BACKUPCALLS sum(BACKUPCALLS) (for the "Totals" line)

Table 5-36: Vector Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Calls Aban	The number of calls that were abandoned by the caller while in vector processing. This item includes calls that abandoned either while in a split/skill or direct agent queue or while ringing at agent voice terminals or while in vector processing (call needn't have queued yet). The number of calls applies for the specified time period.	ABNCALLS sum(ABNCALLS) (for the "Totals" line)
Avg Aban Time	The average time, in minutes and seconds, that calls waited in vector processing before they were abandoned.	ABNTIME/ABNCALLS <AVG_ABANDON_TIME> sum(AVG_ABANDON_TIME) (for the "Totals" line)
Calls Forced Busy	The number of calls that, in the specified time period, received a forced busy signal as a result of processing by this vector.	BUSYCALLS sum(BUSYCALLS) (for the "Totals" line)
Calls Forced Disc	The number of calls that, in the specified time period, received a forced disconnect as a result of processing by the vector. For Generic 2.1, System 85, and Generic 3, calls are counted in this report if callers were disconnected after listening to the entire announcement, otherwise they are counted as abandoned calls.	DISCCALLS sum(DISCCALLS) (for the "Totals" line)
Vector Flow In	The number of calls that, in the specified time period, were redirected to this vector from within the switch via "route to VDN" and "go to vector" commands.	INFLOWCALLS sum(INFLOWCALLS) (for the "Totals" line)
Vector Flow Out	Number of calls that, in the specified time period, were redirected to another destination by way of a "go to vector", "route to", or "adjunct routing" command to a destination other than split/skill or direct agent. (Calls that route to a split/skill by way of a "route to," "adjunct routing," or "messaging split/skill" command are still tracked in the vector.)	OUTFLOWCALLS sum(OUTFLOWCALLS) (for the "Totals" line)

Table 5-36: Vector Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Other Calls Connect	The number of calls that were connected to a non-ACD destination (while being processed by the vector). With Generic 2.2 and Generic 3, <i>connected</i> means calls answered at a non-ACD destination. With Generic 2.1 and System 85, <i>connected</i> means calls ringing at the non-ACD destination.	CONNECTCALLS
Avg Time in Vector	The average time, in minutes and seconds, that calls were connected to the vector. This average, which applies to the specified time period of the report, is for all calls to the VDN. The item includes calls that were abandoned, disconnected calls, interflowed calls, and so on. Talk time is not included because calls are removed from the vector when the calls connect to agent voice terminals. Vector processing stops when the STOP step or the GOTO vector step is processed or the ROUTE TO completes successfully; or at the completion of the last step in the vector, busy or disconnect is sent, the call abandons, messaging split/skill or adjunct routing succeeds.	INTIME/INCALLS <AVG_VEC_TIME> $\text{sum(INTIME) / sum(INCALLS)}$ (for the "Totals" line)

Call Record

The Call Record report allows you to view selected information about each call. For example, you might have a caller that complained about being put on hold three times and then transferred. This report gives you this type of information about a call.

Things to Know About This Report

- With call records, the call is tracked up until it is transferred or conferenced. At that time, there will be two records for the call.
- Call records are limited to 5000 records.



To protect the real-time processing on CMS, internal call records can only be collected if your call center's traffic is under 400 calls in 20 minutes.

- The standard Call Record report is provided to be used as a model for customized call record reports. Most call record reporting will need to be done from custom reports tailored to your needs.



See Appendix A, "Database Items and Calculations"—Call Record Historical Database Items," for a complete listing of the call record historical database items.

- The standard Call Record report does not appear on the report menu if you have installed an external call record collection and reporting application.

Relationships to Other Subsystems

Custom Reports

See the AT&T 585-215-523, *Call Management System Custom Reports*, document for creating and using custom reports.

If you use the database item DISPOSITION in a custom report, see Table A-23, "Call Disposition and Row Search Values Cross-Reference," on page 84 in Appendix A, "Database Items and Calculations".

System Setup

You must allocate space to store call records in order to collect call record data. See Chapter 11, "System Setup"—Free Space Allocation," for more information.

Call Record Input Window

You must fill out the Call Record report input window to run your report. The field descriptions follow.

06/04/93 3:30 PM Call Management System Windows: 1 of 1 ^

Rpts: Hist: Call Record Input acd1

Start date: _____ Run

Start time: _____

Stop date: _____

Stop time: _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 5-81: Call Record Report Input Window Example

Field Descriptions

Start date:

Enter the start date for which you want the report to run.

- The report runs for all calls answered by the split/skill from the Start date and Start time through the Stop date and Stop time.

Start time:

Enter the start time for which the report is to be run.

Stop date:

Enter the date through which you want the report to run.

- The report will be run for all calls answered by the split/skill from the Start date and Start time through the Stop date and Stop time.

Stop time:

Enter the stop time for which the report is to be run.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Call Record Report Example

An example of the report follows along with a description of each report item.

Call Record Report																
Start: mm/dd/yy hh:mm AM										Printed: mm/dd/yy hh:mm AM						
Stop: mm/dd/yy hh:mm PM										ACD: xxxxxxxxxxxxxxxxxxxx						
Callid	Seg No.	Start Date	Start Time	Calling Party	Dialed Number	Call Disp	Disp Time	Split/Skill	Ans Agent	Talk Time	Hold Time	After Call	Trs	Cnf	Ast	Last Call Work Code
xxxxxxxxxx	xx	mm/dd/yy	hh:mm:ss	xxxxxxxxxx	xxxxxxxxxx	xxxx	mm:ss	xxx	xxxxx	mm:ss	mm:ss	mm:ss	x	x	x	xxxxxxxxxxxxxxxxxx
xxxxxxxxxx	xx	mm/dd/yy	hh:mm:ss	xxxxxxxxxx	xxxxxxxxxx	xxxx	mm:ss	xxx	xxxxx	mm:ss	mm:ss	mm:ss	x	x	x	xxxxxxxxxxxxxxxxxx
xxxxxxxxxx	xx	mm/dd/yy	hh:mm:ss	xxxxxxxxxx	xxxxxxxxxx	xxxx	mm:ss	xxx	xxxxx	mm:ss	mm:ss	mm:ss	x	x	x	xxxxxxxxxxxxxxxxxx
xxxxxxxxxx	xx	mm/dd/yy	hh:mm:ss	xxxxxxxxxx	xxxxxxxxxx	xxxx	mm:ss	xxx	xxxxx	mm:ss	mm:ss	mm:ss	x	x	x	xxxxxxxxxxxxxxxxxx

Figure 5-82: Call Record Report Example

Table 5-37: Call Record Report Description

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Start	The starting date and time for which the report was requested.	No database item or calculation.
Printed	Date and time the report was sent to be printed.	No database item or calculation.
Stop	The ending date and time for which you requested the report.	No database item or calculation.
ACD	The name or number of the ACD for which the report was run.	SYN(ACD)
Callid	A unique number assigned to this call and all its segments. For conferenced/transferred calls, two (or more) calls are tied together. When the entire call is recorded, one call ID is used to tie together all call segments. This may result in a “later” segment of the call starting earlier than the first segment. Call IDs are not necessarily strictly sequential, but will be unique for calls over a day.	CALLID
Seg No.	The number identifying the segment. Segment numbers are from 1 up to the number of segments in the call.	SEGMENT
Start Date	The starting date for this segment.	ROW_DATE
Start Time	The starting time for this segment.	ROW_TIME
Calling Party	The Automatic Number Identification (ANI)/Station Identification (SID) (Generic 2.2 with ANI delivery), extension or trunk equipment location identifying the originator of the call.	CALLING_PTY
Dialed Number	The number the caller dialed. This will be the VDN for inbound vectoring calls and dialed digits for outbound calls. This will be zero for inbound calls without vectoring.	DIALED_NUM

Table 5-37: Call Record Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Call Disp	Represents the call disposition and can have the following values: connected (non-ACD call to a measured agent), answered call (split/skill or Direct Agent call answered by an agent), abandoned call, interflowed, forced busy, forced disconnect and other. A connected call is a non-ACD call to a measured agent for which CMS receives an indication that the call was connected or, in the case of System 85 R2V4 and Generic 2.1, any call that was delivered to an extension by a "route to" vector command (CMS receives no indication the call abandons). An answered call is any split/skill or direct agent ACD call for which CMS receives an indication that the call was answered by an agent. An abandoned call is any call for which CMS receives notification that the caller abandoned. Interflowed call are calls that are interflowed to another destination. Forced busy calls are calls that CMS records as BUSYCALLS for the trunk group that carried them. These calls can be VDN calls that received a forced busy from the vector command or, on the Generic 1 and Generic 3 switches, a split/skill call for a nonvector-controlled split that received a busy indication from the switch because the split queue was full. For Generic 2.2, forced disconnect calls are VDN calls that are disconnected by the switch due to the execution of a disconnect vector command. For System 85 R2V4, Generic 2.1, and Generic 3, forced disconnect calls are calls that were given a forced disconnect announcement and listened to the entire announcement, then were disconnected by the switch. For Generic 3 Version 2, disconnect calls also include calls disconnected because of the vector disconnect timer or because they reached the end of vector processing without being queued. Other calls are any other calls.	DISPOSITION
Disp Time	The wait time (in the vector, in queue, ringing) until the disposition recorded in DISPOSITION for the call segment. For extension calls made directly to agents (not through a VDN), this will always be zero.	DISPTIME

Table 5-37: Call Record Report Description (Contd)

Report Heading	Description	Database Item, Calculation, or <Calculation Name>
Split/Skill	The number of the answering split or skill associated with the call at its disposition in this segment. Calls that were not queued to a split or skill at the time of disposition will have this item set to -1. Calls that were queued to an unmeasured split or skill at the time of disposition will have this item set to zero.	DISPSPLIT
Ans Agent	The login ID of the agent who answered the call in this segment.	ANSLOGIN
Talk Time	The total talk time for the answering agent in this segment.	TALKTIME
Hold Time	Total time call was put on hold by the answering agent, in seconds, in this segment. Note that in agent-to-agent calls, ANSHOLDTIME is accrued for the answering agent if the agent puts the call on hold, but not for the other agent (who continues to accrue talk time). Hold time is recorded for any type of call for Generic 2.2 and Generic 3. Hold time is recorded only for ACD calls for System 85 and Generic 2.1. Hold time is not recorded for Generic 1 switches.	ANSHOLDTIME
After Call	Time spent in ACW (after call work) related to this call by the answering agent in this segment, in seconds.	ACWTIME
Trs	Whether or not an answering agent initiated a transfer on this segment (Y/N). For Generic 2.2 and Generic 3 switches, this is set for any call transferred. For System 85 and Generic 2.1 switches, this is set for transfers to a measured VDN or split. For Generic 1 switches, this is set only if a measured call is transferred to a measured split or from a measured trunk to a measured trunk.	TRANSFERRED
Cnf	Whether or not the answering agent initiated a conference on this segment (Y/N).	CONFERENCE
Ast	Whether or not the answering agent in this segment requested supervisor assistance on this call (Y/N).	ASSIST
Last Call Work Code	The last call work code entered by the answering agent in this segment. This database item applies to Generic 2.2 and Generic 3 only.	LASTCWC

Historical Reports Cross Reference

The following tables list the historical report items and the reports in which they appear.

Table 5-38: Historical Split/Skill Report Items Cross Reference

Report Items	Historical Reports in Which They Appear									
	Split/Skill & VDN Status	Split/Skill & VDN Report	Split/Skill & VDN Summary	Split/Skill & VDN Call Profile	Split/Skill & VDN Call Profile Graph	Outbound Split/Skill	Split/Skill & VDN Service Level Graph	Average Speed of Answer Graph	VDN Skill Preference	Multi-ACD Call Flow by VDN
% ACD Calls Answered							X	X		
% ACD Time			X							
% AUX Time			X							
% Abandoned						X				
% Answered			X							
% Answered within Service Level	X			X	X		X (VDN)			
ACD Calls	X	X	X							
ACD Calls Answered by Skill									X	
Abandoned Calls	X		X	X	X				X	X
Adjunct Routing										X
(Agent Time) ACD		X								
(Agent Time) ACT		X								
(Agent Time) AUX		X								
(Agent Time) Available		X								
(Agent Time) Ring		X								
(Agent Time) Staff		X								
Answered/Connected				X	X				X	X
Assists		X								
Auto-Paced Average Talk Time						X				
Average After Call		X	X						X	
Average After Call by Skill									X	
Average Hold Time		X								
Average Position Staffed			X							
Average Speed of Answer	X		X	X					X	
Average Talk Time		X	X						X	
Average Talk Time by Skill									X	
Average Time to Abandon	X		X	X					X	
Average Time in VDN									X	
Call Handled/Backup										X
Calls Busy/Disconnect										X
Calls Held		X								
Calls Offered									X	X
Calls Per Position			X							
Dequeued Average Que Time			X							
Dequeued Calls			X							
(Extension Out) Average Talk Time			X							
Extension Out Calls			X							
Flow In			X							
Flow Out			X							
Lookahead Interflow										X
Maximum Delay			X							
(Outbound) Auto-Paced Average After Call						X				

Table 5-38: Historical Split/Skill Report Items Cross Reference (Contd)

Report Items	Historical Reports in Which They Appear									
	Split/Skill & VDN Status	Split/Skill & VDN Report	Split/Skill & VDN Summary	Split/Skill & VDN Call Profile	Split/Skill & VDN Call Profile Graph	Outbound Split/Skill	Split/Skill & VDN Service Level Graph	Average Speed of Answer Graph	VDN Skill Preference	Multi-ACD Call Flow by VDN
(Outbound) Auto-Paced Calls						X				
(Outbound) Extension Adjunct Dialed Calls						X				
(Outbound) Extension Average Talk Time						X				
(Outbound) Extension Calls						X				
Percentage Answered				X						
Seconds							X (Split)			
Time			X			X				
Total Calls Abandoned				X						
Total Calls Answered				X						
Transferred Out		X								
VDN Flow										X

Table 5-39: Historical Agent Report Items Cross Reference

Report Items	Historical Reports in Which They Appear								
	Agent Summary	Agent Split/Skill	Agent Attendance	Group Attendance	Login/Logout (Split)	Login/Logout (Skill)	Event Count	Group Summary	Inbound/Outbound Call
ACD Calls	X	X	X	X			X	X	
ACW Time Total		X	X	X					
(Agent Time) ACD	X		X	X				X	
(Agent Time) ACW	X							X	
(Agent Time) AUX	X							X	
(Agent Time) Available	X							X	
(Agent Time) Ring	X							X	
(Agent Time) Staff	X								X
Assists\		X							X
Average After Call	X							X	
Average Hold Time	X								
Average Talk Time	X							X	
Calls Held	X	X							
Event Count (1-9)								X	
Extension					X	X			
(Extension IN) Average Talk Time	X							X	X
Extension In Calls	X	X	X	X				X	X
Extension In Time Total			X	X					
(Extension In) Total Talk Time		X							
(Extension Out) Average Talk Time	X							X	X
Extension Out Calls	X	X	X	X				X	X
(Extension Out External) Avg Talk Time									X
(Extension Out) External Calls		X							X
(Extension Out) External Total Talk Time		X							
Extension Out Time Total			X	X					
(Extension Out) Total Talk Time		X							
Hold Time Total		X							
(Inbound ACD) Average After Call									X
(Inbound ACD) Average Talk Time									X
(Inbound ACD) Calls									X
(Outbound ACD) Calls									X
(Outbound ACD) Average After Call									X
(Outbound ACD) Average Talk Time									X
Skill 1-4						X			
Skill Type						X			
Talk Time Total		X							
Time Agent Logged In					X	X			
Time Agent Logged Out					X	X			
Time Staffed Total			X	X					
Transfers Out	X	X							X

Table 5-40: Historical System Report Items Cross Reference

Report Items	Historical Reports in Which They Appear		
	System Report	Multi-ACD	Multi-ACD by Split/Skill
% ACD Time	X	X	X
% Answered	X	X	X
ACD Calls	X	X	X
Abandon Calls	X	X	X
Average Abandon Time	X	X	X
Average Speed of Answer	X	X	X
Average Split/Skill After Call	X	X	X
Average Talk Time	X	X	X
(Extension Out) Average Talk Time	X	X	X
Extension Out Calls	X	X	X
Flow In	X		X
Flow Out	X		X
Maximum Delay	X	X	X

Table 5-41: Historical Trunk/Trunk Group Report Items Cross Reference

Report Items	Historical Reports in Which They Appear			
	Trunk Report	Trunk Group	Trunk Group Summary	Busy Hour
% Occupied				X
% Time All Trunks Busy			X	X
% Time Maintenance Busy			X	
Average Trunk Holding Time				X
Busy Hour				X
Calls Abandoned				X
Calls Answered				X
Calls Carried				X
Inbound Average Trunk Holding Time	X	X	X	
Inbound Calls Abandoned	X	X	X	
Inbound Calls Answered			X	
Inbound Calls Carried	X	X	X	X
Inbound Other Calls			X	
Inbound Total CCS	X	X	X	
Number of Trunks			X	
Other Calls				X
Outbound Calls Abandoned	X	X	X	
Outbound Calls Answered			X	
Outbound Calls Blocked			X	
Outbound Calls Carried	X	X	X	
Outbound Far End Comp			X	
Outbound Other Calls			X	
Outbound Total CCS	X	X	X	
Time Maintenance Busy	X			
Trunk Failures		X		
Trunk Location	X	X		

General Information

You create, modify, view, and delete timetables and shortcuts from the **Keep** SLK menu (Figure 6-1). A **timetable** is an activity or group of activities (like reports) scheduled for completion at a time that is convenient and nondisruptive for your call center's operation. A **shortcut** happens immediately and is a fast, easy way to select windows that you might look at every day or several times during the day.

When you create or edit a timetable or shortcut, you enter the Keep mode. This mode indicates that you can edit and save your timetable and shortcut tasks.

A **task** is a combination of inputs on a user window (like a report input window) and the completed action list selection Add, Modify, Delete, Run, or List all) which, when executed, performs an operation (for example, filling in a report input window, and then running the report).

When you leave the Keep mode, you return to the *Normal* mode.

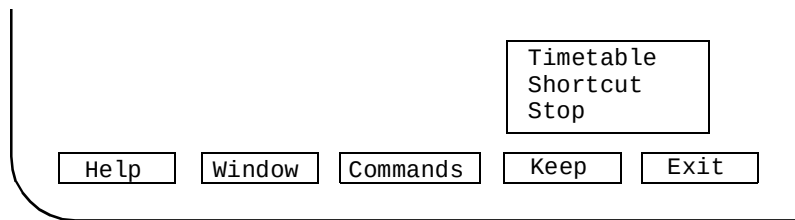


Figure 6-1: Keep SLK Menu

Keep Menu-Item Description

Timetable

Takes you to the user window where you create, modify, view, or delete timetables. See the Timetable section later in this chapter.

Shortcut

Takes you to the user window where you create, modify, view, or delete shortcuts. See the Shortcuts section later in this chapter.

Stop

Takes you out of the add or edit mode for a timetable or shortcut at which time an Acknowledgment appears asking you if you want the additions or changes saved.

Note

Stop does **not** stop the execution of a timetable or shortcut. For example, you enter a shortcut name and press **Return**. Then you decide you really don't want to run that shortcut and try stopping it by selecting Stop. Stop does not stop your shortcut from running after you have initially started it. The same is also true for a timetable.

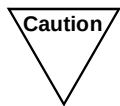
Timetable

Purpose

Timetable gives you the option of scheduling one or more tasks for completion at a time that is convenient and nondisruptive to your call center's operation.

Things to Know Before You Start

- Timetable runs in the background (not on your terminal—output is usually print requests or UNIX system files).
- Data summaries are already scheduled to run on a timetable when you receive your system. You cannot access or change these timetables.
- A full backup and incremental backup have been created on a timetable for you, but neither has been scheduled. You have to schedule an incremental and full backup to run.
- When scheduling VDN moves, you need to group all VDN moves together on a single timetable or schedule them far enough apart so that one move completes before the next one starts.
- Timetables that fail to run are logged to the customer error log. The `List all` action item on the Timetable window also displays the status of timetables.
- Each timetable can have up to 100 tasks (entries) that can be scheduled.
- You can only schedule five timetables for the same start time (minute).



If the switch clock or UNIX system clock is inadvertently changed to a date and time in advance of the current date and time, any timetables scheduled to run between the current time and the new clock time will start running immediately. If **all** timetables start running at the same time, your CMS will be extremely slow until all timetables finish running. See "Timetables and the Switch Clock" section later in this chapter for more information and procedures.

- You cannot put real-time reports, custom real-time reports, the Vector Contents window (if you have the Vectoring feature), custom

report creation, the real-time exceptions log, or any window that requires CMS be in the single-user mode on a timetable.

Also, you cannot place a timetable on another timetable.

- If you are putting agent group reports on a timetable, make sure you enter the group name correctly. CMS does not check to see if the group name you entered exists in the Dictionary subsystem. Therefore, if you enter a name that is misspelled, the report request runs, but does not contain data because the group does not exist. You have to modify this task on the timetable to reenter the correct group name.
- You cannot change the ACD (real or pseudo) associated with a timetable task. It is possible to have tasks associated with different ACDs on the same timetable.

Note

You can change the ACD before creating a task, but once a task is defined (window, data, and action), the ACD association is fixed for that window. If you want the same window for a different ACD, you must delete the original window and add a new one with a different ACD.

To change the ACD, change the ACD using the **Commands** SLK. See Chapter 2, "User Basics", for the procedures on changing your current ACD.

- When you select Timetable, you are automatically placed in the Keep mode when an Add, Get contents: add tasks, or Get Contents: modify action list selection is made. This means that you are not able to access windows that existed before you entered the Keep mode. The pre-Keep windows will reappear in their same location after you exit the Keep mode.
- A task (which is created before you enter the Keep mode) is stored with each Add, Delete, Modify, Run, and List all action list selection. Action list selections not saved by CMS are Find one, Next, Previous, and Get contents. With Find one, Next, Previous, and Get contents, the action happens immediately.
- *Normal* users (not administrators) cannot add, modify, or delete another user's timetables or entries, but normal users can view other users' timetables.
- You cannot select the terminal as a destination for report output on a timetable.
- You cannot move or size windows in the timetable edit mode.

- CMS makes every attempt to run each task on a timetable. If an event (such as an Acknowledge window that requires a yes or no response) occurs, then the timetable run is stopped. Tasks in a timetable for which you do not have permission will fail, but the other tasks will complete.

Note

Check the List all window on the timetable and the Error Log Report in the Maintenance subsystem to verify the status of a timetable.

- The **Current** key in the Keep mode only rotates through your timetable windows; it does **not** rotate through any windows opened before you entered the Keep mode.
- To print a report multiple times on a timetable, you must enter the task(s) each time on the timetable (for example, if you want three copies of the Split report, enter the task three different times).
- The timetable printout automatically goes to your default printer unless you change the printer destination. If you give timetable tasks a printer destination other than your default printer and that printer is removed, your timetable will not run and you have to remove that printer destination from the timetable tasks and then reenter a new printer destination.

If your default printer is changed, CMS sends your timetables to your new default printer automatically. You do not have to change the timetable tasks.

Note

If your printer jams, you must resubmit any print request that did not print.

**Prerequisite
System
Administration**

- Your CMS user ID must be entered into CMS. See Chapter 10, "User Permissions"—User Data.
- To create, modify, or delete timetables, you need **write** permission for Timetable. See Chapter 10, "User Permissions"—Feature Access," for more information.
- To view timetables, you need **read** permission for Timetable. See Chapter 10, "User Permissions"—Feature Access," for more information.

**Relationships to
Other
Subsystems**

User Permissions

If you delete a CMS user ID (from the User Permissions — User Data window) that has timetables, you are asked if you want to save and rename the timetables owned by the deleted user in your user ID's directory.

If you change a user's access permissions, it could affect the timetables that the user has scheduled. For example, if a user has access to Splits 1, 2, 3, and 4, and you change the user's permissions to Splits 1, 2, and 4, all timetable tasks that user has scheduled for Split 3 will not run (or will display no data for Split 3).

**Timetable Input
Window**

From this window, you can add, copy, modify, delete, and view timetables. The action list item `Get contents` also allows you to add, modify, delete, and view the tasks for a timetable.

03/20/93 08:30 AM	Call Management System	Window: 1 of 1 ^
Timetable Timetable name: _____ Description: _____ User ID: _____ Start time: _____ Start date: _____ Frequency and attributes (Select only one): <x> Once < > Dates: _____ _____ _____ < > Hourly, Stop time: 11:59 PM < > Daily Hourly/Daily, Days (Select any you wish): ☒ Sunday ☒ Monday ☒ Tuesday ☒ Wednesday ☒ Thursday ☒ Friday ☒ Saturday Add Copy Delete Find one Get contents List all Modify Next Previous		

Figure 6-2: Timetable Input Window

Error Messages

Failed

If you are creating or editing a timetable and receive this message, first do a **Get contents** and make sure your timetable was saved. If it was, simply reschedule the timetable. If it was not saved, call AT&T ACD/CMS Help on 1-800-344-9670.

Note

Always check the Error Log report (Maintenance subsystem) before calling the ACD/CMS Helpline. It's possible you can correct the error.

Field Descriptions

Timetable name: (Required for Add)

Enter a unique name for the timetable. The timetable name may have up to 20 characters. The timetable name should be meaningful to your call center because it appears on the List All window identifying the timetable.

Description: (Optional field)

Enter a description of the timetable. The description may be up to 50 characters.

User ID: (Required for Add)

Enter your CMS user ID.

Start time: (Required to schedule)

Enter the time you want this timetable to begin running.

- You can use a.m./p.m. format (for example, 2:30AM). If a.m. or p.m. is not specified, then military time (24-hour clock) is assumed.
- You can also enter a time as “hh” or “hhAM” (for example, 2AM) or “hh:mm” or “hh:mmAM” (for example, 2:30AM).



If the time entered is in the past and the start date is today, the timetable is not scheduled.

Start date: (Required to schedule)

Enter the day (for example, 7/7/93) you want the timetable to start running.

- You can use the month/day/year format (7/7/93).
- You can also use a “+” offset based on today's day or -0 for today.



You get an error message if you enter an invalid date like 2/30 (February 30). Also, if your start date is in the past, the timetable is not scheduled.

Frequency and attributes (Select only one):

(Required for Add)

< > Once

The timetable runs only one time, at the date and time you specified.

Dates:

These fields are for monthly and quarterly timetables or any specific date.

For monthly timetables, enter the specific day each month you want this timetable to run (for example, 1/1/93, 2/1/93, 3/1/93, 4/1/93 in each individual row and field).

For quarterly timetables, enter the specific day every 3 months you want this timetable to run (for example, 1/1/93, 4/1/93, 7/1/93, 10/1/93 in each individual row and field).

Note

If you enter an invalid date like 2/30, you get an error message.

< > Hourly, Stop time:

If you want this timetable to run hourly, enter a stop time (for example, 10:59 PM). The timetable runs each hour up to the stop time each day.

Note

The time entered in the Hourly, Stop time field should be greater than the start time for the timetable to be scheduled.

< > Daily

The timetable runs daily, on the days you specify below.

Hourly/Daily, Days (Select any you wish):

Enter an **x** next to the day(s) of the week you want the timetable to run. The default for **Daily** is every day of the week.

For weekly timetables, enter an **x** next to the one day you want the timetable to run each week.

Creating and Scheduling a Timetable

Note

To get out of Timetable at any time without saving any changes, select **Stop** from the **Keep** SLK, then answer **n** to the save changes Acknowledgment.

1. Select **Timetable** from the **Keep** SLK menu by entering **T** (or by highlighting Timetable) and then pressing **Return**.

→ *The Starting Timetable Acknowledgment displays briefly.*
The Timetable Input window displays. (All other windows are temporarily closed.)
2. Enter a name that is *unique to your user ID* in the **Timetable name** field. Go to the next field.

|
3. Enter a description for the timetable in the **Description** field. Go to the next field.

|
4. Enter your user ID in the **User ID** field. Go to the next field.

|
5. Enter the time you want your timetable to start running in the **Start time** field.

|

Note

Enter the time in either of the following formats “hh” or “hh:mm.” If AM or PM is not specified, the 24-hour format is assumed.

Go to the next field.

|

Note

If you want to run a timetable immediately, set the start time to a few minutes in the future (e.g., 2 minutes from now).

6. Enter the date you want your timetable to start running in the Start date field. Go to the next field.

7. Enter an **x** next to how often you want your timetable to run (Frequency).

→ *If you select Once, your timetable runs only one time.*

→ *If you select Hourly, Stop time, enter the time you want the timetable to stop running.*

→ *If you select Dates, enter the specific dates.*

→ *If you select Daily, for daily reports, enter **x** next to the days of the week you want the timetable to run. For weekly reports, enter only one day.*

8. Press **Return**. The cursor moves to the action list. Highlight Add and press **Return** to add the timetable to CMS.

→ *Add is highlighted, and Working appears on the status line.*

Note

Only five timetables can be scheduled for the same start time.

If the timetable name already exists, Already exists appears on the status line and you have to enter another timetable name.

If all entries are valid, Successful appears on the status line and the Main Menu displays.

9. From the Main Menu, go to the task (using the normal menu selection rules) that you want to schedule.

→ *The Main Menu status line shows Keeping Entries.*

10. Complete the required field entries on the user window, and select an action list item. → *When each action list selection is made and validated, Entries Stored displays on the status line of the current user window.*

11. Repeat the user window and action list selections for each task you want to schedule on this timetable.

Note You can reuse an open window on the screen by using the **Current** SLK to select the window and make it current, then reenter the data, and make an action list selection. For example, if you've selected the historical Split Summary Interval report and want reports for splits 1 through 9 with the same date and times, select from the Main Menu the appropriate window, then enter 1 for the split number, 0 for the date, 8:00-16:00 for times. Select the action list Run, and one task is stored. Now, change split 1 and 2 and select Run, and task two has been created. Continue these steps for splits 3 through 9. You have now created nine timetable tasks and have only used the Main Menu once.

12. When you have finished adding tasks to this timetable, press the **Keep** SLK and select Stop from the menu. → *An Acknowledgment displays.*
13. Enter **y** and press **Return** to save your timetable. → *Your tasks are now scheduled on a timetable.*
All user windows are closed, and you are returned to the Timetable window.
14. Press the **Exit** SLK to close the Timetable window and return to your previously opened window. → *Your previous normal open user windows display.*

Creating and Not Scheduling a Timetable

Note

To get out of Timetable at any time without saving any changes, select **Stop** from the **Keep** SLK, then answer **n** to the save changes Acknowledgment.

1. Select **Timetable** from the **Keep** SLK menu. → *The Timetable Input window displays.*
2. Enter a *unique* name in the Timetable name field. Go to the next field.
3. Enter a description for the timetable in the Description field. Go to the next field.
4. Enter your user ID in the User ID field. Go to the next field.
5. Skip the Start time and Start date fields and go to the next field.
6. Enter an **x** next to how often you want your timetable to run (Frequency).
 - *If you select Once, your timetable runs only one time.*
 - *If you select Hourly, Stop time, enter the time you want the report to stop running.*
 - *If you select Dates, enter quarterly or monthly dates.*
 - *If you select Daily, Days, for daily reports, enter **x** next to the days of the week you want the timetable to run. For weekly reports, enter only one day.*

7. Press **Return** , highlight Add on the action list, and press **Return** again to add your timetable to CMS. → Working displays on the status line. If all entries are valid, Successful displays on the status line, then the Main Menu displays.

If the timetable name already exists, Already exists displays on the status line and you have to reenter the timetable name.
8. From the Main Menu, go to the task (user window/action list) that you want to schedule. → The status line on the Main Menu shows Keeping Entries.
9. Complete the required field entries on the user window, and select an action list item. → When each action list selection is made and validated, Entries Stored displays on the status line of the current user window.
10. Repeat the user window and action list selections for each task you want to schedule on this timetable.
11. When you have finished adding tasks to this timetable, press the **Keep** SLK and select Stop from the menu.
12. Answer **Y** and press **Return** to save the timetable. → The tasks can now be scheduled on a timetable at your convenience.

All user windows are closed, and you are returned to the timetable window.
13. Press the **Exit** SLK to close the timetable window and return to your previously opened window.

Note

To schedule this timetable later, enter a time in the **Start time** field, a date in the **Start date** field, and select **Modify** on the action list.

Editing an Existing Timetable

The Get Contents action for Timetable allows you to do the following to an existing timetable:

- Add tasks
- Copy tasks
- Delete tasks
- Globally edit tasks
- Modify tasks

When you choose the Get Contents action from the Timetable Input window, the secondary window shown in Figure 6-3 displays.

03/20/93 08:30 AM

Call Management System

Window: 1 of 10 ^

Timetable

Timetable name: _____

Description: _____

User ID: _____

Start time: _____

Start date: _____

Frequency and attributes (Select only one):
<x> Once
< > Dates: _____

Add

Copy

Delete

Find one

Get contents

List all

Modify

Next

Previous

Timetable: Get Contents

Task number(s): _____

Timetable: Miscellaneous Number of tasks; 32

Task	Action	Window title	Value
1	Run	Rpts: Hist: Agent: Attendance: Daily Input	Smith
2	Run	Rpts: Hist: Agent: Attendance: Daily Input	Jonat
3	Run	Rpts: Hist: Split: Summary: Interval Input	Sally
4	Run	Rpts: Hist VDN: Report: Daily Input	55545
5	Add	User Permissions: User Data	shk sarah
6	List all	User Permissions: User Date	
7	Run	Rpts: Hist: System: Multi-ACD: Weekly Input	Custom -7

Add tasks

Copy

Delete

Global edit

Modify

Figure 6-3: Timetable Get Contents Window Example

Field Descriptions**Task number(s) :**

Enter a list or range of task numbers in the timetable. This is explained later in the chapter.

Task

Display-only column that lists the number corresponding to each task's position in the timetable.

Action

Display-only column that lists the action associated with each task.

Window Title

Display-only column that lists the title of the window that constitutes each task.

Values

Display-only column that lists the input data associated with each task.

Adding Tasks to an Existing Timetable

The `Add tasks` action returns you to the Main Menu and allows you to add tasks to the timetable in the same manner in which you add tasks when you first create a timetable.

Note If you want to add a task to the beginning of the timetable, leave the `Task number(s)` field blank and the new task will be added before the first task.

If you are adding tasks to a timetable with zero (0) tasks, leave the `Task number(s)` field blank .

When you are finished adding tasks to the timetable, select `Stop` from the `Keep` SLK. An Acknowledgment window displays asking whether the changes should be saved. After you have answered the questions, you are returned to the Get Contents window. The new tasks you added are displayed in this window following the task you specified. Subsequent tasks are renumbered.

Note To get out of Timetable at any time without saving any changes, select `Stop` from the `Keep` SLK, then answer `n` to the save changes Acknowledgment.

1. Select **Timetable** from the `Keep` SLK menu.

→ *The Timetable Input window displays.*

2. Enter the name of the timetable to which you want to add a task in the `Timetable name` field.

3. Press the `Return` key, then highlight `Get contents` on the action list. Press the `Return` key again.

→ *The Timetable: Get Contents window displays. You are now in the Keep mode.*

The timetable must already exist and only the owner of the timetable or a CMS administrator can edit it.

4. In the Task number (s) field, enter the number of the existing task that you want the new task(s) to follow. Press the **Return** key.
 - *If you want to add a task to the beginning of the timetable, leave the Task number (s) field blank and the new task will be added before the first task.*
 - If you are adding tasks to a timetable with zero (0) tasks, leave the Task number (s) field blank .*
5. Select the Add tasks action and press the **Return** key.
 - *The Main Menu displays.*
 - When you create a new task, it is added after the task number you entered.*
 - If you select the **Exit** SLK and you have not selected an action list entry, the task will **not** be saved.*
6. From the Main Menu, go to the task (using normal menu selection rules) that you want to schedule.
 - *The status line on the Main Menu shows Keeping Entries.*
7. Complete the required field entries on the user window, and select an action list item.
 - *When each action list selection is made and validated, Entries Stored displays on the status line of the current user window.*
8. Repeat the above steps to add as many tasks as you need to.
9. When you are done adding tasks, press the **Keep** SLK and select Stop.
 - *An Acknowledgment asks if you want to save your changes.*
10. Enter **Y** to save the new tasks.
11. Press the **Return** key.
 - *The Timetable: Get Contents window displays with the entries you chose in the preceding menu.*

12. Press the **Exit** key.

→ *The Get Contents window is closed and the Timetable window displays.*

Copying Tasks for an Existing Timetable

The **Copy** action makes a copy of each task you entered in the input field. After you select this action, a secondary window displays (see Figure 6-4) to allow you to specify whether the copies are to be placed after a specified task in the timetable or whether each copy should appear directly following the task for which it is a copy. The default is to place the copies after the last task in the timetable.

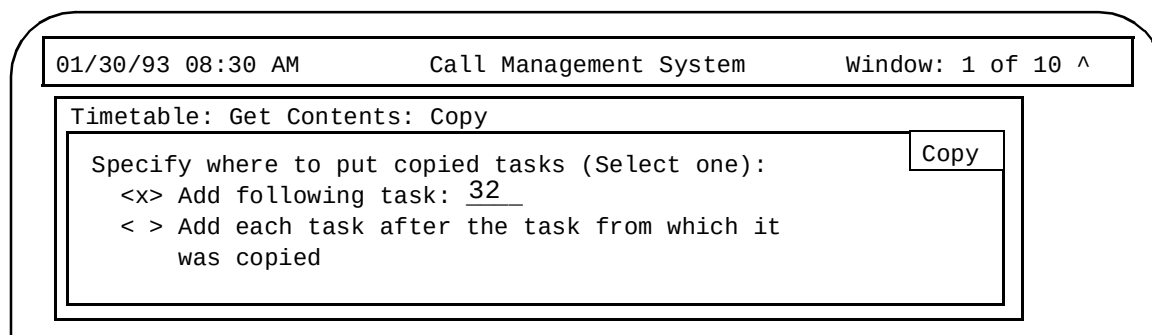


Figure 6-4: Timetable Get Contents Copy Action Window Example

After you have entered your choice and selected the **Copy** action, the copies are made. If the copy succeeded, the status line displays **Successful** and the cursor returns to the input field of the **Get Contents** window. If the copy *did not* succeed, **Failed** appears on the status line and an **Acknowledgment** window explains the reason for the failure.

If you try to copy so many tasks that you exceed the 100-task limit for timetables, the **Copy** action fails, none of the tasks are copied, the status line displays **Failed**, and an error **Acknowledgment** informs you that you cannot copy so many tasks to the timetable.

Note

You may not specify the same task more than once when using the **Copy** action on the **Timetable: Get Contents** window. If you do so, or specify overlapping ranges, an error message displays.

1. Select **Timetable** from the **Keep** SLK menu. → *The Timetable Input window displays.*
2. Enter the name of the timetable to which you want to add tasks in the **Timetable** name field.

3. Press the **Return** key, then highlight Get Contents on the action list. Press the **Return** key again.

→ *The Timetable: Get Contents window displays. You are now in the Keep mode.*

The timetable must already exist and only the owner of the timetable can edit it (unless the user is an administrator).

4. In the Task number(s) field, enter the numbers of the tasks you want to copy. Press the **Return** key.

Note Tasks are numbered x of N where x is the position in the list, and N is the total number of tasks on the timetable.

5. Select Copy from the action list and press **Return**.

→ *The Timetable: Get Contents: Copy window displays.*

6. Enter an x by the Add following task field or the Add each task after the task for which it was copied field.

Note Choosing Add following task causes the copies to be placed after a specific task in the timetable.

Choosing Add each task after the task for which it was copied causes each copy to appear directly following the task for which it is a copy.

7. Press the **Return** key to move the cursor to the action list. Copy is highlighted. Press **Return** again.

8. Press the **Return** key.

→ *Successful appears in the status line.*

The Timetable: Get Contents window displays.

9. Press the **Exit** key.

→ *The Timetable window displays.*

Deleting Tasks From
an Existing
Timetable

The Delete action deletes the specified task(s) from the timetable.
When the deletion has completed successfully, the status line displays Successful. If the deletion fails, the status line displays Failed and an Acknowledgment window explains the reason for the failure.

1. Select **Timetable** from the **Keep** SLK menu.

→ *The Timetable Input window displays.*
2. Enter a timetable name you want to delete a task from in the Timetable name field.
3. Press the **Return** key, then highlight Get contents on the action list. Press the **Return** key again.

→ *The Timetable: Get Contents window displays.
You are now in the Keep mode.*

The timetable must already exist and only the owner of the timetable can edit it (unless the user is an administrator).
4. In the Task number(s) field, enter the numbers of the tasks you want to delete. Press the **Return** key.

→ *Tasks are displayed in the order they were created.*

Note

You can delete multiple tasks at the same time by entering a range of tasks, or by separating task numbers with a comma.

5. Select Delete from the action list and press **Return**.

→ *Successful appears on the status line.*

The tasks are deleted from the Get Contents window and the remaining tasks renumbered.
6. Press the **Exit** key.

→ *The Timetable window displays.*
- 6-24 CMS Administration

Global Editing of a Timetable

The Global edit action replaces all occurrences of a given input value in the selected tasks by a different value. For example, you may want to run all the reports in a given timetable for three days ago instead of for yesterday. This action allows you to substitute the value “-3” for the value “-1” on *all* of these reports with a single action.

Note

It is advisable in such situations to make a copy of the original timetable and then to edit the *copy*, thus preserving the original timetable to run normally.

When you choose the Global edit action, the secondary window shown in Figure 6-5 is displayed. It allows you to select the type of field whose value(s) will be replaced and to specify the new value.

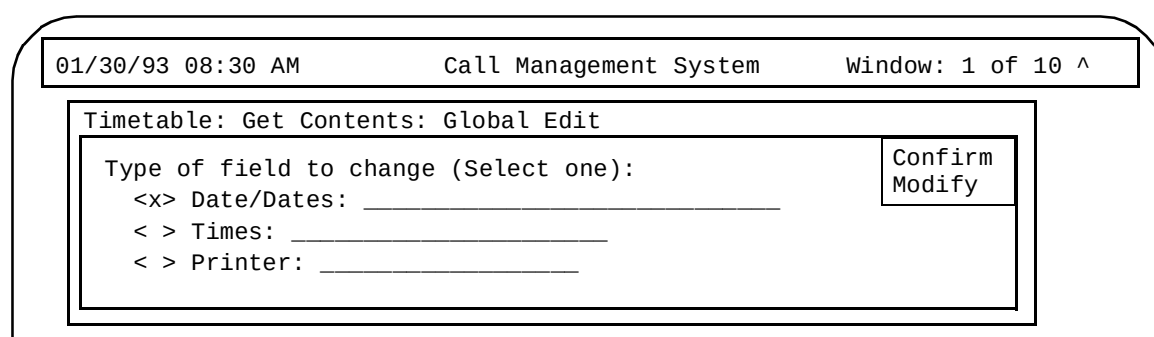


Figure 6-5: Timetable Get Contents Global Edit Window Example

Field/Action List Usage

Confirm

If you choose the Confirm action from the Get Contents: Global Edit window, another secondary window displays, as shown in Figure 6-6. This window lists the tasks that you selected to be changed that have input fields of the type you selected. The values for the input fields for the tasks are displayed, with the new value you specified to be substituted for the original value in the field of the type you selected. Tasks that do not contain input fields of the type you selected do not appear in the Confirm window display.

After you have looked at the Confirm window, you go ahead with the changes by returning to the Global Edit window (using the **Exit** or the **Current** SLK) and selecting **Modify**, or not to make the changes, by returning to the Global Edit window (using the **Exit** or the **Current** SLK) and selecting the **Exit** SLK.

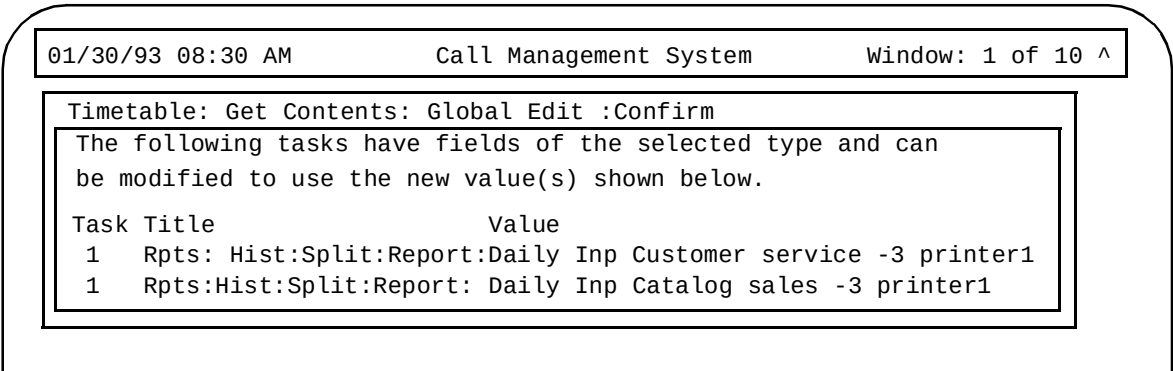


Figure 6-6: Timetable Get Contents Global Edit Confirm Window Example

Modify (Global Edit Window)

If you choose the **Modify** action from the **Get Contents: Global Edit** window, the requested change is made in all the tasks that match the input filed type you specified. The old value(s) in the field is replaced by the new value(s) you entered. If the changes are made successfully, the status line on the window displays **Successful**. If the changes cannot be made successfully, the status line on the window displays **Failed** and an **Acknowledgment** window explains the reason for the failure.

Note

If none of the tasks had an input field of the type you selected for change, the status line displays **Successful**, but no tasks have been modified.

When you return to the **Get Contents** window after invoking a successful **Global Edit**, the changed values are reflected in the **Values** list for each modified task on the display.

Field Descriptions

Type of field to change (Select one):

Enter an **x** in the field corresponding to the type of input field whose value you wish to change.

Enter the new value, list, or range of values to replace the value(s) currently in the fields of the selected type.

Any error detected in the input is reported to you in an error message window and you need to correct it before selecting an action.

1. Select **Timetable** from the **Keep** SLK menu.

→ The *Timetable Input window displays.*

2. Enter the name of the timetable that you want to edit in the Timetable name field.
3. Press the **Return** key, then highlight Get contents on the action list. Press the **Return** key again.

→ *The Timetable: Get Contents window displays. You are now in the Keep mode.*

The timetable must already exist and only the owner of the timetable can edit it (unless the user is an administrator).
4. In the Task number(s) field, enter the numbers of the tasks you want to edit. Press the **Return** key.
5. Select the Global edit action and press the **Return** key.

→ *The Timetable: Get Contents: Global edit window displays.*
6. Enter an **x** by the type of field you wish to change.
7. Enter the **new value(s)** for the field type selected.
8. Press the **Return** key.
9. Select Confirm from the action list and review the changes.

→ *The changes to the tasks are listed out.*
10. Press the **Exit** key to return to the Global Edit window. If changes need to be made to the new values, repeat Steps 7 - 9.
11. When the new values are correct, press the **Return** key.
12. Select Modify from the action list

→ *The status line displays Working and Successful messages, the returns you to the Get Contents window.*
13. Press the **Exit** SLK.

Modifying Tasks Within an Existing Timetable

The **Modify** action, chosen from the Get Contents window, displays the window associated with each of the tasks you entered in the input field. Each window is displayed with the data currently entered for that task. The windows display up one after the other, in the order of the task numbers. Each task has **Task x of N** displayed in its status line to let you know which of the tasks it is. You may change the data for the task, the action for the task or both. You must select an action in order to complete the modification. The default action for the task is the one currently associated with the task. In this way, you can press **Return** twice to complete the modification of task data without changing the action for the task. Once you have selected an action, the window disappears and the window for the next task to be edited displays. When there are no more tasks to modify, you are returned to the Get Contents window. Tasks are ordered as you specify.

Note If you press **Exit** without having selected an action, a Return Acknowledgment appears informing you that the modification for this task is cancelled (that is, none of the input data has been changed for this task). Press **Return** to continue.

When you press **Return** you are shown the window for the next task to be modified or, if there are no more tasks to be modified, you are returned to the Get Contents window. The cursor returns to the input field in the position it was in when you pressed **Return** to move to the action list. The Current and MainMenu SLKs are blocked while you are modifying tasks, and a beep sounds if you select them. The only valid choice on the Keep SLK menu is the **Stop** selection. It can be used to terminate the modifications before you have modified all the tasks you selected and return you to the Get Contents window. The Window SLK is not blocked, although only the Redraw screen option is available.

Note To get out of Timetable at any time without saving any changes, select **Stop** from the **Keep** SLK, then answer **n** to the save changes Acknowledgment.

1. Select **Timetable** from the **Keep** SLK menu. → *The Timetable Input window displays.*
2. Enter the timetable name whose tasks you want to modify in the Timetable name field.

3. Press the **Return** key, then highlight Get contents on the action list. Press the **Return** key again. → *The Timetable: Get Contents window displays. You are now in the Keep mode.*
The timetable must already exist and only the owner of the timetable can edit it (unless the user is an administrator).
4. In the Task number(s) field, enter the numbers of the tasks you want to modify. Press the **Return** key.
5. Select the Modify action. → *The task window for the first task you have selected displays.*
6. Make changes to the task.
7. Press the **Return** key, select the appropriate action, and press the **Return** key again. → *The next task to be modified displays.*
8. Repeat the above steps until all selected tasks are modified. → *After the last task has been modified, a prompt asks you if you want to save your changes.*
9. Type Y to save the modifications.
10. Press the **Return** key. → *The Get Content window displays.*

Copying an Existing Timetable

Note

You can copy timetables from other users, but you cannot copy over an existing timetable.

When you copy a timetable, the schedule information is copied as well as the timetable tasks.

1. Select **Timetable** from the **Keep** SLK menu.

→ *The Timetable Input window displays.*
2. Enter the name of the new timetable to which you want to copy the existing timetable in the **Timetable name** field.
3. Enter your user ID in the **User ID** field.
4. Press **Return**, then highlight **Copy** on the action list, and press **Return** again.

→ *The Timetable: Copy window displays.*
5. Enter the name of the existing timetable you want to copy in the **Copy from** field. Move to the next field.
6. Enter the user ID of the user whose timetable you want to copy in the **User ID** field.
7. Press **Return**, then highlight **Copy** on the action list, and press **Return** again.

→ *If the timetables copies, Successful displays on the status line.*

Note

If you copy a timetable that needs to be rescheduled in order to run, an Acknowledgment notifies you of this during the copy.

8. Press **Exit** to close the Timetable window and return to your previously opened window.

→ *Your previous normal user window(s) display.*

Deleting an Existing Timetable

1. Select **Timetable** from the **Keep** SLK menu. → *The Timetable Input window displays.*
2. Enter the name of the timetable you want to delete in the Timetable name field.
3. Press **Return**, then highlight **Delete** on the action list, and press **Return** again. → *An Acknowledgment appears indicating that all tasks associated with this timetable will be deleted.*
4. Answer **Y** to delete the timetable and press **Return**. → *The timetable has been deleted.*
5. Press **Exit** to close the Timetable window and return to your previously opened window. → *The previous normal user window(s) display.*

Timetable List All Example

The Timetable: List All window shows the status of all timetables. Possible values in the status field are:

- Finished

The timetable is scheduled to run once and it completed successfully.
- Failed

The timetable failed to run successfully.

Failed refers to the last scheduled run time. For example, if a timetable doesn't run (for example, CMS is off) and the timetable is rescheduled (daily, hourly, etc.), the List All window indicates Failed in the status but the next run time is correct and the timetable runs as scheduled in the future.

To recover from this situation, if you want to run the timetable for the time that it failed, go into the timetable and change the start time to the immediate future (two minutes or so from the present) and change the start date to today's date.
- Successful

The timetable completed successfully.
- Unscheduled

The timetable is does not have an assigned start time (is not scheduled).
- Running

The timetable is currently running.

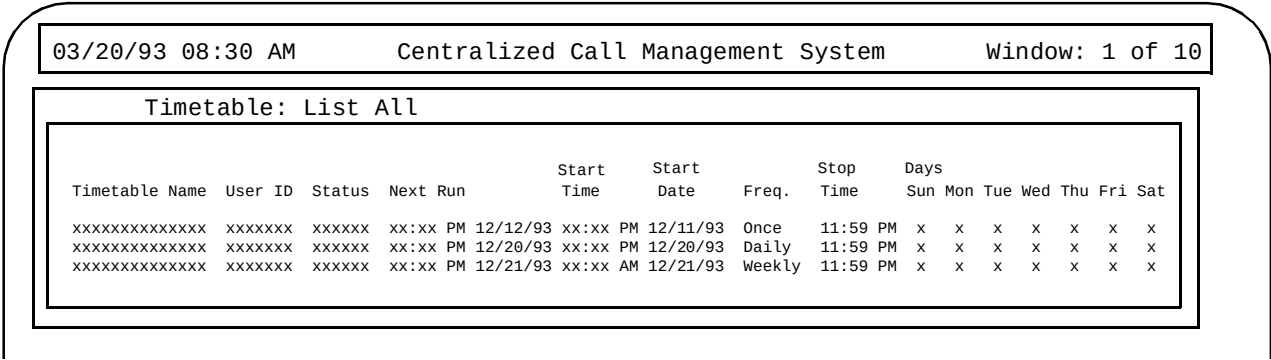


Figure 6-7: Timetable List All Example

Timetables and the Switch Clock

If the switch clock or UNIX system clock is inadvertently changed to a date and time in advance of the current date and time, any timetables scheduled to run between the current time and the new clock time start running immediately. If **all** timetables start running at the same time, your CMS system runs extremely slow until all timetables finish running. This problem can happen yearly at the daylight savings time change or if the switch clock is accidentally changed to a future date/time.

Note

If the time on the switch was purposely set in the future, then you only need to put CMS in single-user mode and then back to multiuser mode.

At the daylight savings time in the spring, **do not** change the time during the hour in which all your daily timetables are scheduled to run.

If all or most of your timetables start running at the same time, do the following to stop the timetables from running and reset the switch clock:

1. Put CMS in the single-user mode (Maintenance—CMS State). This stops the timetables from running.
2. Set the switch clock to the correct time.
3. Go to the UNIX system and enter the following commands to turn off CMS.

```
# cmsadm
```

The program responds with:

```
Call Management System Administration Menu
Select a command from the list below.
1) acd_create  Define a new ACD
2) acd_remove  Remove all administration and data for an ACD
3) backup      Filesystem backup
4) diskmap     Estimate disk requirements
5) memory      Estimate memory requirements
6) realtime    Estimate real-time report refresh rate
7) pkg_install Install a feature package
8) pkg_remove  Remove a feature package
9) run_cms     Turn CMS on or off
Enter choice (1-9) or q to quit:
```

4. Enter **9**. The program responds with:

```
Select the following:  
1) Turn on CMS  
2) Turn off CMS  
  
Enter the choice (1-2):
```

5. Enter **2** to turn CMS off.
6. Turn CMS back on by typing **cmsadm** at the **#** prompt, then entering **1** at the Enter choice (1-9) or q to quit prompt.

The program responds with:

```
Please wait for initialization ....
```

When the CMS is successfully back on, the program responds with:

```
*** CMS is now up ***
```

7. Your cursor is at the **#** prompt. Type **exit** to return to the **\$** prompt and then log into the CMS.

Shortcuts

Purpose

A Shortcut is like a timetable, except with shortcut the tasks are run immediately on your screen. A shortcut is a fast, easy way to select windows that you might look at every day or several times during the day. Shortcut remembers the size and location of your windows. For example, if the first thing you do every day is look at the Real-Time Split Status report for splits 2 and 3, you can create and name a shortcut that displays your reports automatically without going through all the ordinary keystrokes to see the reports.

Things to Know Before You Start

- Each CMS user can create up to ten shortcuts.
- Once a shortcut is started, it cannot be stopped.
- You can copy any other user's shortcut.
- When creating a shortcut, you cannot create more open windows on the shortcut than what is administered as your maximum window count.
- When you select Shortcut, you are automatically placed in the Keep mode where an Add, Get contents: add tasks, or Get Contents: modify action list selection is made. This means that you are not able to access any other open window until you exit the Keep mode.
- A task is stored with each Add, Delete, Modify, Run, Find one, and List all action list selection. Action list selections not saved by CMS are Next, Previous, and Get contents.
- Each shortcut can have up to 100 tasks.

Note

To have a shortcut with 100 tasks, you must reuse a window that does not have the Run action list item.

- You cannot create a custom report using shortcut.
- If you have the Vectoring feature, you cannot put the Vector Contents screen on a shortcut.

- If you want to put an agent group report on a shortcut, make sure you enter the group name correctly. CMS does not check to see if the group name you entered exists in the Dictionary subsystem. Therefore, if you enter a name that is misspelled, the report request runs, but does not contain data because the group does not exist. You have to modify this task on the shortcut to reenter the correct group name.
- The **Current** key in the Keep mode only rotates through your shortcut windows; it does **not** rotate through any windows opened before you entered the Keep mode.
- You can use shortcut to select a set of windows and move and size those windows on the terminal's screen. For example, you could select two reports and create a shortcut so these windows are easy to see and do not overlap each other.
- Error messages or Acknowledgment windows stop a shortcut at the task where the error message or Acknowledgment appeared. Correct the problem and rerun the shortcut. For example, lack of permission for a split causes a shortcut to stop when the shortcut reaches that split.
- Shortcut edit mode is like timetable edit mode except you are allowed to run action list selections to move and size windows.

Prerequisite System Administration

- You must assign a CMS user ID to anyone that will be using shortcut. See Chapter 10, "User Permissions"—User Data," for more information.
- You must have read and/or write permission for any CMS subsystems or ACD entities associated with the tasks included in a shortcut.

Relationships to Other Parts of CMS

User Permissions

If you delete a CMS user ID (from the User Permissions — User Data window) that has shortcuts, all shortcuts belonging to that user are deleted.

If you change a user's access permissions, it could affect that user's shortcuts. For example, if a user has access to Splits 1, 2, 3, and 4 and you change the user's permissions to Splits 1, 2, and 4, all shortcuts for Split 3 will not run or display data for Split 3.

Shortcut Input Window

From this window, you will create, modify, delete, or view your shortcuts.

Shortcut	
Shortcut name: _____	Add
Description: _____	Copy
_____	Delete
User ID: _____	Find one
	Get contents
	List all
	Modify
	Next
	Previous

Figure 6-8: Shortcut Input Window Example

Field/Action List Usage

Copy

Allows you to copy any other user's shortcut or your own shortcut.

Get contents

Displays the tasks currently on a shortcut. You are also be able to add, delete, and modify tasks on the shortcut using Get contents.

List all

Displays a list of all shortcut names along with the owner's user ID.

Field Descriptions

Shortcut name:

Enter a unique name for the shortcut. The shortcut name may have up to 20 characters.

Description: (Optional field)

Enter a description of the shortcut. The description could include the name of each major task you placed on the shortcut. The description is limited to 50 characters.

User ID:

Enter the ID of the user whose shortcut you wish to copy or view.

Creating a Shortcut

Note To get out of Shortcut at any time without saving any changes, select **Stop** from the **Keep** SLK, then answer **n** to the save changes Acknowledgment.

1. Select **Shortcut** from the **Keep** SLK menu. → *The Shortcut Input window displays. (All other windows temporarily disappear.*
2. Enter a *unique* name in the **Shortcut name** field. Go to the next field by pressing the down arrow (↓) or the **Tab** key.
3. Enter a description for the shortcut in the **Description** field and then press **Return**.
4. Press **A** to move your cursor to **Add** on the action list, and press **Return** again to add your shortcut to CMS. → *Add is highlighted, and Working appears on the status line.*

Note You can use multiple input windows on the screen at once by selecting **Move** and **Size** from the **Window** SLK, and then moving and sizing the output windows so they don't overlap. This allows you to maximize the terminal screen's space. This is a powerful feature of shortcut. It takes only a few key strokes to get ready for the day or change context quickly.

If the shortcut name already exists, Already exists displayx on the status line and you have to enter another shortcut name.

If all entries are valid, Successful displayx on the status line and the Main Menu displays.

5. From the Main Menu, go to the task (using the normal menu selection rules) that you want to view. → *The status line on the Main Menu shows Keeping Entries.*
 6. Complete the required field entries on the user window, and select an action list item. → *When each action list selection is made and validated, Entries Stored displays on the status line of the current user window.*
 7. If you don't like the size or location of your Shortcut windows, use the size/move selection from the **Window** SLK.
- Note

Like timetable edit mode, you can reuse a window, but if you want to save a window's size and location, use two separate windows.
8. Repeat the user window and action list selections for each task you want to view with this shortcut.
 9. When you have finished adding tasks to this shortcut, press the **Keep** SLK and select Stop from the menu. → *An Acknowledgment appears.*
 10. Answer **Y** to save your shortcut. and then press **Return**. → *Your tasks are now saved on a shortcut.*
All user windows are closed, and the shortcut window displays with Successful appears in the status line.
 11. Press the **Exit** SLK to close the Shortcut window and return to your previously opened window. → *Your previous normal user windows display.*

Editing an Existing Shortcut

The Get Contents action for Shortcut allows you to do the following to an existing shortcut:

- Add tasks
- Copy tasks
- Delete tasks
- Modify tasks

When you choose this action, the window shown in Figure 6-9 displays.

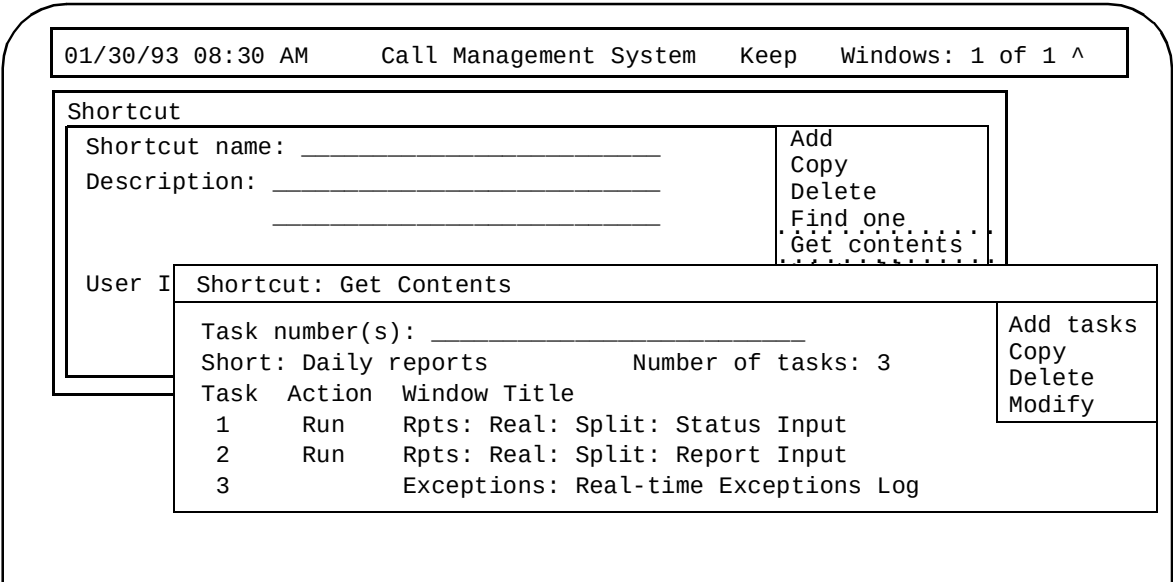


Figure 6-9: Shortcut Get Contents Window Example

Field Descriptions**Task number(s) :**

Enter a list or range of tasks numbers you wish to copy, edit, or modify. This is explained later in the chapter.

Task

Display-only field that lists the number corresponding to the task's position in the shortcut.

Action

Display-only field that lists the action associated with the task.

Window Title

Display-only field that lists the title of the window that constitutes the task.

Values

Display-only field that lists the input data associated with the task.

Adding Tasks to an Existing Shortcut

The **Add tasks** action returns you to the Main Menu and allows you to add tasks to the shortcut following the task you specify in the same manner in which you add tasks when you first create a shortcut.

Note You may only enter a single task number for this action; lists and ranges are not valid. If you entered more than one task or entered a range of tasks, an error Acknowledgment displays to tell you that this is not allowed. Press **Return** and try again with a single task number.

When you are finished adding tasks to the shortcut, select **Stop** from the **Keep** SLK. An Acknowledgment window appears, asking whether the changes should be changed. After you have answered the questions, you are returned to the Get Contents window. The new task you added displays in this window.

Note To get out of Shortcut at any time without saving any changes, select **Stop** from the **Keep** SLK, then answer **n** to the save changes Acknowledgment.

1. Select **Shortcut** from the **Keep** → *The Shortcut Input window displays.*
2. Enter the shortcut name to which you want to add a task in the **Shortcut name** field.
3. Press the **Return** key, then highlight **Get contents** on the action list. Press the **Return** key again. → *The Shortcut: Get Contents window displays. You are now in the Keep mode.*
The shortcut must already exist and only the owner of the shortcut can edit it (unless the user is an administrator).
4. In the **Task number(s)** field, enter the number of the task after which you want to add tasks. Press the **Return** key.

Note Tasks are numbered x of N where x is the position in the list, and N is the total number of tasks on the shortcut.

5. Select the Add tasks action and press the **Return** key.
→ *The Main Menu displays.*
When you create a new task, it is added after the task number you entered.
*If you select the **Exit** SLK and you have not selected an action list entry, the task will **not** be saved.*
6. From the Main Menu, go to the task (using normal menu selection rules) that you want to schedule.
→ *The status line on the Main Menu shows Keeping Entries.*
7. Complete the required field entries on the user window, and select an action list item.
→ *When each action list selection is made and validated, Entries Stored displays on the status line of the current user window.*
8. Repeat the above steps to add as many tasks as you need to.
9. When you are done adding tasks, press the **Keep** SLK and select Stop.
→ *An Acknowledgment asks if you want to save your changes.*
10. Enter **Y** to save the new tasks.
11. Press the **Return** key.
→ *The Shortcut: Get Contents window displays with the entries you chose in the preceding menu.*
12. Press the **Exit** key.
→ *The Get Contents window is closed and the Shortcut window displays.*

Copying Tasks For an Existing Shortcut

The **Copy** action makes a copy of each task you entered in the input field. After you select this action, a secondary window displays (see Figure 6-10), allowing you to specify whether the copies are to be placed after a specified task in the shortcut or whether each copy should appear directly following the task for which it is a copy. The default is to place the copies after the last task in the shortcut.

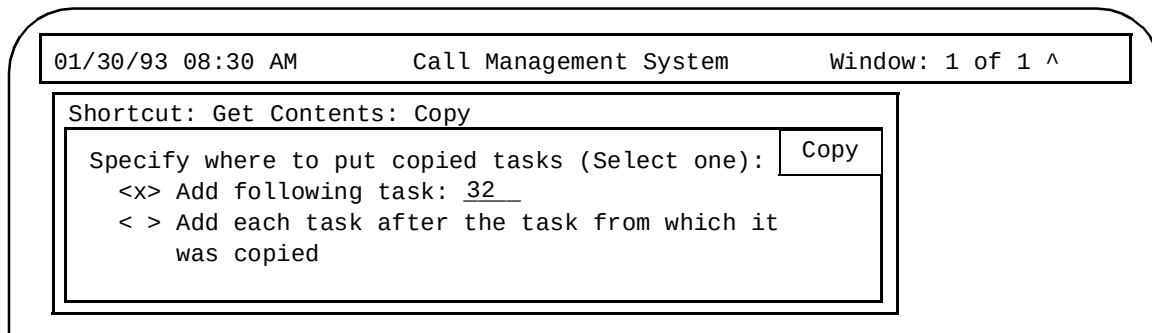


Figure 6-10: Shortcut Get Contents Copy Action Window Example

After you have entered your choice and selected the **Copy** action, the copies are made. If the copy succeeded, the status line displays **Successful** and the cursor returns to the input field of the **Get Contents** window. If the copy *did not* succeed, **Failed** displays on the status line and an **Acknowledgment** window explains the reason for the failure.

If you try to copy so many tasks that you exceed the 100-task limit for shortcuts, the **Copy** action fails, none of the tasks are copied, the status line displays **Failed**, and an error **Acknowledgment** informs you that you cannot copy so many tasks to the shortcut.

1. Select **Shortcut** from the **Keep** → *The Shortcut Input window displays.*
2. Enter the shortcut name to which you want to copy a task in the **Shortcut name** field.

3. Press the **Return** key, then highlight Get contents on the action list. Press the **Return** key again.

→ *The Shortcut: Get Contents window displays. You are now in the Keep mode.*

The shortcut must already exist and only the owner of the shortcut can edit it (unless the user is an administrator).
4. In the Task number(s) field, enter the number of the task you want to copy. Press the **Return** key.
5. Select the Copy action.

→ *The Shortcut: Get Contents: Copy window) displays.*
6. Enter an x by Add following task or Add each task after the task from which it was copied.

→ *Choosing Add following task causes the copies to be placed after a specified task in the timetable.*

Choosing Add each task after the task for which it was copied causes each copy to appear directly following the task for which it is a copy.
7. Press the **Return** key to select the Copy action.
8. Press the **Return** key again.

→ *The messages Working and Successful display.*

The Shortcut: Get Contents window displays..
9. Press the **Exit** key.

→ *The Shortcut window displays.*

Deleting Tasks From an Existing Shortcut

The **Delete** action removes the specified task(s) from the shortcut.

When the deletion has completed successfully, the status line displays **Successful**. If the deletion fails, the status line displays **Failed** and an Acknowledgment window explains the reason for the failure.

1. Select **Shortcut** from the **Keep** SLK menu. → *The Shortcut Input window displays.*
2. Enter the shortcut name from which you want to delete tasks in the **Shortcut name** field.
3. Press the **Return** key, then highlight **Get contents** on the action list. Press the **Return** key again. → *The Shortcut: Get Contents window displays. You are now in the Keep mode.*
The shortcut must already exist and only the owner of the shortcut can edit it (unless the user is an administrator).
4. In the **Task number(s)** field, enter the number of the task you want to delete. Press the **Return** key.
5. Select the **Delete** action. → *The tasks you selected are deleted, the remaining tasks move up in position on the list.*
6. Press the **Exit** key. → *The Shortcut window displays.*

Modifying Tasks In an Existing Shortcut

The **Modify** action chosen from the Get Contents window brings up the window associated with each of the tasks you entered in the input field. Each window displays with the data currently entered for that task. The windows display one after the other, in the order in which you entered the task numbers in the input field. Each task has **Task x of N** displayed in its status line to let you know which of the tasks it is. You may change the data for the task, the action for the task, or both. You must select an action in order to complete the modification. The default action for the task is the one currently associated with the task. In this way, you can press **Return** twice to complete the modification of task data without changing the action for the task. Once you have selected an action, the window for the next task to be edited displays. When there are no more tasks to modify, you are returned to the Get Contents window.

Note If you press **Exit** without having selected an action, a Return Acknowledgment appears informing you that the modification for this task is cancelled (that is, the input values have not been changed for this task). Press **Return** to continue.

When you press **Return** the window for the next task to be modified displays or, if there are no more tasks to be modified, you are returned to the Get Contents window. The cursor returns to the input field in the position it was in when you pressed **Return** to move to the action list. The Current and MainMenu SLKs are blocked while you are modifying tasks. The terminal beeps if you select them. The only valid choice on the Keep SLK menu is the **Stop** selection. It can be used to terminate the modifications before you have modified all the tasks you selected and returns you to the Get Contents window.

You can move and size Shortcut windows when modifying them and the new size and position will be saved.

Note To get out of Shortcut at any time without saving any changes, select **Stop** from the **Keep** SLK, then answer **n** to the save changes Acknowledgment.

1. Select **Shortcut** from the **Keep** → *The Shortcut Input window displays.*
2. Enter the shortcut name on which you want to modify a task in the **Shortcut name** field.

3. Press the **Return** key, then highlight Get contents on the action list. Press the **Return** key again.

→ *The Shortcut: Get Contents window displays. You are now in the Keep mode.*

The shortcut must already exist and only the owner of the shortcut can edit it (unless the user is an administrator).

4. In the Task number(s) field, enter the numbers of the tasks you want to modify. Press the **Return** key

Note Tasks are numbered x of N where x is the position in the list, and N is the total number of tasks on the shortcut.

5. Select the Modify action.

The first task you selected appears.

6. Make changes to the fields.

7. Press the **Return** key, select the appropriate action, and press the **Return** key again.

→ *The next task to be modified displays.*

8. Repeat the above steps until all selected tasks are modified.

→ *After the last task has been modified, a prompt asks you if you want to save your changes.*

9. Type **Y** to save the changes.

10. Press the **Return** key.

→ *The Get Content window displays.*

Copying an Existing Shortcut

Note

You cannot copy over an existing shortcut, and you can only copy a shortcut for yourself.

1. Select **Shortcut** from the **Keep** → *The Shortcut Input window displays.*
2. Enter a new name for the shortcut to which you want to copy in the **Shortcut name** field.
3. Enter your ID in the **User ID** field. → *The shortcut being copied will be copied to your ID.*
4. Press **Return** then highlight **Copy** on the action list, and press **Return** again. → *The Copy window displays.*
5. Enter the name of the shortcut you want to copy in the **Shortcut copy from** field.
6. Enter the ID of the user whose shortcut you want to copy in the **User ID** field.
7. Press **Return** then highlight **Copy** on the action list, and press **Return** again to copy the shortcut.
8. Press **Exit** to close the **Shortcut Copy** window and return to your previously opened shortcut window. → *Your previous Shortcut window displays.*
9. Press **Exit** to close the **Shortcut** window and return to your previously opened window. → *Your previous normal user window(s) display.*

Deleting an Existing Shortcut

To delete a shortcut that already exists, follow these steps:

1. Select **Shortcut** from the **Keep** → *The Shortcut Input window displays.*
SLK menu.
2. Enter a shortcut name you want to delete in the **Shortcut name** field.
3. Press **Return** then press **D** to move your cursor to **Delete** on the action list, and press **Return** again to delete the shortcut. → *An Acknowledgment displays indicating that all tasks associated with this shortcut will be deleted.*
4. Answer **Y** to delete your shortcut. → *Your shortcut has been deleted.*
5. Press **Exit** to close the Shortcut window and return to your previously opened window. → *Your previous normal user window(s) display.*

Running a Shortcut

To run a shortcut, follow these steps

1. Enter the shortcut name after the semicolon (;) on the Main Menu.
2. Press **Return**.

→ *The shortcut starts running and the keyboard locks until the shortcut finishes. Successful appears on the status line.*

General Information

From the Dictionary subsystem (Figure 7-1), you can:

- Enter CMS login IDs and corresponding agent names
- Assign names to splits/skills, trunk groups, call work codes, ACDs, VDNs, and vectors
- Create agent groups
- Modify agent, split/skill, and trunk string values
- View standard CMS database items and calculations
- Define your own calculations, constants, and custom database items
- Globally search for anything in the Dictionary subsystem and search for patterns from any data entry fields
- Obtain a report on most parts of the Dictionary subsystem.

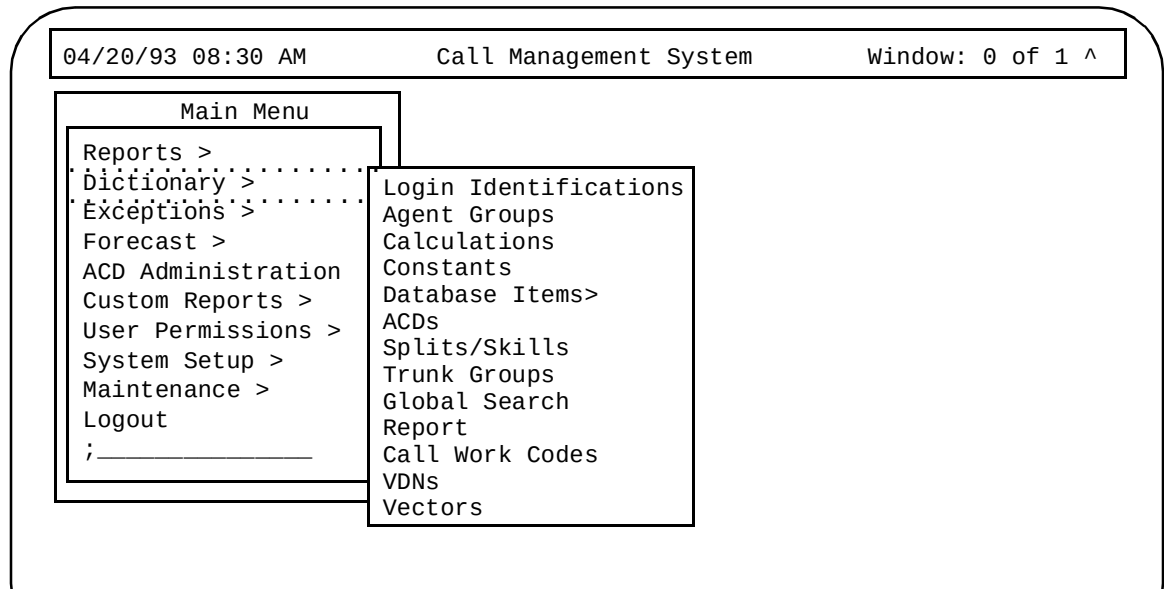


Figure 7-1: Dictionary Menu

Note

If you have not purchased the Vectoring feature, the VDNs and Vectors items do not display on your menu.

Dictionary- Specific Rules

- Names (synonyms) must begin with an alphabetic character.
- Dictionary names can be 1 to 20 characters long, and can include underscores, blanks, commas, periods, single quotes, and the plus sign.
- Descriptions in the Dictionary can be 1 to 50 characters long and can include all typewriter characters except the semicolon (;), backslash (\), grave accent (`), tilde (~), double quotes ("), pipe (|), asterisk (*), and question mark (?).
- Names must be unique within each section of the dictionary—that is, you can name trunk group 1 “sales” and split/skill 1 “sales”, but you cannot name split/skill 1 “sales” and split/skill 2 “sales”.
- Pattern searching is allowed for string fields—that is, if you know your field entry begins with the letters “ac”, you can type “ac*” in the field. The asterisk (*) matches any characters that follow the “ac”. The result may be several matches, no match, or only one match. If you enter only “*” in the field or leave the field blank, you get a list of everything.

The question mark (?) searches on a single character—that is, using the example above, if you search on the letters “ac”, and you enter “ac?”, the question mark matches any single character that follows the “ac”.

Login Identifications

Purpose

From the Login Identifications window, you assign agent names to login IDs (which agents use to log into their voice terminals). The login IDs are used by CMS to identify measured ACD agents. After an agent's name is assigned to a login ID, CMS windows and reports display that agent's name instead of the login ID number.

Things to Know Before You Start

- Entering agent names in the Dictionary is not required. However, CMS administration windows and reports are easier to understand if agent names appear instead of login IDs. Depending on the amount of space on the report, agent names may be truncated.
 - You cannot assign more than one agent name to the same login ID.
 - You cannot have duplicated login IDs and agent names. You will receive a message stating that the login ID or name already exists.
 - You cannot assign the same agent name to multiple login IDs.
 - You can only use numbers for login IDs.
 - The "Dictionary-Specific Rules" apply.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- To view login IDs, you need **read** permission for the Dictionary subsystem.
 - To add, delete, or modify login IDs or agent names, you must have **write** permission for the Dictionary subsystem.
 - See Chapter 10, "User Permissions", for more information.
-

Relationships to Other Subsystems

Reports

If you assign names to the login IDs, agent names appear on reports. If you make any additions or changes to login IDs, the changes do not appear on any real-time report that is currently running. You must exit the report and rerun it to see the new agent name(s).

Timetable

You can place the Login Identification window on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information.

Login Identifications Window

To add, modify, delete, or view login IDs, you must complete the Login Identifications window.

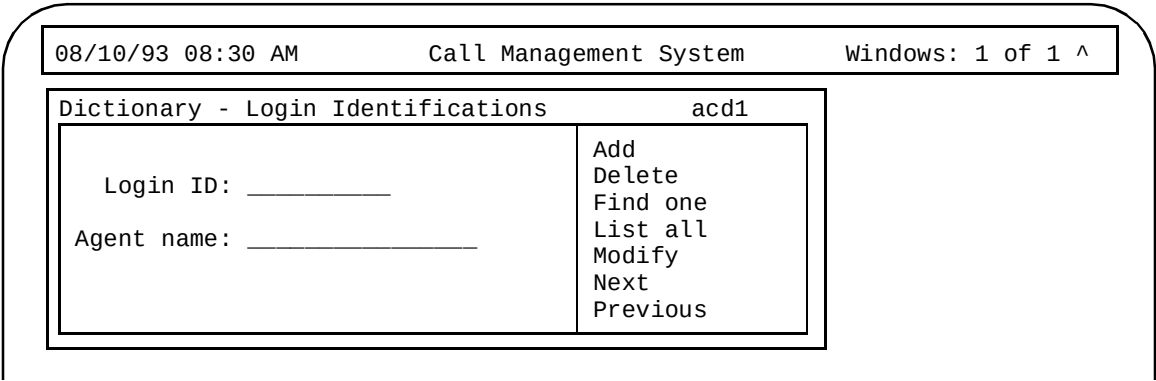


Figure 7-2: Login Identifications Window Example

Field/Action List Usage

Add
Type the new Login ID and Agent name and select Add from the Action List.

Delete
Type the Login ID and select Delete from the Action List.

Modify
Use Find one to retrieve the record to be modified, then update the Login ID or Agent name and select Modify from the Action List.

Find one or List all
If you are doing a Find one or List all and leave the fields blank, all login IDs are listed (the same as if you entered an *).
List all displays a list of agent names and the corresponding login IDs.

Field Descriptions

Login ID

Type the login ID number that you want to view, add, delete, or modify. If you want to change the name Login ID field, you must first delete the existing name in the field and add the new one.

Login IDs for a Generic 2 or System 85 switch are 4-digit numbers, with the first digit always greater than 0. Login IDs for a Generic 1 or Generic 3 switch without Expert Agent Selection (EAS) may be 1- to 9-digit numbers. Login IDs for a Generic 3 Version 2 switch with EAS must be five digits or less.

Examples

For Generic 2/System 85:	1234 1000 9999
For Generic 1/Generic 3:	1 (1-digit logins) 423 (3-digit logins) 1234567 (7-digit logins) 999999999 (9-digit logins)
For G3V2:	92345 99999 333

Agent name

Type the name of the agent that corresponds to the login ID.

Note

CMS lists names alphabetically based on the first character entered in the Agent name field. If the first character is the first name of an agent (i.e., Jane Brown), CMS uses the J, *not the B for Brown*, to sort alphabetically.

Agent Groups

Purpose

You group agents, without regard to split/skill assignment, to meet your special needs. For example, you could create a group for new employees or employees with special qualifications.

From this window, you will create and name, copy, or delete your group(s). You will also add, delete, or list the agents in your group by selecting `Get Contents` which displays a secondary window (see "Get Contents" later in the Agent Groups section).

Things to Know Before You Start

- Creating Agent Groups is an optional administration procedure.
 - The "Dictionary-Specific Rules" apply.
 - See Chapter 2, "User Basics" for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- To view agent groups, you must have **read** permission for the Dictionary subsystem.
 - To add, delete, or change an agent group, you must have **write** permission for the Dictionary subsystem.
 - See Chapter 10, "User Permissions" for more information.
-

Relationships to Other Subsystems

Reports

CMS can generate reports on the group(s) you create. With these reports, you can compare agents in a group to each other or compare one entire group with another group(s).



If you add or modify agent groups while displaying the real-time Agent Group report, you have to exit the report window to see the new or modified agent group information.

Timetable

You can also place the Agent Groups window on a timetable. See Chapter 6, "Timetables and Shortcuts" for more information.

Agent Groups Window

To add, copy, delete, modify, or view agent groups, you must complete the Agent Groups window.

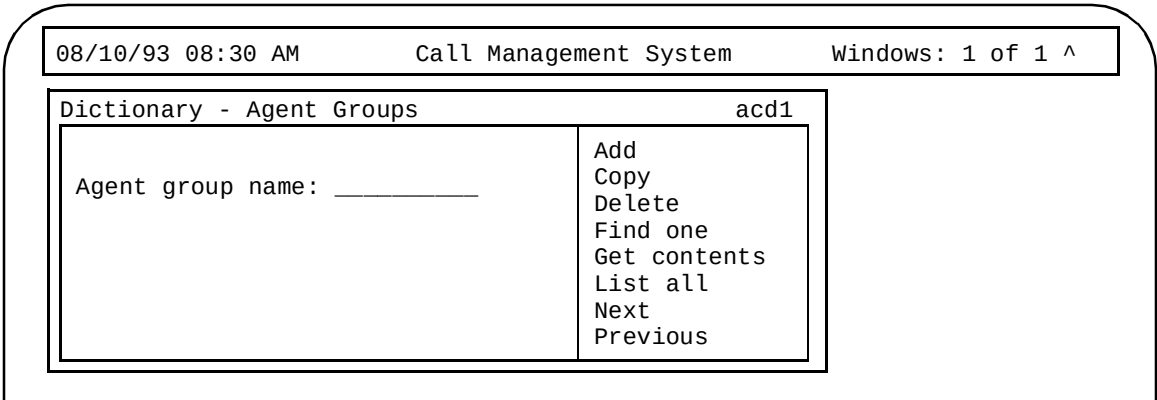


Figure 7-3: Agent Groups Window Example

Field/Action List Usage

- Copy

Creates a new group from an existing group. See "Nonstandard Action List Items and Procedures" later in this section for more information.
- Delete

Removes the entire group.
- Get contents

Adds members (agents) to, deletes members from, or lists the members of an existing agent group. See "Nonstandard Action List Items and Procedures" later in this section for more information.
- List all

Lists all the members of the agent group specified in the Agent group name field.

Field Description

Agent group name

Type the name, up to 20 alphanumeric characters long, for the group you want to add, delete, view, or copy. Your group name should be descriptive and accurately reflect your reasons for creating the group.

Nonstandard
Action List Items
and Procedures

The following action list items and procedures are different from the standard action list items and standard procedures described in Chapter 2, "User Basics".

Copy

Copy (Figure 7-4) allows you to create a new group from an existing group. With Copy, you can rename a group without having to reenter the members of the group a second time or form a new group starting with an existing agent group. Copy creates a secondary window with a Copy from field.

Note

The new group name cannot already exist in the database as an agent group name.

If you are only renaming the group, delete the original group you copied from if you no longer need that group. This saves space in the database.

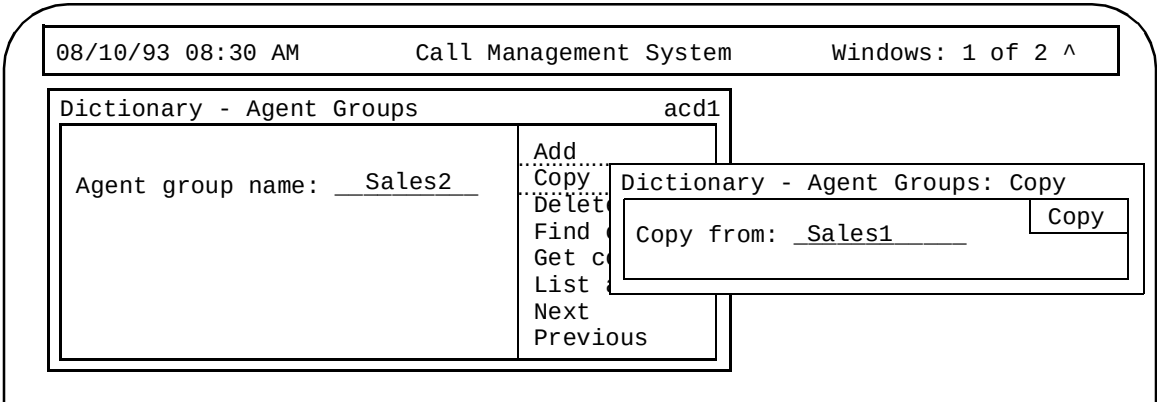


Figure 7-4: Agent Groups—Copy Window

Field Description

Copy from (Requires an entry.)
Enter the name of the existing *Agent Group* that you want to copy in the Copy from field.

How to Copy Agent Groups

1. Select Agent Groups from the Dictionary menu by typing **AG** and pressing **Return**. → *The Agent Groups window displays.*
2. Type the *new* group name in the Agent group name field and press **Return**. → *Cursor moves to the action list.*
3. Press **C** to select Copy and then press **Return**. → *The Agent Groups Copy window displays.*
4. Type the Agent Group name you want to copy *from* in the Copy from field and press **Return**. → *Cursor moves to the action list.*
5. Press **Return**. → *Working appears on the status line until the action completes, then Successful appears to indicate that the information has been copied from the Dictionary database*

Get Contents

Get contents brings up the following secondary window (Figure 7-5) that allows you to add members (agents) to, delete members from, or list the members of an existing agent group.

Note

You must create the group before you can add members to or delete members (agents) from it.

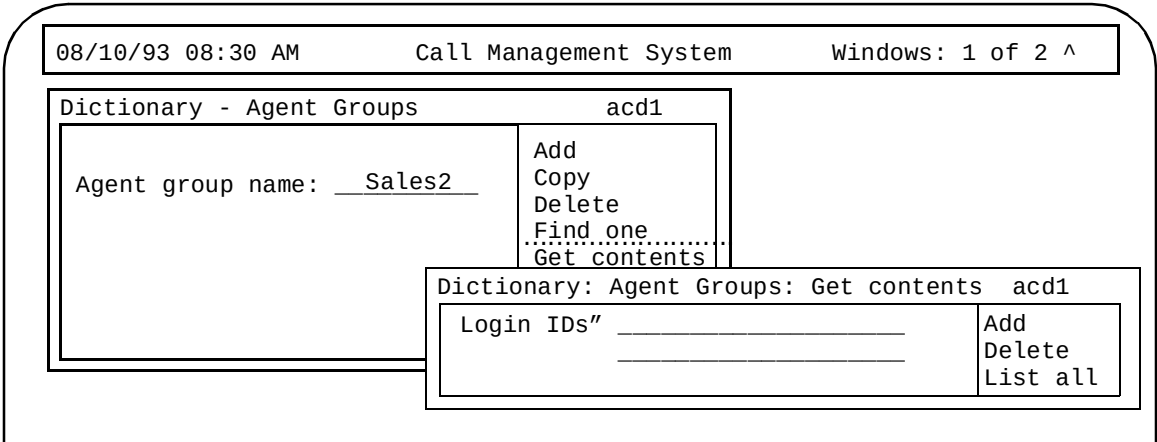


Figure 7-5: Agent Groups—Get Contents Example

Field/Action List Usage	Add
	Adds the desired login IDs to the group you selected in the primary window.
	Delete
	Removes the desired login IDs from the group you selected in the primary window.
	List all
	Lists all members of the current group.
Field Description	Login IDs
	Type the Login IDs of the agents you are adding, deleting, or listing for the group you entered in the Agent group name field.
	Up to 1000 values (login IDs) can be entered in this field. Type a semicolon (;) to separate individual values (1001;1004). Type a dash (-) to define a range of values (1001-1004 includes login IDs 1001, 1002, 1003, and 1004).

How to Add Agents Using Agent Groups— Get Contents

1. Select Agent Groups from the Dictionary menu by typing **AG** and pressing **Return**. → *The Agent Groups window displays.*
2. Type the name in the Agent groups name field and press **Return**. → *The cursor moves to the action list.*
3. Select Add from the action list and press **Return** to add the name of the agent group if is not already created. If the agent group already exists, go to Step 4. → *The cursor moves back to the Agent Groups window.*
4. To bring up the Get contents window, type **G** and then press **Return**. → *The Agent Groups: Get Contents window displays.*
5. Type the login IDs you want to add for this particular agent group in the Login IDs field, and then press **Return**. → *The cursor moves to the action list.*
6. Type **A** to select Add and then press **Return**. → *Working appears on the status line until the add completes, then Successful appears to indicate that the information has been added to the Dictionary database.*

04/20/93 08:30 AM		Call Management System		Windows: 1 of 5 ^							
Dictionary - Agent Groups				acd1							
Agent group name: <u>Sales</u>			Add Copy Delete Find one Get contents								
Dictionary: Agent Groups: Get contents acd1 <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Login IDs" <u>2000;2003;2200-2299;</u></td> <td style="padding: 2px; text-align: right;">Add.....</td> </tr> <tr> <td style="padding: 2px;"><u>2013;2008;2302;2007;2012</u></td> <td style="padding: 2px; text-align: right;">Delete</td> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px; text-align: right;">List all</td> </tr> </table>						Login IDs" <u>2000;2003;2200-2299;</u>	Add.....	<u>2013;2008;2302;2007;2012</u>	Delete		List all
Login IDs" <u>2000;2003;2200-2299;</u>	Add.....										
<u>2013;2008;2302;2007;2012</u>	Delete										
	List all										

Figure 7-6: Get Contents—Add Example

How to Delete Agents Using Agent Groups— Get Contents

1. Select Agent Groups from the Dictionary menu by typing **AG** and pressing Return . → *The Agent Groups window displays.*
2. Type the name in the Agent groups name field and press Return. → *The cursor moves to the action list.*
3. To bring up the Get Contents window, type **G** and then press Return. → *The Agent Groups: Get Contents window displays.*
4. Type the login IDs you want to delete for this particular agent group in the Login IDs: field, and then press Return. → *The cursor moves to the action list.*
5. Type **D** to select Delete, and then press Return. → *Working appears on the status line until the deletion completes, then Successful appears to indicate that the login IDs have been deleted from the agent group.*

04/20/93 08:30 AM		Call Management System		Windows: 1 of 5 ^	
Dictionary - Agent Groups				acd1	
Agent group name: <u>Sales</u>		Add Copy Delete Find one Get contents			
Dictionary: Agent Groups: Get contents				acd1	
Login IDs" <u>2000;2003;2200-2299;</u>		Add Delete List all			

How to List all Agents in an Agent Group Using Get Contents

1. Select Agent Groups from the Dictionary menu by typing **AG** and pressing **Return**. → *The Agent Groups window displays.*
2. Enter the group name in the Agent group name field and press **Return**. → *The cursor moves to the action list.*
3. Type **G** to select Get contents and press **Return**. → *The Agent Groups: Get Contents window displays.*
4. Press **Return** to move the cursor to the action list, and then type **L** to select List all and press **Return** again. → *Working appears on the status line until the action completes, then Successful replaces it. Another window displays listing the agent login IDs. n matches found; permitted ones displayed displays on the List All status line.*

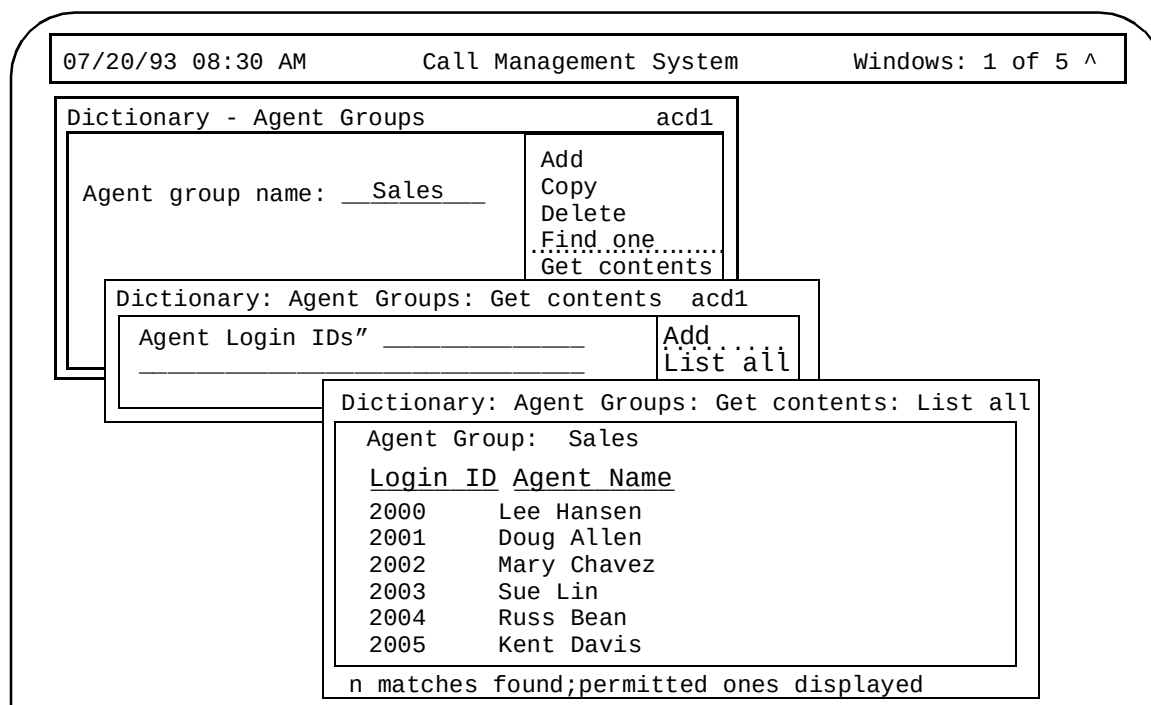


Figure 7-8: Get Contents—List All Window

Calculations

Purpose

Calculation names are abbreviated names for the calculation that is used to create reports. You can view or change standard calculations, or create your own custom calculations for use in custom reports. The calculations for standard reports already exist in the Dictionary.

Things to Know Before You Start

- You cannot delete standard calculations.
 - You should identify your own calculations with an all-lower-case letter format to distinguish them from the standard CMS calculations, which have an all-upper-case letter format.
 - If you change a standard CMS calculation, standard reports could be adversely affected. Reports should run, but the results may be different.
 - You cannot embed calculations within calculations to more than three levels deep (reports will not run if you do).
 - You cannot create calculations that reference each other in a circular fashion (reports will not run if you do).
 - The standard CMS calculations are listed in Appendix A, "Database Items and Calculations", and also in the AT&T 585-215-523, *Call Management System Custom Reports*, document.
 - The "Dictionary-Specific Rules" apply.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- To view calculations, you must have **read** permission for the Dictionary subsystem.
- To change or create a new calculation, you must have **write** permission for the Dictionary subsystem.
- See Chapter 10, "User Permissions", for more information.

Relationships to Other Subsystems

Reports

Standard reports use calculations. You should become familiar with the calculations to understand standard reports better.

Custom Reports

You can use the standard CMS calculations or create your own custom calculations to define custom reports.

Note

If you run a custom report that uses a calculation that is **not** in the Dictionary, you receive an error message.

Calculations Window

To view standard calculations and add, delete, modify, or view your own calculations, you must fill out the Calculations window.

04/20/93 08:30 AM Call Management System Windows: 1 of 10 ^	
Dictionary: Calculations	
Calculation name: _____	All ACDs Add Delete Find one List all Modify Next Previous
Calculation: _____	
Description: _____	

Figure 7-9: Calculations Window Example

Field/Action List Usage

Add

Type the new Calculation name and Calculation (definition). Remember to use lower-case letters in the name.

Delete

You can only delete calculations you create—not standard calculations.

Modify

Use the **Find one** action or type the **Calculation name** and **Calculation**. Make the changes and select **Modify** from the **Action List**.

Find one or List all

List one or all of the calculations in the dictionary.

Field Descriptions

Calculation name

Type the name of the calculation you want to view, add to the database, modify, or delete. The name must be alphanumeric and no more than 20 characters long.

Calculation

Type the formula for the calculation. For example, the formula for the agent calculation "Average ACD Talk Time" is:

ACDTIME/ACDCALLS

Note

Spaces are allowed in calculations.

Calculations can include:

- Database items (for example, ACDCALLS for ACD calls)
- Constants
- Calculation(s) (calculations within calculations up to three)
- The following arithmetic operators:
 - + (Add)
 - (subtract)
 - * (multiply)
 - / (divide)
 - () (do first, as in standard mathematical operations).

Description

Type the description of the calculation. The common rules for Dictionary descriptions apply.

Constants

Purpose

Constants are items with fixed numerical values that you can enter into the database and use in custom reports. Constants do not exist in CMS when it is first installed.

Note

For a more complete description of Constants, see the AT&T 585-215-523, *Call Management System Custom Reports*, document.

Things to Know Before You Start

- The “Dictionary-Specific Rules” apply.
- See Chapter 2, “User Basics”, for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- To view a constant, you need **read** permission for the Dictionary subsystem.
- To add, delete, or change a constant, you need **write** permission for the Dictionary subsystem.
- See Chapter 10, “User Permissions”, for more information.

Relationships to Other Subsystems

Custom Reports

Constants are only used in Custom Reports.

Note

If you run a custom report that uses a constant that has **not** been specified in the Dictionary, you receive an error message.

Constants Window

To add, delete, modify, or view your own constants, you must complete this window.

Figure 7-10: Constants Window Example

Field/Action List Usage

Add

Type the new Constant name and Value, then select Add. The name must be alphabetic and no longer than 20 characters.

Delete

Type the Constant name, then select Delete.

Modify

Update the Constant name or Value field and select Modify.

Find one or List all

Displays the constant name, value, and a description of the constant.

Field Descriptions

Constant name

Type the name of the constant you want to view, add, delete, or modify in the database.

The common rules for entering names applies.

Value

Type the numerical value of the constant.

The range is -99999 to +999999.

Description

Type the description of the constant.

Database Items >

Selections from the Database Items menus (Figure 7-11) contain the names for specific types of information stored in the CMS database. Database items may store login IDs, extension numbers, split or skill numbers, trunk numbers, and trunk group numbers. In addition, database items may store statistical data compiled from your call center's activity. The number of ACD calls, the wait time for calls in queue, and whether an agent is currently on an ACD call are examples of this statistical data.

The Database Items subsystem is divided into the following five categories. Descriptions follow for each one.

- Agent String Values
- Split/Skill String Values
- Trunk String Values
- Standard CMS Items
- Custom Items.

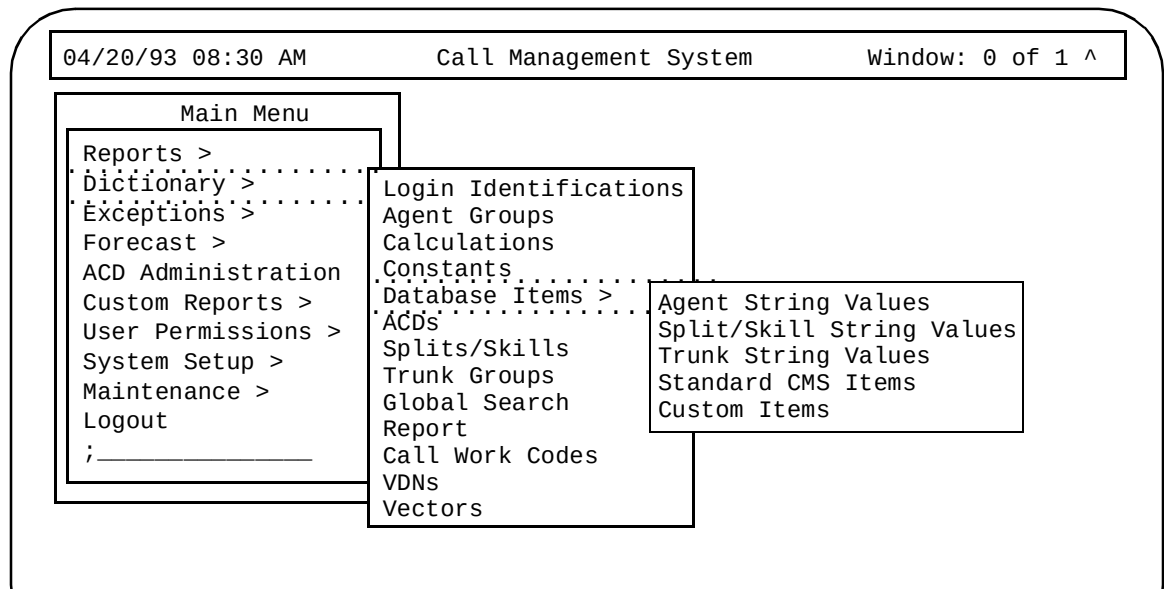


Figure 7-11: Database Items Menu

Agent String Values

Agent string values are the descriptive words on reports dealing with agents. The *word* is used to describe the value of the data. From the Agent String Values window, you can change the CMS default values for these words to correspond to your own requirements.

Things to Know Before You Start

- If you assign values that are longer than the field lengths allowed on standard reports, the values are truncated on those reports.
- If you do **not** assign different values to the Agent String Values, the default values are used.
- The “Dictionary-Specific Rules” apply.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- To view agent string values, you need **read** permission for the Dictionary subsystem.
- To change any value, you need **write** permission for the Dictionary subsystem.
- See Chapter 10, "User Permissions", for more information.

Relationships to Other Subsystems

Reports

Any change you make here affects what you see in the descriptive data (word) fields on your standard agent reports.

Timetable

The Agent String Values window can be placed on a timetable. See Chapter 6, "Timetables and Shortcuts" for more information and procedures.

Agent String Values Window

To modify the default agent string values, you must complete this window.

04/20/93 08:30 AM		Call Management System		Windows: 1 of 4 ^	
Dictionary: Database Items: Agent String Values All ACDs Work Mode ACD: <u>ACD</u> ACW: <u>ACW</u> AUX: <u>AUX</u> AVAIL: <u>AVAIL</u> DACD: <u>DACD</u> DACW: <u>DACW</u> OTHER: <u>OTHER</u> RINGING: <u>RINGING</u> UNKNOWN: <u>UNKNOWN</u> UNSTAFF: <u>UNSTAFF</u> Agent Trace Work Mode LOGON: <u>LOGON</u> LOGOFF: <u>LOGOFF</u> Call Direction IN: <u>IN</u> OUT: <u>OUT</u> Call Origination PHONE: <u>PHONE</u> KEYBOARD: <u>KEYBOARD</u> Call Destination PBX: <u>PBX</u> OFF: <u>OFF</u> Modify					

Figure 7-12: Agent String Values Window Example

Field/Action List Usage

Modify

This window displays with the default values for each agent work mode.

Field Descriptions**Agent Work Mode**

If you want to modify any of the agent work mode names, type the new descriptive word in the appropriate **Work Mode** field. Agents can be in any one of the following work states:

ACD	The agent is on an ACD call.
ACW	The agent is in the after call work state.
AUX	The agent is in the auxiliary work state.
AVAIL	The agent is available to take an ACD call.
DACD	The agent is on a direct agent ACD call.
DACW	The agent is in the after call work state for a direct agent ACD call.
OTHER	The agent is working on a direct agent call, working on a call for another split or skill, or has put a call on hold and has not chosen another work mode.
RINGING	An ACD call is ringing at the agent's voice terminal.
UNKNOWN	CMS does not recognize the current state.
UNSTAFF	The agent is not staffed (logged into CMS).

Agent Trace Work Mode

If you want to modify the default Agent Trace Work Mode name, type the change next to LOGON or LOGOFF.

LOGON	An agent is logged in and available to take ACD calls.
LOGOFF	An agent is logged out and not available to take ACD calls.

Call Direction

If you want to modify the default Call Direction names, type the change next to IN or OUT.

- IN:—The agent is currently on an incoming call.
- OUT:—The agent is currently on an outbound call.

Call Origination



Call origination is used only with the OCM (Outbound Call Management) feature. For more information on OCM, see the documentation shipped with your OCM software package.

If you want to change the default Call Origination names, type the change next to PHONE or KEYBOARD. Agents can be on two different types of outbound calls:

- PHONE: —The agent dials an outbound call using the voice terminal (telephone) dialing pad.
- KEYBOARD: —The agent dials an outbound call using the computer keyboard.

Call Destination

If you want to modify the default Call Destination names, type the change next to PBX or OFF.



Call destination is used only with the OCM (Outbound Call Management) feature. For more information on OCM, see the documentation shipped with your OCM software package.

- PBX:—Internal to the switch.
- OFF:—External to the switch.

Split/Skill String Values

Split/Skill string values are the descriptive words on the Split/Skill Call Profile reports. The *word* is used to describe the value of the data. From the Split/Skill String Values window, you can change the CMS default string values to correspond to your own requirements.

Things to Know Before You Start

- If you assign values that are longer than the field lengths allowed on standard reports, the values are truncated to fit on those reports.
- If you do **not** assign different values to the Split/Skill String Values, the default values are used.
- The "Dictionary-Specific Rules" apply.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- To view any of the split or skill string values, you need **read** permission for the Dictionary subsystem.
- To change any split or skill string values, you need **write** permission for the Dictionary subsystem.
- See Chapter 10, "User Permissions", for more information.

Relationships to Other Subsystems

Reports

Any change you make here affects what you see in the corresponding fields on the Split/Skill Call Profile report.

Timetable

The Split/Skill String Values window can be placed on a timetable. See Chapter 6, "Timetables and Shortcuts" for more information and procedures.

Split/Skill String Values Window

To modify the default values for split or skill strings, you must complete the Split/Skill String Values window.

04/20/93 08:30 AM Call Management System Windows: 1 of 1 ^

Dictionary: Database Items: Split/Skill String Values		acd1
Service Level Changed		Modify
YES:	YES	
NO:	NO	
Period Changed		
YES:	YES	
NO:	NO	

Figure 7-13: Split String Values Window Example

Field/Action List Usage Modify

This window displays with the default values for each split/skill state. After changing any of the descriptions, select **Modify** to save the new values in the database.

Field Descriptions

Service Level Changed

On the Split/Skill Call Profile window (see Chapter 9, "ACD Administration"), you can change the service levels at any time. From the Split/Skill String Values window, you can modify the following **service level changed** default values that appear on the Split/Skill Call Profile report:

- **YES:**—Type the descriptive word you want to appear on the report if you have changed the service level on the Split/Skill Call Profile.
- **NO:**—Type the descriptive word you want to appear on the report if you have **not** changed the service level on the Split/Skill Call Profile.

Period Changed

On the Split/Skill Call Profile report (both real-time and historical), there are ten time increments of administrable length. You can modify the following **period changed** default values that appear on the Split/Skill Call Profile report:

- **YES:**—Type the descriptive word you want to appear on the report if you have changed the time periods on the Split/Skill Call Profile report. If you want to change **YES**, enter your descriptive word.
- **NO:**—Type the descriptive word you want to appear on the report if you have **not** changed the time periods on the Split/Skill Call Profile report. If you want to change **NO**, enter your descriptive word.

Trunk String Values

Trunk string values are descriptive words on trunk reports (for example, IDLE, HOLD, QUEUED, etc.). A *word* is used to describe the value of the data. From the Trunk String Values window, you can change the CMS default values that appear on these reports to anything that fits your particular needs.

Things to Know Before You Start

- If you assign values that are longer than the field lengths allowed on standard reports, the values are truncated to fit on those reports.
- If you do **not** assign different values to the Trunk String Values, the default values are used.
- The “Dictionary-Specific Rules” apply.
- See Chapter 2, “User Basics”, for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- To view any trunk string values, you need **read** permission for the Dictionary subsystem.
- To make any changes to trunk string values, you need **write** permission for the Dictionary subsystem.
- See Chapter 10, “User Permissions”, for more information.

Relationships to Other Subsystems

Reports

Any changes you make to the trunk string values affect what you see in the corresponding fields on any of the standard trunk reports.

Timetable

The Trunk String Values window can be placed on a timetable. See Chapter 6, “Timetables and Shortcuts” for more information and procedures.

Trunk String Values Window

To change the default trunk string values, you must complete this window.

04/20/93 08:30 AM		Call Management System		Windows: 1 of 1 ^	
Dictionary: Database Items: Trunk String Values				All ACDs	
Trunk State				Modify	
IDLE:	IDLE	Call Priority (Non-vectoring)			
SEIZED:	SEIZED	YES:	YES		
QUEUED:	QUEUED	NO:	NO		
CONN:	CONN	Call Priority (Vectoring)			
DABN:	DABN	LOW:	LOW		
FBUSY:	FBUSY	MED:	MED		
FDISC:	FDISC	HIGH:	HIGH		
HOLD:	HOLD	TOP:	TOP		
MBUSY:	MBUSY	Call Direction			
RINGING:	RINGING	IN:	IN		
UNKNOWN:	UNKNOWN	OUT:	OUT		
Queue Type		All Trunks Busy			
MAIN:	MAIN	YES:	YES		
BACKUP:	BACKUP	NO:	NO		

Figure 7-14: Trunk String Values Window Example

Field/Action List Usage

Modify

This window is displayed with the default values for each trunk state. After changing any of the descriptions, select **Modify** to save the new values in the database.

Field Descriptions**Trunk State**

If you want to modify any of the trunk states, type the new descriptive word next to any of the following **Trunk State** fields. Trunks can be in any of the following states:

IDLE	The trunk is waiting for a call.
SEIZED	A call is holding the trunk, either incoming or outgoing.
QUEUED	An ACD call has seized a trunk and is queued to a split or skill waiting for an agent to become available.
CONN	The caller and an agent are connected on an ACD call.
DABN	The caller abandoned the call.
FBUSY	The caller receives a forced busy signal (Generic 1, Generic 3, or Generic 2/System 85 with Call Vectoring only).

FDISC	The caller receives a forced disconnect (Generic 1, Generic 3, or Generic 2/System 85 with Call Vectoring only).
HOLD	The agent has put the caller on hold.
MBUSY	The trunk is out of service for maintenance purposes.
RINGING	The call is ringing at an agent's voice terminal.
UNKNOWN	CMS cannot recognize the trunk state.

Queue Type

To replace the default value for `Queue Type`, type the new descriptive name next to any of the following fields. The name you enter here will appear instead of the default in any real-time reports containing the trunk database item queue type. (No standard reports contain this item.)

- **MAIN:**—The call seizing the trunk is queued to a split or skill as a result of a “queue to main split/skill” vector command.
- **BACKUP:**—The call seizing the trunk is queued to a split or skill as a result of a “check backup split/skill” vector command.

Call Priority (Non-vectoring)

To replace the `Call Priority` default values, type your descriptive name next to any of the following.

- **YES:**—The call seizing the trunk has priority entering the split.
- **NO:**—The call seizing the trunk does not have priority entering the split.

Call Priority (Vectoring)

To replace the `Call Vectoring` with vectoring default values, type the new descriptive name next to any of the following. The priority level at which calls on a trunk queue to a split or skill is specified using either the “queue to main split/skill” or “check backup split/skill” command in the vector associated with the trunk. The name you enter here will appear instead of the default in real-time reports containing the trunk database item `priority`. (No standard reports contain this item.)

- **LOW:**—The call seizing the trunk is queued to a split or skill at the lowest priority level.
- **MED:**—The call seizing the trunk is queued to a split or skill at the second lowest priority level.

- **HIGH:**—The call seizing the trunk is queued to a split or skill at the second highest priority level.
- **TOP:**—The call seizing the trunk is queued to a split or skill at the highest priority level.

Call Direction

If you want to modify the **Call Direction** items, type the new descriptive next to **IN** or **OUT**.

- **IN:**—The trunk is currently carrying an incoming call.
- **OUT:**—The trunk is currently carrying an outgoing call.

All Trunks Busy

To change the **All Trunks Busy** default values, type the new descriptive next to **YES** or **NO**.

- **YES:**—All trunks are currently busy (in use or MBUSY).
- **NO:**—Not all trunks are busy.

Standard CMS Items

Standard CMS items (database items) are names of columns in CMS database tables. CMS uses these tables to collect, store, and retrieve ACD data.

How the Tables Are Used

Each column in a table represents a specific type of ACD data (number of ACD calls, abandons, time on ACD calls, etc.). Therefore, standard database items cannot be **modified or deleted**. You are allowed access to the information about each database item, the description for that item, and the table(s) where the item appears.

An example of a Current Real-Time Agent table with standard CMS database item column headings follows to help you understand how CMS uses these tables:

Table 7-1: Current Real-Time Agent Example

EXTENSION	SPLIT	LOGID	LOGONSTART	WORKMOD	STARTED	DIRECTION	CHANGED	>*
1000	1	4000	8:00	AVAIL	8:00	NUL	8:01	>
1001	1	5966	7:58	ACD	8:00	IN	8:04	>
1002	1	2200	7:59	ACD	8:00	IN	8:03	>
.	.	.	.	.	.	.	.	>
.	.	.	.	.	.	.	.	>
.	.	.	.	.	.	.	.	>

> * indicates that more database item column headings follow, and the . (dots) indicate more data follows down the table.

Column Headings (Database Items) Explanations for Table 7-1

EXTENSION	The extension number that the agent is using.
SPLIT	The split or skill number that the extension is assigned to and/or that the agent logged into.
LOGID	The login identification the agent used to staff the extension.
LOGONSTART	The time the agent logged into CMS.
WORKMODE	The agent's current work mode (AVAIL, AUX, ACD, ACW, OTHER, DACD, DACW).
STARTED	The time of day the agent started this workmode.
DIRECTION	The direction (IN, OUT, NULL) of the current call.
CHANGED	The time of day when the agent started a new activity.

As you can see from this very brief example, each extension has an entry for each agent activity, and these tables can become quite large. Initially, you will probably look up database items for their definitions, but you will use them most when creating custom reports. See the AT&T 585-215-523, *Call Management System Custom Reports*, document for more information on database items.

Things to Know
Before You Start

- You cannot modify or delete standard database items.
- You can only view information about each database item. This section of the Dictionary is **read** only.
- The “Dictionary-Specific Rules” apply.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System
Administration

- You need **read** permission for the Dictionary subsystem to view the database items.

Relationships to
Other Subsystems

Custom Reports

You use the database items when creating custom reports. See the AT&T 585-215-523, *Call Management System Custom Reports*, document for more information.

Standard CMS Items
Window

To view standard CMS items, complete the following window.

04/20/93 08:30 AM

Call Management System

Windows: 1 of 10 ^

Dictionary: Standard CMS Items

All ACDs

Database item: _____

Description: _____

Table: _____

Find one

List all

Next

Previous

Figure 7-15: Standard CMS Items Window Example

Field/Action List Usage You may use pattern searching in any of the fields on the Standard CMS Items window.

Find one or List all

Displays the database item name(s), the table(s) in which the item occurs, and a description of the database item(s).

Field Descriptions

Database item

Type the name of the database item you want to look up.

Description

Describes the database item. If you know the description, type it here.

Table

Lists all the tables (one table at a time) that contain this particular database item (real-time and historical), or all of the items in one database. Table names must be alphabetic.

Custom Items

From the Custom Items window, you can define your own database items which are stored in their own tables within the CMS database. This allows you to combine your own data with CMS data on custom reports. You can also change or delete your own database items.

Note

See the AT&T 585-215-513, *Call Management System Custom Reports*, document for more information on using and creating your own custom database items.

Prerequisite System Administration

- You need **write** permission for the Dictionary subsystem and Custom Reports to create custom database items.
- You should first create the table in INFORMIX before you create a custom database item.

Relationships to Other Subsystems

Custom Reports

If you attempt to run a custom report that uses a database item that has **not** been added to the Dictionary, you receive an error message.

Custom Items Window

To add, delete, modify, or view your own custom database items, complete the Custom Items window.

04/20/93 08:30 AM		Call Management System	Windows: 1 of 4 ^
Dictionary: Custom Items		ACD1	
Database item:	_____	Add	
Description:	_____	Delete	
Table:	_____	Find one	
		List all	
		Modify	
		Next	
		Previous	

Figure 7-16: Custom Items Window Example

Field/Action List Usage**Add**

Type the Database item name, Description, and Table name. The item and table fields are required to add an item.

Delete

Type the Database item name and Table name to delete items.

Modify

Use Find one to retrieve the item information, then update it appropriately.

Find one or List all

Displays the database item name(s), the table(s) in which it occurs, and a description of the database item(s).

Field Descriptions**Database item**

Type the name of the custom database item you want to add, modify, delete, or view. The custom database item must be unique with the table you specify in the table field. Item names must be alphanumeric and no more than 20 characters long.

Description

Type a description of the database item. You can add, modify, or delete this description. Item descriptions can be up to 50 characters long.

Table

Type the name of the table in which this particular database item appears. You should first create and define the table in INFORMIX.

ACDs

Purpose

From the ACDs window, you assign names to any real or pseudo-ACD(s).

Things to Know Before You Start

- You can add, delete, or change an ACD name regardless of the ACD you are currently logged into. For example, you could be logged into *ACD 1* and change the name for *ACD 3*.



This change does not appear on the changed ACD's window border until you open a new window.

- The “Dictionary-Specific Rules” apply.
 - See Chapter 2, “User Basics”, for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- To add, delete, or change an ACD's name, you need **write** permission for the Dictionary subsystem.
 - To view ACD names, you need **read** permission for the Dictionary subsystem.
 - See Chapter 10, “User Permissions”, for more information on assigning read and write permission.
-

Relationships to Other Subsystems

All Subsystems

The name you assign to a specific ACD appears on all reports and window titles associated with that particular ACD (real or pseudo).

Timetable

You can place the ACDs window on a timetable. See Chapter 6, “Timetables and Shortcuts” for more information and the procedures.

ACDs Window

To add, modify, delete, or view ACD names, complete the following window.

04/20/93 08:30 AM Call Management System Windows: 1 of 4 ^	
Dictionary: ACDs	
ACD name: _____	Add Delete Find one List all Modify Next Previous
ACD number: _____	
Description: _____	

Figure 7-17: ACDs Window Example

Field/Action List Usage

Add

Requires an entry in the ACD name and ACD Number fields.

Delete

Requires an entry in the ACD name field.

Modify

Requires an entry in the ACD number field.

Find one or List all

Displays the ACD name, ACD number, and a description of that ACD.

Field Descriptions

ACD name

Type the ACD name you want to add, delete, modify, or view.

ACD number

Enter a number between 1 and 26 that corresponds to the name entered in the ACD name field.

Description

Enter any descriptive information about this ACD, up to 50 characters long.

Splits/Skills

Purpose

You can assign names to your ACD splits or skills from the Splits/Skills window. The split or skill names then appear on your split or skill reports, making your reports easier to identify and read.

Things to Know Before You Start

- Split or skill names should reflect the configuration of your splits or skills and ACD(s). For example, if you want splits in your system to be broken out by "Sales," "Customer Service," and "Wholesale," assign those names to the splits that handle those areas of the business. On the other hand, if you want skills in your system to be broken out by "French," "Spanish," and "German," assign those names to the skills that handle calls in those languages.
 - When naming splits or skills, you may want to be consistent with the names given splits or skills by your switch administrator.
 - If you assign a name to a split or skill, the split or skill number no longer appears on split or skill reports or windows. The split or skill name appears instead.
 - The "Dictionary-Specific Rules" apply.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- To list the assigned split or skill names, you need **read** permission for the Dictionary subsystem.
- To add, delete, or change a split or skill name, you need **write** permission for the Dictionary subsystem and the appropriate split or skill.
- See Chapter 10, "User Permissions", for more information on assigning read/write permission.

Relationships to Other Subsystems

Reports

When you assign a split or skill name, that name appears on all split/skill windows and split/skill reports (real-time and historical). If you make any additions or changes to split or skill names, the changes do not appear on any real-time report that is currently running. You must exit the report and rerun it to see the new split or skill name(s).

Exceptions

If you assign exceptions to splits or skills, the split or skill names you assign appear in the exceptions text. Also, if you change a split or skill name, the new name appears in the exception text for all exceptions logged after the change.

Forecasting

Split or skill names appear on forecasting reports if you have purchased and are using the Forecasting feature.

Timetable

You can place the Splits/Skills window on a timetable. See Chapter 6, "Timetables and Shortcuts" for more information and procedures.

Splits/Skills Window

To add, delete, modify, or view split or skill names, you must complete the following window.

04/20/93 08:30 AM Call Management System Windows: 1 of 10 ^	
Dictionary: Splits/Skills	
ACD: _____	Add Delete Find one List all Modify Next Previous
Split/Skill name: _____	
Split/Skill number: _____	
Description: _____	

Figure 7-18: Splits/Skills Window Example

**Field/Action List
Usage**

Add

Requires an entry in the `Split/Skill name` and `Split/Skill number` fields.

Delete

Requires an entry in the `Split/Skill name` field.

Modify

Requires an entry in the `Split/Skill name` and `Split/Skill number` field.

Find one or List all

Displays the split or skill name(s), split or skill number(s), and a description(s) of the split or skill.

Field Descriptions

Split/Skill name

Type the name you want to add, delete, modify, or view for this split or skill. The name must begin with a letter and can be no more than 20 characters long.

Split/Skill number

Type the split or skill number that corresponds to the name entered in the `Split/Skill name` field. The split/skill numbers must be between 1 and 60.

Description

Type any descriptive information, up to 50 characters long, for this split or skill.

Trunk Groups

Purpose

From the Trunk Groups window, you can assign names to your ACD trunk groups. The trunk group names appear on reports, making your reports easier to identify and read.

Things to Know Before You Start

- A trunk group name can be a published phone number (that begins with an alphabetic character), a variation of an associated split or skill name, or any other name that reflects the configuration of your trunk groups, splits or skills, and ACD(s).
 - When naming trunk groups, you may want to be consistent with the names given trunk groups and splits or skills by your switch administrator.
 - If you assign a trunk group name, the name appears on trunk group reports or windows instead of the trunk group number.
 - The “Dictionary-Specific Rules” apply.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- To list the assigned trunk group names, you need **read** permission for the Dictionary subsystem.
 - To add, delete, or change a trunk group name, you need **write** permission for the Dictionary subsystem and the appropriate split.
 - See Chapter 10, "User Permissions", for more information on assign read/write permission.
-

Relationships to Other Subsystems

Reports

When you assign a trunk group name, that name appears on all trunk group windows and reports (real-time and historical). If you make any additions or changes to trunk group names, the changes do not appear on any real-time report that is currently running. You must exit the report and rerun it to see the new trunk group name(s).

Exceptions

If you assign exceptions to trunk groups, the trunk group names you assign appear in the exceptions text. Also, if you change a trunk group's name, the new name appears in the exception text for all exceptions logged after the change.

Forecasting

Trunk group names appear on forecasting reports if you have purchased and are using the Forecasting feature.

Timetable

You can place the Trunk Groups window on a timetable. See Chapter 6, "Timetables and Shortcuts" for more information and procedures.

Trunk Groups Window

To add, delete, modify, or view trunk group names, you must complete the following window.

04/20/93 08:30 AMCall Management SystemWindows: 1 of 4 ^

Dictionary: Trunk Groups

ACD: _____

Trunk group name: _____

Trunk group number: _____

Description: _____

Add

Delete

Find one

List all

Modify

Next

Previous

Figure 7-19: Trunk Groups Window Example

Field/Action List Usage

- Add
- Requires entries in the Trunk group name and Trunk group number fields.
- Delete
- Requires an entry in the Trunk group name field.

Modify

Requires entries in the Trunk group name and Trunk group number field.

Find one or List all

Displays the trunk group name(s), trunk group number(s), and a description(s) of the trunk group.

Field Descriptions**Trunk group name**

Type the name you want to add, delete, modify, or view for this trunk group. The name must begin with a letter and cannot be more than 20 characters long.

Trunk group number

Enter the trunk group number that corresponds to the name entered in the Trunk group name field. The number must be between 18 and 255.

Description

Type any descriptive information, up to 50 characters long, about this trunk group.

Global Search

Purpose

From the Global Search window, you can search for anything in the Dictionary. This might be a login ID or a group of login IDs; split/skill, trunk, or ACD names; database items; calculations; agent names; etc.

Things to Know Before You Start

- You can search on any pattern. For example, ACD.
- You can search on any pattern that includes an asterisk (*) or question mark (?). For example, Split*. See Chapter 2, "User Basics" for the basic search rules.



If you enter an asterisk (*) by itself, you get **everything** in the Dictionary subsystem. This takes a very long time and uses a lot of processor time.

- Searching is case-sensitive (i.e., there is a difference between searching on upper- or lower-case letters).
 - The "Dictionary-Specific Rules" apply.
 - See Chapter 2, "User Basics" for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- To search for anything in the Dictionary, you must have **read** permission for the Dictionary subsystem.
-

Global Search Window

To run a global search of the Dictionary, complete the following window.

Value matched	Field matched	In submenu	Name
Sales	Split/Skill name	Splits/Skills	Sales
Sales	Agent group name	Agent Groups	Sales

Figure 7-20: Global Search Example**Field/Action List
Usage**

Run

Runs the global dictionary search for the criteria you specify.

Field Descriptions**Search for**

Type the search pattern.

Value matched (Display only field)

The matches for your search pattern.

Field matched (Display only field)

The name of the field in the Dictionary subsystem that corresponds to the Value matched field.

In submenu (Display only field)

The Dictionary submenu where your search pattern was found.

Name (Display only field)

The name that corresponds to the Value matched field.

Report

Purpose

From the Report window, you can select any section of the Dictionary listed on the Report window to be printed, filed, or displayed in a set of reports (one report for each section of the Dictionary), or you can produce a report on all the Dictionary sections listed.

Prerequisite System Administration

- You need **read** permission for the Dictionary subsystem to obtain a report.
-

Relationships to Other Subsystems

Timetable

You can place this report on a timetable. See Chapter 6, "Timetables and Shortcuts" for more information.

Report Window

To get a report of any section of the Dictionary listed on the Report window (Figure 7-21), you must complete the following window.

04/20/93 08:30 AM Call Management System Windows: 1 of 1 ^

Dictionary: Report Input

Select any you wish: Run

- ☐ All
- ☐ Login Identification
- ☐ Agent Groups
- ☐ Standard CMS Items
- ☐ Custom Items
- ☐ ACDs
- ☐ Splits/Skills
- ☐ Trunk Groups
- ☐ Call Work Codes
- ☐ VDNs
- ☐ Vectors

Report destination (Select one):

- ☐ Terminal
- ☒ Printer, Printer name: pr1
- ☐ File, File Name _____

Figure 7-21: Dictionary Report Input Window

Field/Action List Usage

Run

Generates the report to the terminal, printer, or file.

Field Descriptions

Select any you wish

Type an **x** next to only the sections of the Dictionary you want a report for. If you want all the Dictionary sections listed, select **All**.

Report destination (Select one)

Type an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you select Printer and want to use a printer other than your default printer, type the printer name in addition to the **x**.
- If you select File, type a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Note

The **All** selection takes a long time to run. You may want to schedule this selection for off-peak hours.

Call Work Codes

Purpose

From the Call Work Codes window, you can add, delete, modify, or view call work codes and their names. These names then appear on the call work code standard historical reports.

Things to Know Before You Start

- For the call work codes menu item to appear, you must have purchased the Call Work Codes feature on the DEFINITY Generic 2.2 switch or the DEFINITY Generic 3 switches.
- Call work code “0” is reserved for unknown/unadministered work codes so that summary data can be collected. The default name for call work code 0 is *Unadministered codes*. You can modify this name.
- Call work codes with **names** can be no longer than nine digits.

Note

Even though you can administer call work codes with digits up to 16 in the ACD Administration subsystem, a call work code associated with a name cannot exceed nine digits. See Chapter 9, “ACD Administration”—Call Work Codes,” for more information on administering call work codes.

Prerequisite System Administration

- You should administer the call work codes in the ACD Administration subsystem Call Work Codes window before you can assign names to the work codes. See Chapter 9, “ACD Administration”—Call Work Codes,” for more information.
- To view call work code names, you must have **read** permission for the Dictionary subsystem. See Chapter 10, “User Permissions”, for more information.
- To add, delete, or modify a call work code name, you must have **write** permission for the Dictionary subsystem. See Chapter 10, “User Permissions”, for more information.

Relationships to Other Subsystems

Standard Historical Reports

Daily, weekly, and monthly historical reports are available for call work codes. The names you add in this window are displayed on the Call Work Code reports.

Timetable

You can place the Call Work Codes window on a timetable. See Chapter 6, "Timetables and Shortcuts" for more information and procedures.

Call Work Codes Window

You must fill out this window if you want names associated with your call work codes to appear on the standard call work code historical reports.

Dictionary: Call Work Codes		acd1
Call work code name: _____		Add
Call work code: _____		Delete
		Find one
		List all
		Modify
		Next
		Previous

Figure 7-22: Call Work Codes Window Example

Field/Action List Usage

Add

The Call work code name and Call work code fields must be completed to add a call work code.

Delete

The Call work code name field is the only required field to delete a work code from the database.

Modify

Update the Call work code name and Call work code fields to modify any call work code record.

Find one or List all

Lists one or all of the call work codes stored in the database.

Field Descriptions

Call work code name

Type the name you want to add, delete, modify, or view for this call work code. The name must begin with a letter and be no more than 20 characters long.

Call work code

Type the call work code, a number between 0 9999999, that corresponds to the name entered in the Call work code name field.

VDNs

Note

If you have not purchased the Vectoring feature, this window is **not** available.

Purpose

You assign names to VDNs so that names, instead of VDN numbers, appear on VDN reports and VDN administration windows. Your VDN names should reflect the configuration of your ACD. A name may indicate a VDN's purpose (sales, customer service, and so on), the destination vector of the VDN (for example, Forc Busy-Nat.Accts), the trunk group(s) assigned to the VDN (for example, wats800-331-1111), and so on.

Use the VDNs window (Figure 7-23) to assign, delete, modify, and view names of your VDNs.

Things to Know Before You Start

- If you assign names to VDNs on the switch, you may want to assign the same names in CMS. However, the names can be different since the switch sends only VDN numbers, not VDN names, to CMS.

A `Find one` or `List all` lists only the VDNs that have already been assigned names. To know what other VDNs are available to you for naming, you should do a `List all` on the ACD Administration: VDN Assignments window. See the "VDN Assignments Window" section in Chapter 9 for more information.

- The "Dictionary-Specific Rules" apply.
 - See Chapter 2, "User Basics" for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- VDNs must be created on the switch and assigned to CMS measurement.
- To list names already assigned to VDNs, you need **read** permission for the Dictionary subsystem and for the specific VDNs whose names you want to see.
- To add, delete, or change a VDN name, you need **write** permission for the Dictionary subsystem and the appropriate VDN.

- See Chapter 10, "User Permissions", for more information on assigning read/write permission.

Relationships to
Other
Subsystems

Reports

When you assign a VDN name, that name appears on all reports (real-time and historical) that include that VDN. If you make any additions or changes to VDN names, the changes do not appear on any real-time report that is currently running. You must exit the report and rerun it to see the new VDN name(s).

Exceptions

If you assign exceptions to VDNs, the VDN names you assign appear in the exceptions text. Also, if you change a VDN name, the new name appears in the exception text for all exceptions logged after the change.

VDNs Window

To add, delete, modify, or view VDN names, you must complete the following window.

07/20/93 08:30 AM

Call Management System

Windows: 1 of 1 ^

Dictionary: VDNs

acd1

VDN name: _____

VDN: _____

Description: _____

Add

Delete

Find one

List all

Modify

Next

Previous

Figure 7-23: VDNs Window

**Field/Action List
Usage**

Find one or List all

To view the name(s) assigned to VDN(s), enter the characters you want to search on in any field(s) and select **Find one** or **List all**.

Add

To add a VDN name, you must complete the **VDN name** and **VDN fields** and select **Add**. The **Description** field is optional.

Modify

To modify a VDN name, you must complete the **VDN name** and **VDN fields** and select **Modify**. To **modify** a VDN description, you must complete either the **VDN name** or **VDN field**, change the description, and select **Modify**.

Delete

To delete a VDN name, complete the **VDN name** and **VDN field**, and select **Delete**.

Field Descriptions**VDN Name**

Type the name of a VDN you want to add, change, delete, or find.

VDN

Type the VDN number (up to five digits) for which you want to add, change, delete, or find a name.

Description

Type a description of the VDN (for example, **customer service - local retail 993-0000**).

Vectors

Note If you have not purchased the Vectoring feature, this window is **not** available.

Purpose

You assign names to vectors so that the names, instead of vector numbers, appear on vector reports and administration windows. Your vector names should reflect the configuration of your ACD. A name may indicate a vector's purpose (**sales**, **customer service**, etc.), the VDN(s) assigned to the vector (for example, **2001,3001,4001**), or the split(s) or skill(s) the vector sends calls to (for example, **sales1**, **sales2**, **audix**).

Use the Vectors window (Figure 7-24) to assign, delete, modify, or view names of your vectors.

Things to Know Before You Start

- You can assign a name to a vector even if the steps in the vector have not actually been defined.

A **Find one** or **List all** lists only vectors that have already been assigned names. To get a list of other vectors available to you for naming, you should do a **List all** on the Vector Configuration Report window. See the "Vector Configuration" section in Chapter 9 for more information.

- The "Dictionary-Specific Rules" apply.
 - See Chapter 2, "User Basics" for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- To list assigned vector names, you need **read** permission for the Dictionary subsystem and for the specific vectors whose names you want to see.
- To add, delete, or change a vector name, you need **write** permission for the Dictionary subsystem and the appropriate vector.
- See Chapter 10, "User Permissions", for more information on assigning read/write permission.

Relationships to Other Subsystems

Reports

When you assign a vector name, that name appears on all reports (real-time and historical) that include that vector. If you make any additions or changes to vector names, the changes do not appear on any real-time report that is currently running. You must exit the report and rerun it to see the new vector name(s).

Exceptions

The vector names you assign appear in the text for vector exceptions. Also, if you change a vector name, the new name appears in the exception text only for exceptions logged after the change.

Vectors Window

To add, delete, modify, or view vector names, you must complete the following window.

07/20/93 08:30 AM		Call Management System		Windows: 1 of 1 ^	
Dictionary: Vectors			acd1		
Vector name: _____ Vector: _____ Description: _____ _____			Add Delete Find one List all Modify Next Previous		

Figure 7-24: Vectors Window

Field/Action List Usage

Find one or List all

To view the name(s) assigned to vector(s), enter the characters you want to search on in any field(s) and select **Find one or List all**.

Add

To add a vector name, you must complete the **Vector name** and **Vector number** fields and select **Add**. The **Description** field is optional.

Modify

To modify a vector name, you must complete the **Vector name** and **Vector number** fields and select **Modify**. To **modify** a vector description, you must complete either the **Vector name** or **Vector number** field, change the description, and select **Modify**.

Delete

To delete a vector name, complete the **Vector name** and **Vector number** field and select **Delete**.

Field Descriptions

Vector Name

Type the name of a vector you want to add, change, delete, or find.

Vector

Type the vector number for which you want to add, change, delete, or find a name.

Description

Type a description of the vector (for example, **customer service - local retail**).

General Information

Use the Exceptions subsystem to:

- Define exceptional conditions for ACD activity involving agents, splits or skills, trunks or trunk groups, vectors and VDNs for which you want notification. You do this using the Exception Administration windows.
- Generate reports on agents, splits or skills, trunks and trunk groups, vectors, VDNs, and other exceptions, including the Real-Time Exceptions Log.

Note

You must have purchased the Vectoring feature to define exception conditions and generate reports for VDNs and vectors. Also, you must have purchased the Expert Agent Selection (EAS) feature to define exception conditions and generate reports for skills.

What an Exception Is

An **exception** is noted when a type of activity on the ACD falls outside of the limits you have defined. When an exception occurs, CMS notifies you in two ways:

- The terminal beeps, flashes, or beeps and flashes at the same time — unless you have disabled both the beep and flash. The default is beep. This notification occurs any time there is an exception, including any ACD, for which you have exceptions permissions. See "Selecting Your Exception Notification" later in this chapter to select the beep and flash.
- In the CMS title bar, the EX field shows a running count of current exceptions for all ACDs for which you have exceptions permission. Whenever an exception occurs, the count increases by one. The count is reset to zero when a new intrahour reporting interval starts.

You can access the Real-Time Exceptions Log (described later in this chapter) for complete messages on current exceptions. You can also generate historical exceptions reports.

Types of Exceptions

An exception can be one of two types— a **peg count exception** or a **timed exception**.

Peg Count Exceptions

A peg count exception occurs when, within the current interval (described later), the number of occurrences of an ACD activity exceeds an occurrence **threshold** you define.

Current Interval for Peg Count Exceptions

The current interval is a set number of minutes which means that CMS starts collecting ACD event occurrences at the beginning of the interval and continues collecting ACD event occurrences until the end of the interval. The current interval can be 15, 30, or 60 minutes.

With the current interval, exception conditions apply **only** to ACD events occurring within the **current** interval you defined. When the current interval changes, all ACD event occurrences are cleared, and CMS begins to count event occurrences again starting from zero. Therefore, when you set your exception conditions, you should make sure they realistically reflect what will trigger an exception within your current interval.

Agent Timed Exceptions

Agent timed exceptions are tracked from the time the agent logs in until the agent logs out, and these exceptions can occur multiple times during the login period or even within an interval. The exception count is cleared when the agent leaves the state that triggered the exception.

For example, you could define an exception to notify you whenever agents spend more than 5 minutes in AUX. Then when an agent spends longer than 5 minutes in AUX work, an exception is triggered for that agent, and the exception remains active until the agent changes to some other state, such as AVAIL (available).

Other Timed Exceptions

A timed exception occurs when, within a single interval (always starting from the beginning of the intrahour interval), the number of occurrences of an ACD activity exceeds a threshold **and** the duration of each occurrence is either **less than a minimum time limit or greater than a maximum time limit**.

For example, you may set the acceptable time limit for any call to wait in queue before being answered at 20 seconds. You may then define an occurrence threshold of 3 for the number of acceptable calls which can wait in the queue for 20 seconds. If, within an interval, more than 3 separate calls wait in the queue longer than 20 seconds, an exception occurs.

Timed occurrence thresholds apply **only** to ACD activity within the last interval. At the beginning of the interval, the occurrence count for any timed exception type is cleared and starts again from zero.

However, since the time limit for a timed exception type can be more than one hour, the duration of an exception activity is not cleared at the end of the intrahour interval. Thus, CMS continues to track the time spent on an exception activity if that activity continues from one interval into the next.

Interval for Timed Exceptions

The limit for timed exceptions applies to occurrences that happen within each interval, starting and ending at the beginning of the intrahour intervals.

Exceptions Count in the Title Bar

The exceptions count in the EX: field in the Title Bar shows current total of both peg count exceptions and timed exceptions for all ACDs for which you have exception permissions. The exceptions count is cleared at the end of the interval. The maximum exception count shown on the title bar is 9999.

General Rules for Administering Exceptions

- For any exception type, the occurrence threshold must be from 0 to 999.
- For timed exceptions, the time limit for each occurrence must be from 0 to 28,800 seconds (the equivalent of 8 hours).
- Whenever you define or change exceptions, CMS starts checking for the exceptions immediately as long as data collection is on.
- If you enter a time limit for an activity, you must also enter an occurrence threshold for the same activity.
- By default, most exceptions are turned *off* (not active). Exceptions checking for the following events are **always turned on** and **cannot** be turned off.
 - Malicious call traces (Generic 2, Generic 3r, and Generic 3 Version 3 only)
 - Data collection disruptions
 - Agent login attempts that are not permitted.

User Permissions for Exceptions

You must have **read** permission for the Exceptions subsystem to access the Real-Time Exceptions Log or historical exceptions reports. You must have **write** permission to set up or modify checking for exceptions. Permission for the Exceptions subsystem is assigned using the User Permissions: Feature Access window (See Chapter 10, "User Permissions").

You must have exceptions permissions for a particular split or skill, trunk group, VDN, or vector to be notified (by beeping, flashing, or the exception count) of an exception for that element and to see exceptions in the real-time exceptions log for the particular split or skill, trunk group, VDN, or vector. Permissions for specific splits or skills, trunk groups, VDNs, or vectors are assigned in one of the following windows:

- User Permissions: Split/Skill Access
- User Permissions: Trunk Group Access
- User Permissions: Vector Access
- User Permissions: VDN Access.

If you have multiple ACDs, you must have permission for each ACD to get exceptions for that ACD. You must also have permissions for a particular split/skill, trunk group, VDN, or vector for the ACD to be notified of an exception for that element and to see exceptions in the real-time exceptions log.

See Chapter 10, "User Permissions", for more information.

Note If you have exceptions permission for a particular split or skill, but you *do not* have **read** permission for the Exceptions subsystem, CMS notifies you on the title bar and via a beep and/or flash when certain exceptions occur, even though you cannot access the Real-Time Exception Log or historical exception reports. (See the following table.)

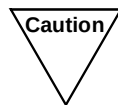
Table 8-1: Capabilities Based on Permissions (Example for a Split/Skill)

Read Permission - Exceptions Subsystem	Exceptions Permission for Split/Skill	Information You Can Get About Exceptions
yes	yes	Exception reports for split or skill, messages for split or skill in Exception Log, and real-time notification of exceptions for split or skill.
yes	no	Exception reports for split or skill, but no messages for split or skill in Exception Log, and no real-time notification of exceptions for split or skill.
no	yes	Real-Time notification of exceptions for split or skill, but no access to the Exception Log or any exception reports.
no	no	No access to Exception Log, exception reports, and no notification of exceptions for split or skill.

Relationships to Other Subsystems

System Setup

The number of historical exception records that CMS stores is assigned in the System Setup: Data Storage Allocation window. CMS can store up to 2000 exception records of each type. This number is the total for all ACDs for each category of ACD element. Thus, you can store up to 2000 agent, 2000 split or skill, 2000 trunk group, 2000 VDN, and 2000 vector exception records across all ACDs.



Whenever you do a **Modify** from the Data Storage Allocation window, the exception records for the current intrahour interval are removed.

Maintenance

You cannot back up historical exceptions records. If a backup is performed using the Maintenance: Backup Data window, only your exception administration is backed up.

Dictionary

When you set up CMS to check for exceptions or order exception reports, you may enter split or skill, trunk group, VDN, and vector name, instead of numbers if you have created the names in the appropriate window in the Dictionary subsystem. (See Chapter 7, "Dictionary", for more information.)

After you have created the names, exception notices in the Real-Time Exception Log and data in the historical exception reports use those names instead of numbers.

Custom Reports

In the Custom Reports subsystem, you may create custom exception reports or reports that combine exceptions data with regular historical data.

Note

Although the Custom Reports subsystem lets you copy standard real-time and historical reports into a custom report, you **cannot** copy a standard exceptions report into a custom report. Instead, you must individually specify any and all exception items you want in a custom report.

See the AT&T 585-215-523, *Call Management System Custom Reports*, document for information on creating custom reports.

Timetable

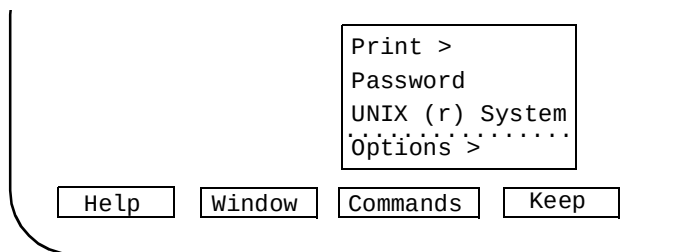
You can schedule exceptions administration and reports using Timetable. See Chapter 6, "Timetables and Shortcuts", for more information and procedures.

Selecting Your Exception Notification

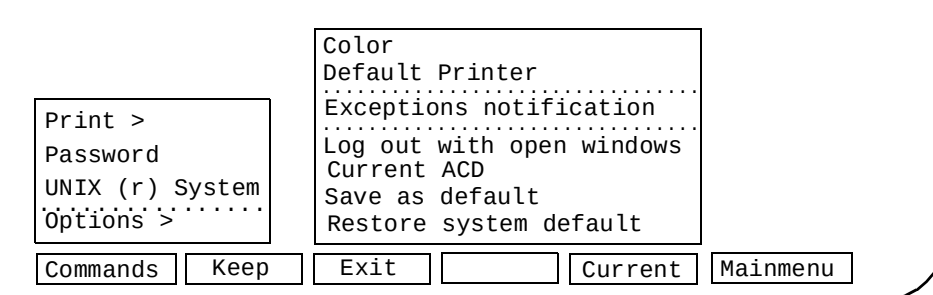
When you receive an exception notification, you can have your screen flash, beep, beep and flash, or not beep and not flash. Beep is the default value. To change your exception notification, select the **Commands** SLK, then Options, and finally the Exceptions notification menu item.

Procedure

1. Press the **Commands** SLK. → *The Commands menu displays.*



2. Select Options > and press **Return** → *The Options menu displays.*



3. Select Exception notification and press **Return** → *The Exception Notification window displays.*

Return

Exception Notification	All ACDs
Select any you wish:	Modify
[x] beep	
[] screen flash	

4. Enter an **x** next to beep or screen flash (both, either, or neither) and press **Return** → *The Options menu displays.*
5. Press **Return** again. → *Working appears on the status line until the action completes, then Successful appears.*
6. Press **Exit** to return to the current open window. → *The Exception Notification window disappears.*

Exceptions Menus

Purpose

You must advance through the exceptions submenus (Figure 8-1 and Figure 8-2) to access appropriate windows for the following general tasks:

- Administering agent, split or skill, trunk/trunk group, vector, and VDN exceptions.
- Accessing the Real-Time Exceptions Log.
- Ordering historical agent, split or skill, trunk/trunk group, vector, VDN, malicious call trace, and data collection exceptions reports.

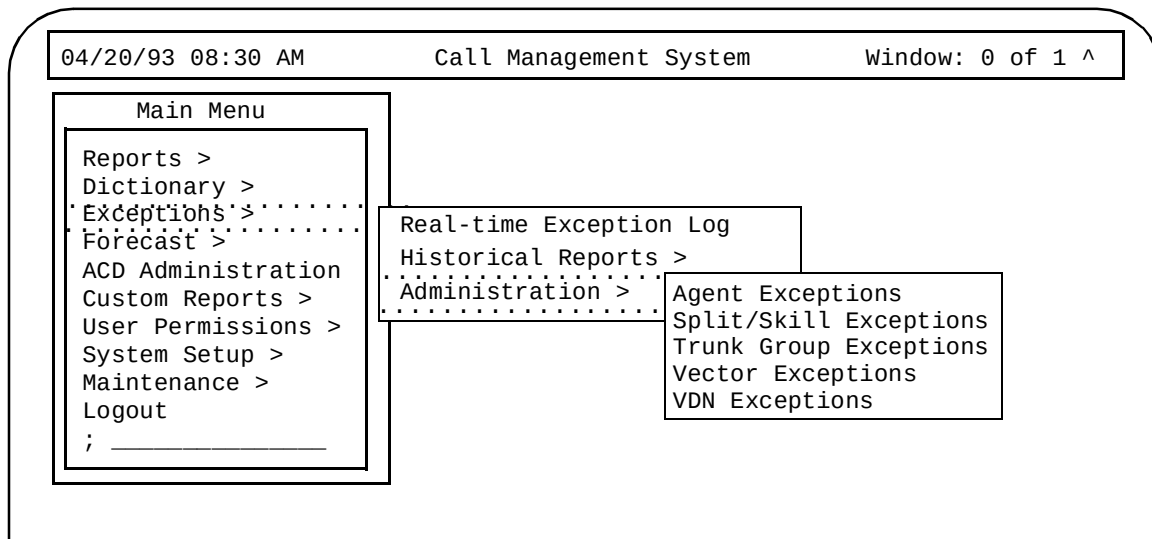


Figure 8-1: Administration Exceptions Submenu

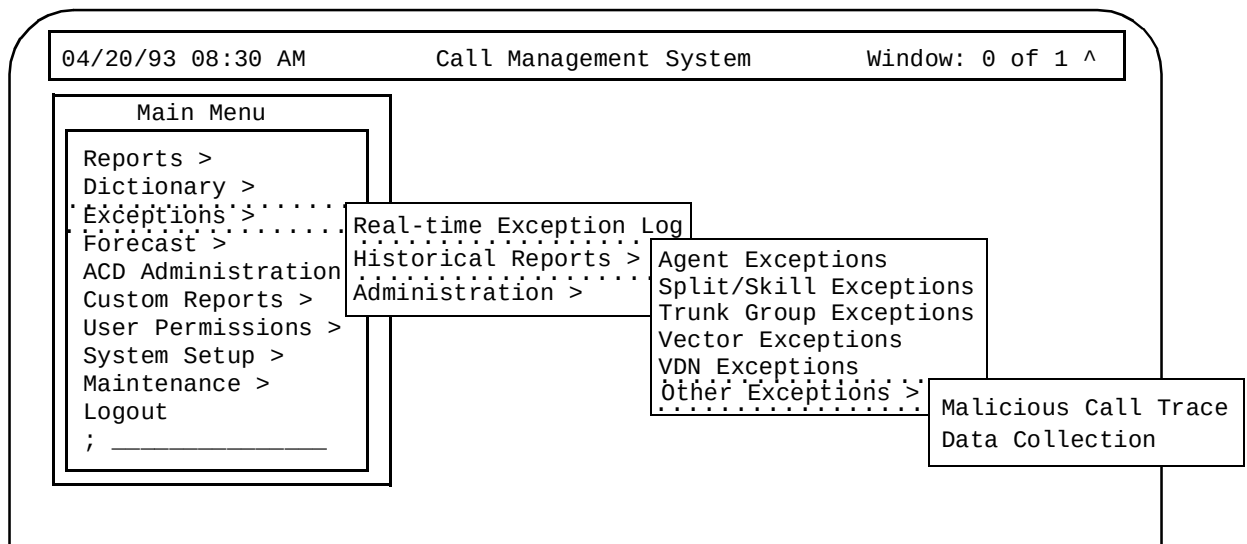


Figure 8-2: Historical Report Exceptions Submenus

Note

Although the Exceptions menu lists the Real-Time Exceptions Log and Historical Reports before Administration, you should set up your exception conditions before you look at the real-time exceptions log and order reports. If you look at the log and order reports *before* you set any exception conditions, you won't see any data except for link down and malicious call trace exception conditions. Therefore, this chapter presents the Exception Administration descriptions **before** the real-time exceptions log and historical reports.

Agent Exceptions Administration

Purpose

Use the Agent Exceptions Administration window to define exceptions and to turn on CMS checking for agent exceptions.

Things to Know Before You Start

- Agent exceptions are administered on a per-split or per-skill basis.
 - “External outbound” exceptions are a subset of “outbound” exceptions. If both types of exceptions are administered, the limit for “external outbound” covers external outbound calls, and the limit for “outbound” covers **only** internal outbound calls.
 - All the standard procedures and common rules apply. See Chapter 2, “User Basics” for this information.
 - Review the first three sections in this chapter:
 - “General Rules for Administering Exceptions”
 - “User Permissions for Exceptions” for read/write information
 - “Relationships to Other Subsystems”.
-

Agent Exceptions Window

You must fill out the Agent Exceptions Administration window to set up and turn on CMS checking for agent exceptions.

05/27/93 08:30 AM

Call Management System

Window: 1 of 6 ^

Exceptions: Administration: Agent Exceptions

acd1

Split(s)/Skill(s):

Active	Time Limit	Thres- hold	Exception Type
<u> n </u>	<u> 0 </u>	<u> 0 </u>	Time available
<u> n </u>	<u> 0 </u>	<u> 0 </u>	Time on inbound ACD call (min)
<u> n </u>	<u> 0 </u>	<u> 0 </u>	Time on inbound ACD call (max)
<u> n </u>	<u> 0 </u>	<u> 0 </u>	Time in after call work
<u> n </u>	<u> 0 </u>	<u> 0 </u>	Time on inbound ACW call
<u> n </u>	<u> 0 </u>	<u> 0 </u>	Number of inbound ACW calls/agent
<u> n </u>	<u> 0 </u>	<u> 0 </u>	Time on outbound ACW calls/agent
<u> n </u>	<u> 0 </u>	<u> 0 </u>	Number of outbound ACW calls/agent
<u> n </u>	<u> 0 </u>	<u> 0 </u>	Time in AUX work
<u> n </u>	<u> 0 </u>	<u> 0 </u>	Time on inbound AUX call
<u> n </u>	<u> 0 </u>	<u> 0 </u>	Number of inbound AUX calls/agent
<u> n </u>	<u> 0 </u>	<u> 0 </u>	Time on outbound AUX call
<u> n </u>	<u> 0 </u>	<u> 0 </u>	Number of outbound AUX calls/agent

Add

Delete

Find one

Modify

Next

Previous

Figure 8-3: Agent Exceptions Administration Window

05/27/93 12:30 AM		Call Management System		Window: 1 of 6 ^
Exceptions: Administration: Agent Exceptions				acd1
Split(s)/Skill(s): _____ Time Thres- Active Limit hold Exception Type				Add Delete Find one Modify Next Previous
n Login identification				
n 10 4 Time on outbound ACD call (min)				
n 300 0 Time on outbound ACD call (max)				
n 4 Number calls transferred				
n 60 1 Time ACD call spent on hold				
n 4 Number ACD calls placed on hold				
n 0 Number ACD calls abandoned while on hold				
n 30 0 Time ACD call spends ringing				
n 0 Ringing call automatically redirected from agent				
n 0 0 Time on direct agent call				
n 0 0 Number calls in direct agent queue				
n 0 0 Time call waited in direct agent queue				

05/27/93 12:30 AM		Call Management System		Window: 1 of 6 ^
Exceptions: Administration: Agent Exceptions				acd1
Split(s)/Skill(s): _____ Time Thres- Active Limit hold Exception Type				Add Delete Find one Modify Next Previous
n 0 0 Number calls abandoned from direct agent queue				
n 0 0 Number calls outflowed from direct agent queue				
n 0 0 Time on external outbound ACW calls				
n 0 0 Number of external outbound ACW calls/agent				
n 0 0 Time on external outbound AUX calls				
n 0 0 Number of external outbound AUX calls/agent				
n 0 0 Agent Logged out with active/held calls				

Figure 8-3: Agent Exceptions Administration Window (Contd)

Field/Action List Usage	Delete
	To Delete all exceptions administration for all agents in a split or skill, you only need to complete the Split(s)/Skill(s) field.
Field Descriptions	Add or Modify
	To Add or Modify exceptions administration, you must complete the Split(s)/Skill(s) field and the fields for any exceptions you want to turn on or off.
Field Descriptions	Split(s)/Skill(s)
	Type the split or skill number(s) or name(s) for which you want to set up or modify CMS checking for exceptions.
	Active (Required field)
	Type y or n to turn each desired exception type on or off.
	Time Limit (Required field)
Field Descriptions	For each desired timed exception type, enter a length of time to trigger the counting of an occurrence against the exception threshold when the agent's ACD time exceeds or falls below the limit. The time you enter is in seconds, from 0 to 28800.
	This field requires an entry even if the Active field value is no.
	Threshold (Required field)
Field Descriptions	For each desired exception type, enter a number from 0 to 999 to define the number of acceptable occurrences. Anything above that number generates an exception. If you want the first occurrence of an exception to notify you, then enter 0 in this field.
	This field requires an entry even if the Active field value is no.

Agent Exception Types	Table 8-2 describes each agent exception type. CMS checking for agent time exceptions begins when the exception has been triggered (i.e., the threshold has been exceeded). The exception count is cleared when the agent leaves the state that triggered the exception. The exception count is also cleared when the agent logs out. Timed exceptions are tracked from the time an agent logs in until the agent logs out. These exceptions can trigger more than once within an interval.

Table 8-2: Definitions of Agent Exception Types

Agent Exception	What It Means
Time Available	The time any agent spends in AVAIL (that is, idle). CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified of the exception. When the agent changes state, the exception is cleared and counting starts again.
Time on inbound ACD call (min)	The minimum time you want any agent on an ACD call. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the minimum time is not reached, an occurrence is counted toward the threshold. When the threshold is exceeded, you are notified. This exception can trigger more than once within an intrahour interval.
Time on inbound ACD call (max)	The maximum time you want any agent on an ACD call. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception remains active until the agent changes to another state or logs out. This exception can trigger more than once within an intrahour interval.
Time in after call work	The maximum time you want any agent in after call work. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception remains active until the agent changes to another state or logs out. This exception can trigger more than once within an intrahour interval.
Time on inbound ACW call	The maximum time you want any agent to spend on an inbound call while in after call work. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception remains active until the agent changes to another state or logs out. This exception can trigger more than once within an intrahour interval.
Number of inbound ACW calls/agent	The total number of inbound calls an agent can receive while in after call work. When the threshold is exceeded, you are notified. This exception cannot trigger more than once within an interval.
Time on outbound ACW call	The maximum time you want any agent to spend on an outbound call while in after call work. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception remains active until the agent changes to another state or logs out. This exception can trigger more than once within an intrahour interval.

Table 8-2: Definitions of Agent Exception Types (Contd)

Agent Exception	What It Means
Number of outbound ACW calls/agent	The total number of outbound calls an agent can make while in after call work. When the threshold is exceeded, you are notified. This exception cannot trigger more than once within an interval.
Time in AUX work	The maximum time any agent can spend in auxiliary work. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception remains active until the agent changes to another state or logs out. This exception can trigger more than once within an intrahour interval.
Time on inbound AUX call	The maximum time you want any agent to spend on an inbound call while in AUX (auxiliary) work. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception remains active until the agent changes to another state or logs out. This exception can trigger more than once within an intrahour interval.
Number of inbound AUX calls/agent	The total number of inbound calls an agent can receive while in AUX (auxiliary) work. When the threshold is exceeded, you are notified. This exception cannot trigger more than once within an interval.
Time on outbound AUX call	The maximum time you want any agent to spend on an outbound call while in AUX (auxiliary) work. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception remains active until the agent changes to another state or logs out. This exception can trigger more than once within an intrahour interval.
Number of outbound AUX calls/agent	The total number of outbound calls an agent can place while in AUX (auxiliary) work. When the threshold is exceeded, you are notified. This exception cannot trigger more than once within an interval.
Login identification	Notification of when a login violation occurs. A violation can occur when an agent attempts to log in with an ID that is not in the Dictionary. A violation can also occur if an agent tries to log in with two different IDs at the same physical extension. In this case, CMS notifies you if the agent tries to log into one split or skill a second time while already logged in or if the agent tries to log into multiple splits with more than one ID. In the case with multiple splits or skills, no data is collected for the second or third ID.

Table 8-2: Definitions of Agent Exception Types (Contd)

Agent Exception	What It Means
Note	If you enter an n to turn off this exception, only checking for Dictionary login violations is turned off. You cannot turn off checking for agents who try to log in using more than one login ID. This exception cannot trigger more than once within an interval.
Time on outbound ACD call (min) (Generic 1, Generic 3 only)	The minimum time you want any agent on an outbound ACD call. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception can trigger more than once within an intrahour interval.
Time on outbound ACD call (max) (Generic 1, Generic 3 only)	The maximum time you want any agent on an outbound ACD call. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception remains active until the agent changes to another state or logs out. This exception can trigger more than once within an intrahour interval.
Number calls transferred	The total number of calls any agent can transfer. When the threshold is exceeded, you are notified. (With Generic 1, you are only notified if the agent transfers a call to a measured agent or a measured split or skill.) This exception cannot trigger more than once within an interval.
Time ACD call spent on hold (Generic 2; System 85, R2V4; Generic 3 only)	The maximum time an agent can put an ACD call on hold. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception can trigger more than once within an interval.
Number ACD calls placed on hold (Generic 2; System 85, R2V4; Generic 3 only)	The maximum number of ACD calls an agent can place on hold. When the threshold is exceeded, you are notified. This exception cannot trigger more than once within an interval.
Number ACD calls abandoned while on hold (Generic 2; System 85, R2V4; Generic 3 only)	The maximum number of calls abandoned after being placed on hold by an agent. When the threshold is exceeded, you are notified. This exception cannot trigger more than once within an interval.

Table 8-2: Definitions of Agent Exception Types (Contd)

Agent Exception	What It Means
Time ACD call spends ringing (System 85 R2V4, Generic 2, Generic 3 only)	The maximum time a split or skill or direct agent call can ring at an agent's telephone before an exception is pegged. CMS checks the allowed ringing time before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception can trigger more than once within an intrahour interval.
Ringing call automatically redirected from agent (Generic 3 Versions 2 only)	The ACD call is requeued to the split or skill. This exception triggers if an agent lets an ACD call ring at the voice terminal and the switch attempts to requeue the call automatically to the split or skill. When this happens, the agent is automatically put into AUX work. There is no count associated with this exception, and you must have the Redirection on No Answer feature on the switch.
Time on direct agent call (Generic 3 only)	The maximum time (in seconds) you want any agent to spend on a direct agent call. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception remains active until the agent changes to another state or logs out, and this exception can trigger more than once within an intrahour interval.
Number calls in direct agent queue (Generic 3 only)	The maximum number of direct agent calls an agent can have waiting in queue. Each time the threshold is exceeded in the interval, you are notified. For example, if the threshold to trigger an exception for the agent is "3" and the number of calls in queue exceeded "3" at five different times during the interval, you are notified five different times of the exception.
Time call waited in direct agent queue (Generic 3 only)	The maximum time you want any call in the direct agent queue to wait. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception remains active until the agent changes to another state or logs out. This exception can trigger more than once within an intrahour interval.
Number calls abandoned from direct agent queue (Generic 3 only)	The maximum number of direct agent calls that can abandon from the direct agent queue. When the threshold is exceeded, you are notified. This exception cannot trigger more than once within an interval.
Number calls outflowed from direct agent queue (Generic 3 only)	The maximum number of direct agent calls that outflowed from the direct agent queue. When the threshold is exceeded, you are notified. This exception cannot trigger more than once within an interval.

Table 8-2: Definitions of Agent Exception Types (Contd)

Agent Exception	What It Means
Time on external outbound ACW call (Generic 3, Generic 2.2 only)	The maximum time (in seconds) you want an agent to spend on an external outbound call while in after call work (ACW). CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception remains active until the agent changes to another state or logs out. This exception can trigger more than once within an intrahour interval.
Number of external outbound ACW calls/agent (Generic 3, Generic 2.2 only)	The maximum number of external outbound calls that an agent can make while in after call work (ACW). When the threshold is exceeded, you are notified. This exception cannot trigger more than once within an interval.
Time on external outbound AUX call (Generic 3, Generic 2.2 only)	The maximum time (in seconds) you want an agent to spend on an external outbound call while in AUX (auxiliary) work. CMS checks the allowed time limit for the agent before an occurrence is counted against the threshold. When the threshold is exceeded, you are notified. This exception remains active until the agent changes to another state or logs out. This exception can trigger more than once within an intrahour interval.
Number external outbound AUX calls/agent (Generic 3, Generic 2.2 only)	The maximum number of external outbound calls that an agent can make while in AUX (auxiliary) work. When the threshold is exceeded, you are notified. This exception cannot trigger more than once within an interval.
Agent logged out with active/held calls	The agent had calls that were active or on hold when he logged out of CMS. This exception does not have a time limit or threshold count associated with it.
Agent denied login to some skills	This exception does not appear on the administration window. It is always enabled.

Split/Skill Exceptions Administration

Purpose

Use the Split/Skill Exceptions Administration window to define exceptions and turn on CMS checking for split or skill exceptions.

Things to Know Before You Start

- You must have purchased the EAS feature to define exception conditions for skills.
 - All standard procedures and common rules apply. See Chapter 2, "User Basics" for this information.
 - The sections in this chapter listed below also apply to Split/Skill Exception Administration:
 - "General Rules for Administering Exceptions"
 - "User Permissions for Exceptions" for read/write information
 - "Relationships to Other Subsystems".
-

Split/Skill Exceptions Window

You must fill out the Split/Skill Exceptions window to set up and turn on CMS checking for split or skill exceptions.

05/27/93 08:30 AM

Call Management System

Window: 1 of 6 ^

Exceptions: Administration: Split/Skill Exceptions

acd1

Split(s)/Skill(s):

Active	Time Limit	Thres- hold	Exception Type
<u>n</u>	<u>20</u>	<u>2</u>	Time call has waited in queue
<u>n</u>		<u>3</u>	Number calls waiting in queue
<u>n</u>		<u>2</u>	Number calls abandoned
<u>n</u>	<u>20</u>	<u>0</u>	Average speed of answer (seconds)
<u>n</u>		<u>0</u>	Number intraflowed-out calls
<u>n</u>		<u>0</u>	Number intraflowed-in calls
<u>n</u>		<u>0</u>	Number interflowed-out calls
<u>n</u>		<u>2</u>	Number calls handled as backup
<u>n</u>		<u>0</u>	Number calls transferred
<u>n</u>		<u>1</u>	Number calls offered while queue full

Add

Delete

Find one

Modify

Next

Previous

Figure 8-4: Split/Skill Exception Administration Window

Field/Action List Usage	Delete To delete all exceptions administration for a split or skill, you need only complete the Split(s)/Skill(s) field. Add or Modify To Add or Modify exceptions administration, you must complete the Split(s)/Skill(s) field and the fields for any exceptions you want to turn on or off.

Field Descriptions	Split(s)/Skill(s) Type the split or skill number(s) or name(s) for which you want to set up or modify CMS exception checking. Active (Required field) Type y or n to turn each desired exception type on or off. Time Limit (Required field) For each desired timed exception type, enter a length of time to trigger the counting of an occurrence against the exception threshold when that time exceeds or falls below the limit. The time you enter is in seconds, from 0 to 28800. This field requires an entry even if the Active field value is no. Threshold (Required field) For each desired exception type, enter a number from 0 to 999 to define the number of acceptable occurrences. Anything above that number generates an exception. If you want the first occurrence of an exception to notify you, enter a 0 in this field. This field requires an entry even if the Active field value is no.

Split/Skill Exception Types	Table 8-3 describes each split/skill agent exception type.

Table 8-3: Definitions of Split/Skill Exceptions Type

Split/Skill Exception	What It Means
Time call has waited in queue	The total acceptable time any call in queue can wait to be answered before an occurrence is counted against the threshold limit (your acceptable time). When a call in queue exceeds the threshold, you are notified. This exception cannot trigger more than once within an interval.
Number calls waiting	The total number of calls that you want waiting in queue at any one time. Since this condition can come and go, each time the number of waiting calls exceeds your threshold, you are notified. For example, if the threshold to trigger an exception for the split or skill is “5” and the number of calls in queue exceeded “5” at two different times during the interval, you are notified two different times of the exception.
Number calls abandoned	The total number of acceptable abandoned calls. When the number of abandoned calls exceeds the threshold, you are notified. This exception cannot trigger more than once within an interval.
Average speed of answer (seconds)	The average speed of call answering. When the average speed of answer for the split or skill is longer than the limit administered, an occurrence is counted against the threshold limit. The average is computed at the end of each call. If the average speed of answer is greater than the administered limit, an occurrence is counted against the threshold. When the number of occurrences exceeds the average speed of answer threshold, you are notified. This exception cannot trigger more than once within an interval.
Number intraflowed-out calls	The acceptable number of calls that can intraflow out of the split or skill before an occurrence is counted against the threshold limit. When the number of intraflowed-out calls exceeds the threshold, you are notified. This exception cannot trigger more than once within an interval.
Number intraflowed-in calls	The acceptable number of calls that can intraflow in to the split or skill before an occurrence is counted against the threshold limit (your acceptable number). When the number of intraflowed-in calls exceeds your threshold, you are notified. This exception cannot trigger more than once within an interval.
Number interflowed-out calls	The acceptable number of calls that can interflow out of the split or skill before you are notified. This exception cannot trigger more than once within an interval.

Table 8-3: Definitions of Split/Skill Exceptions Type (Contd)

Split/Skill Exception	What It Means
Number calls handled as backup (Generic 3, System 85 R2V4, and Generic 2 with vectoring only)	The acceptable number of calls that this split or skill can handle as a backup for another split or skill before you are notified. This exception cannot trigger more than once within an interval.
Number calls transferred (System 85 R2V4, Generic 2.1 with vectoring, Generic 2.2, and Generic 3 only)	The acceptable number of calls that can be transferred from this split or skill before you receive an exception notification. This exception cannot trigger more than once within an interval.
Number calls offered while queue full (Generic 1 and Generic 3 only)	The acceptable number of calls that can be offered to the split or skill while the queue is full before you receive an exception notification. This exception cannot trigger more than once within an interval.

Trunk/Trunk Group Exceptions Administration

Purpose

Use the Trunk Group Exceptions Administration window to define exceptions and turn on CMS checking for trunk/trunk group exceptions.

Things to Know Before You Start

- All standard procedures and common rules apply. See Chapter 2, "User Basics" for this information.
 - Review the first three sections in this chapter:
 - "General Rules for Administering Exceptions"
 - "User Permissions for Exceptions" for read/write information
 - "Relationships to Other Subsystems".
 - The Audio Difficulty exception is always provided for all switches that support stroke counts.
-

Trunk Group Exceptions Window

To define and turn on CMS checking for trunk group exceptions, you must complete the Trunk Group Exceptions window.

Active	Time Limit	Thres-hold	Exception Type
<u>n</u>	<u>1</u>	<u>9</u>	Time trunk in use (min)
<u>n</u>	<u>1800</u>	<u>2</u>	Time trunk in use (max)
<u>n</u>	<u>0</u>	<u>0</u>	Time any trunk maintenance busy
<u>n</u>	<u>0</u>	<u>0</u>	Length of time all trunks busy
<u>n</u>		<u>4</u>	Number trunk failures in group
<u>n</u>		<u>200</u>	Number of trunks in use
<u>n</u>		<u>4</u>	Number of trunks maintenance busy
<u>n</u>		<u>2</u>	Number of failures on a single trunk

Figure 8-5: Trunk Group Exceptions Administration Window

Field/Action List Usage	Delete To Delete all exceptions administration for a trunk group, you only have to complete the Trunk groups field. Add or Modify To Add or Modify exceptions administration, you must complete the Trunk groups field and the fields for any exceptions you want to turn on or off.

Field Descriptions	Trunk groups Type the trunk group number(s) or name(s) for which you want to set up or modify CMS checking for trunk group exceptions. Active (Required field) Type y or n to turn each desired exception type on or off. Time Limit (Required field) For each desired timed exception type, enter a length of time to trigger the counting of an occurrence against the exception threshold when that time exceeds or falls below the limit. The time you enter is in seconds, from 0 to 28800. This field requires an entry even if the Active field value is no. Threshold (Required field) For each desired exception type, enter a number from 0 to 999 to define the number of acceptable occurrences. Anything above that number generates an exception. If you want the first occurrence of an exception to notify you, enter a 0 in this field. This field requires an entry even if the Active field value is no.

Trunk/Trunk Group Exception Types	Table 8-4 describes each trunk group exception type

Table 8-4: Definitions of Trunk/Trunk Group Exception Types.

Trunk/Trunk Group Exception	What It Means
Time trunk in use (min) (Exceptions per trunk)	The minimum acceptable time a trunk in the trunk group can be in use. CMS checks the allowed time the trunk is in use before an occurrence is counted against the threshold for that trunk. When the threshold is exceeded, you receive an exception notification for that trunk. This exception cannot trigger for the same trunk more than once within an interval.
Time trunk in use (max) (Exceptions per trunk)	The maximum acceptable time a trunk in the trunk group is in use. CMS checks the allowed time the trunk is in use before an occurrence is counted against the threshold for that trunk. When the threshold is exceeded, you receive an exception notification for that trunk. This exception cannot trigger for the same trunk more than once within an interval.
Time any trunk maintenance busy (Exceptions per trunk)	The maximum time a trunk in the trunk group can be maintenance busy. CMS checks the allowed time the trunk is maintenance busy before an occurrence is counted against the threshold for that trunk. When the threshold is exceeded, you receive an exception notification for that trunk. This exception cannot trigger for the same trunk more than once within an interval.
Length of time all trunks busy (exceptions per trunk group)	The total time all trunks can be busy in the trunk group without counting as an occurrence. When the threshold is exceeded, you receive an exception notification. This exception cannot trigger more than once within an interval.
Number of trunk failures in group (exceptions per trunk group)	The maximum acceptable number of trunks failing to carry a call in a trunk group. CMS checks the allowed number of trunk failures before you receive an exception notification. This exception cannot trigger more than once within an interval.
Number of trunks in use (exceptions per trunk group)	The maximum acceptable number of trunks that can be in use at any one time in the trunk group. Since this condition can come and go, you receive an exception notification each time the allowed number of trunks in use exceeds your threshold within the interval.
Number of trunks maintenance busy (exceptions per trunk group)	The maximum acceptable number of trunks that can be maintenance busy in the trunk group without receiving an exception. Since this condition can come and go, you receive an exception notification each time the allowed number of trunks maintenance busy exceeds the threshold within the interval.

Trunk/Trunk Group Exception	What It Means
Number of failures on a single trunk (exceptions per trunk)	The maximum acceptable number of failures a single trunk can have in the trunk group without counting as an occurrence. CMS checks the allowed number of trunk failures before you receive an exception notification for that trunk. This exception cannot trigger for the same trunk more than once within an interval.

| VDN Exceptions Administration

Note

If you do not have the Vectoring feature, the VDN Exceptions Administration window is not available.

Purpose

| Use the VDN Exceptions Administration window (Figure 8-6) to define exceptions and turn on CMS checking for VDN exceptions.

Things to Know Before You Start

- On Generic 2.2 and Generic 3, because of the “go to vector” command, the exception “Time in vector” may include time in more than one vector.
 - All standard procedures and common rules apply. See Chapter 2, “User Basics” for this information.
-

Prerequisite System Administration

- Some exception types require that an appropriate step exist in the vector to which the VDN is assigned. For example, to get exceptions on unsuccessful lookahead interflow attempts, the VDN's vector must have at least one “route to” step which routes calls to a vector on a remote switch.
- | • See “User Permissions for Exceptions” earlier in this chapter for the read/write information.

VDN Exceptions Window

To define and turn on CMS checking for VDN exceptions, you must fill out the VDN Exceptions window.

05/27/93 08:30AMCall Management SystemWindow: 1 of 6 ^

Exceptions: Administration: Agent Exceptionsacd1

VDN(s):TG45 to 47

Active	Time Limit	Thres-hold	Exception Type
<u>y</u>	<u>30</u>	<u>0</u>	Time in vector (max)
<u>n</u>	<u>0</u>	<u>0</u>	Time at agent (min)
<u>n</u>	<u>0</u>	<u>0</u>	Time at agent (max)
<u>n</u>		<u>0</u>	Number calls abandoned while in vector
<u>n</u>		<u>0</u>	Number calls forced busy
<u>y</u>		<u>0</u>	Number calls disconnected
<u>n</u>		<u>0</u>	Number calls in an ACD split queue
<u>y</u>		<u>0</u>	Number calls that flowed into VDN
<u>n</u>		<u>0</u>	Number calls that flowed out of VDN
<u>n</u>		<u>0</u>	Number calls interflowed out of VDN
<u>n</u>		<u>0</u>	Number calls handled by backup split
<u>n</u>		<u>0</u>	Number unsuccessful lookahead interflow attempts
<u>n</u>		<u>0</u>	Number unsuccessful adjunct routing attempts

AddDeleteFind oneModifyNextPrevious

Figure 8-6: VDN Exceptions Administration Window

Field/Action List Usage

Delete
To delete all exceptions administration for a VDN, you must complete only the VDNs field.

Add or Modify
To Add or Modify exceptions administration, you must complete the VDNs field and all fields for any exceptions you want to turn on or off.

Field Descriptions**VDNs**

Type the VDN number(s) or name(s) for which you want to set up or modify checking for VDN exceptions.

Active (Required field)

Enter **y** or **n** to turn each desired exception type on or off.

Time Limit (Required field)

For each desired timed exception type, a length of time to trigger the counting of an occurrence against the exception when the VDN's time exceeds or falls below the limit. The time you enter is in seconds, from 0 to 28800.

This field required an entry even if the **Active** field value is no.

Threshold (Required field)

Enter a number from 0 to 999 to define the number of acceptable occurrences of an exception type. Any thing above that number generates an exception. If you want the first occurrence of an exception to notify you, enter a **0** in the field.

This field required an entry even if the **Active** field value is no.

**VDN Exception
Types**

Table 8-5 describes each VDN exception type. CMS checking for VDN exceptions begins when a call connects to the VDN and ends when the call is disconnected, sent to another VDN, or sent to a look-ahead vector or another external destination. The call remains connected to the VDN if the call routes (via the "go to vector" step) to another vector or the call is sent (via a "route to" or "adjunct routing" step) to an extension internal to the local switch.

Table 8-5: Definition of VDN Exception Types

VDN Exception Type	What It Means
Time in vector (max)	The length of time that a call is connected to a vector. An occurrence is counted against the threshold when the time exceeds the number of seconds specified in the <code>Time Limit</code> field. This exception cannot trigger more than once within an interval.
Time at agent (min)	The length of time a call is connected to an agent (while still connected to the VDN). An occurrence is counted against the threshold when the time does not last as long as the number of seconds specified in the <code>Time Limit</code> field.
Time at agent (max)	The length of time that a call is connected to an agent (while still connected to the VDN). An occurrence is counted against the threshold when the time exceeds the number of seconds specified in the <code>Time Limit</code> field. This exception cannot trigger more than once within an interval.
Number calls abandoned while in vector	The calls that are abandoned while in a split/skill, ringing, or routed to other vectors in the ACD. An occurrence is counted against the threshold each time a call is abandoned during vector processing. This exception cannot trigger more than once within an interval.
Number calls forced busy	The number of calls that received a forced busy during vector processing. An occurrence is counted against the threshold each time a call is given a busy signal by the switch (see <code>Busy</code> command). Included in the count are calls that received a forced busy after they routed to other vectors (via a “go to vector” step) in the ACD. This exception cannot trigger more than once within an interval.
Number calls disconnected	The calls that disconnected after they routed to other vectors (via a “go to vector” step) in the ACD, and calls disconnected via the vector disconnect timer or because the calls reached the end of vector processing without being queued. An occurrence is counted against the threshold each time a call is automatically disconnected from the switch (see <code>Disconnect</code> command). Not included are calls that disconnected after receiving a busy signal (via the <code>Busy</code> command). This exception cannot trigger more than once within an interval.
Number calls in an ACD split/skill queue	The total number of calls in queue for all main and backup splits or skills. An occurrence is counted when this number exceed the threshold. Included are calls that queued to a split after they routed to other vectors (via a “go to vector” step) in the ACD. Since this condition can come and go, you receive an exception each time the threshold is exceeded.

Table 8-5: Definition of VDN Exception Types (Contd)

VDN Exception Type	What It Means
Number calls that flowed into VDN	Counts an occurrence against the occurrence threshold each time a call connects to the VDN for one of three reasons: 1. The call was routed to the VDN via a “route to” step from a vector in the local ACD. 2. The call was transferred to the VDN from a local split or skill extension using the Transfer key. 3. The call was routed to the VDN via adjunct routing. Not included in the count are calls that connected to the VDN because of look-ahead interflow or normal interflow (where the call was sent from another switch).
Number calls that flowed out of VDN	The release and routing of a call from the VDN to an external destination or other VDN. An occurrence is counted against the threshold each time a call is released from the VDN and routed to an external destination or another VDN. This exception cannot trigger more than once within an interval.
Number calls interflowed out of VDN	The release and routing of a call from the VDN to an outside destination. An occurrence is counted against the threshold each time a call is released from the VDN and routed to another destination outside of the local switch. This exception cannot trigger more than once within an interval.
Number calls handled by backup split or skill	The number of calls connected to an agent in a backup split or skill referenced by a “backup split or skill”, “messaging split or skill”, or “route to” step in the VDN's vector. An occurrence is counted against the threshold each time a call is connected due to one of this steps. This exception cannot trigger more than once within an interval.
Number unsuccessful lookahead interflow attempts	The call did not connect to a lookahead vector. An occurrence is counted against the threshold each time a call fails to connect to a lookahead vector on another switch. The result is that the call remains in the current VDN and vector for continued processing. This exception cannot trigger more than once within an interval.
Number unsuccessful adjunct routing attempts	The adjunct host computer does not take routing control of the call. An occurrence is counted against the threshold each time an “adjunct routing” step fails—that is, the adjunct host computer does not take routing control of the call. This failure can occur because the trunk to the adjunct is down or busy or because the adjunct software rejects control. This exception cannot trigger more than once within an interval.

Vector Exceptions Administration

Note

If you have not purchased the Vectoring feature, the Vector Exceptions Administration window is not available.

Purpose

|

Use the Vector Exceptions Administration window (Figure 8-7) to define exceptions and turn on CMS checking for vector exceptions.

Things to Know Before You Start

|

- On Generic 3, calls may generate some exceptions for a vector even after the vector, via an adjunct routing command, has given routing control to the adjunct. These exceptions may occur because, even with adjunct routing, a call is connected to the vector until an agent answers, the caller abandons, or the call is routed to another vector, another VDN, or an unmeasured destination.
- All standard procedures and common rules apply. See Chapter 2, "User Basics" for this information.

Prerequisite System Administration

|

- Some exception types require that an appropriate step exist in the vector. For example, to get exceptions on unsuccessful look-ahead interflow attempts, the vector must have at least one "route to" step which routes calls to a look-ahead vector on a remote switch.
- See "User Permissions for Exceptions" earlier in this chapter for the read/write information.

Vector Exceptions Window

To define and turn on checking for vector exceptions, you must complete the Vector Exceptions window.

Active	Time Limit	Thres-hold	Exception Type
☒	30	0	Time in vector (max)
☒		10	Number calls abandoned while in vector
☐		0	Number calls forced busy
☐		0	Number calls disconnected
☒		15	Number calls in an ACD split queue
☐			Number unsuccessful lookahead
☐		0	interflow attempts
☐		0	Number unsuccessful adjunct routing attempts

Figure 8-7: Vector Exceptions Administration Window

Field/Action List Usage

Delete

To Delete all exceptions administration for a vector, you must complete only the Vectors field.

Add or Modify

To Add or Modify exceptions administration, you must complete the Vector(s) field and all fields for any exceptions you want to turn on or off.

Field Descriptions

Vector(s)

Enter the vector number(s) or name(s) for which you want to set up or modify checking for vector exceptions.

Active (Required field)

Enter **y** or **n** to turn each desired exception type on or off.

Time Limit (Required field)

For each desired timed exception type, a length of time to trigger the counting of an occurrence against the exception when the vector's time exceeds or falls below the limit. The time you enter is in seconds, from 0 to 28800.

This field requires an entry even if the **Active** field value is no.

Threshold (Required field)

For each desired exception type, enter a number from 0 to 999 to define the number of acceptable occurrences. Any thing above that number generates an exception. If you want the first occurrence of an exception to notify you, enter a **0** in the field.

This field requires an entry even if the **Active** field value is no.

Vector Exception Types

Table 8-6 describes each vector exception type. CMS checking for vector exceptions begins when a call enters the vector and ends when the call connects to an agent or is routed to another destination.

Table 8-6: Definition of Vector Exception Types

Vector Exception Type	What It Means
Time in vector (max)	The time that a vector takes to process each call. An occurrence is counted against the threshold when the time exceeds the number of seconds specified in the <code>Time Limit</code> field. This exception cannot trigger more than once within an interval.
Number calls abandoned while in vector	The number of calls abandoned during vector processing. An occurrence is counted against the threshold each time a call is abandoned during vector processing. This exception cannot trigger more than once within an interval.
Number calls forced busy	The number of calls given a busy signal via the switch <code>Busy</code> command during vector processing. An occurrence is counted against the threshold each time a call, is given a busy signal. This exception cannot trigger more than once within an interval.
Number calls disconnected	The number of calls disconnected via the switch <code>Disconnect</code> command, the vector disconnect time, or because the call reached the end of vector processing without being queued (Generic 3 Version 2 only). An occurrence is counted against the threshold each time a call is automatically disconnected during vector processing. This exception cannot trigger more than once within an interval.
Number calls in an ACD split or skill queue	The total number of calls in queue for the vector's main and backup splits or skills. An occurrence is logged when this number exceeds the occurrence threshold. Since this condition can come and go, you receive an exception each time the threshold is exceeded.
Number unsuccessful lookahead interflow attempts	The number of calls that fail to connect to a lookahead vector on another switch and remain in the current vector for processing. An occurrence is counted against the threshold each time a call fails to connect to the lookahead vector. This exception cannot trigger more than once within an interval.
Number unsuccessful adjunct routing attempts	The adjunct host computer does not take routing control of the call. An occurrence is counted against the threshold each time an "adjunct routing" step fails. This failure can occur because the connection to the adjunct is down or busy or because the adjunct software rejects control. This exception cannot trigger more than once within an interval.

Real-Time Exceptions Log

Background

When first viewed, the Real-Time Exceptions Log displays exception records for the last 10 exceptions to occur. The log holds up to 100 exception records. As each new exception occurs, CMS adds a new record to the Log. If the Log already contains 100 records, CMS deletes the oldest exception record from the log at the same time it adds the new exception record.

The Log lists exception records in chronological order, with the oldest exceptions listed first.

The Log simultaneously displays exception records for all elements on the ACD or ACDs for which you have exceptions permissions, regardless of whether the exceptions involve agents, splits or skills, trunk groups, VDNs, or vectors. You cannot select exception records for only VDNs, only vectors, etc. However, in the Log you see only exception records on specific ACD elements (such as splits or skills) for which you have exception permissions.

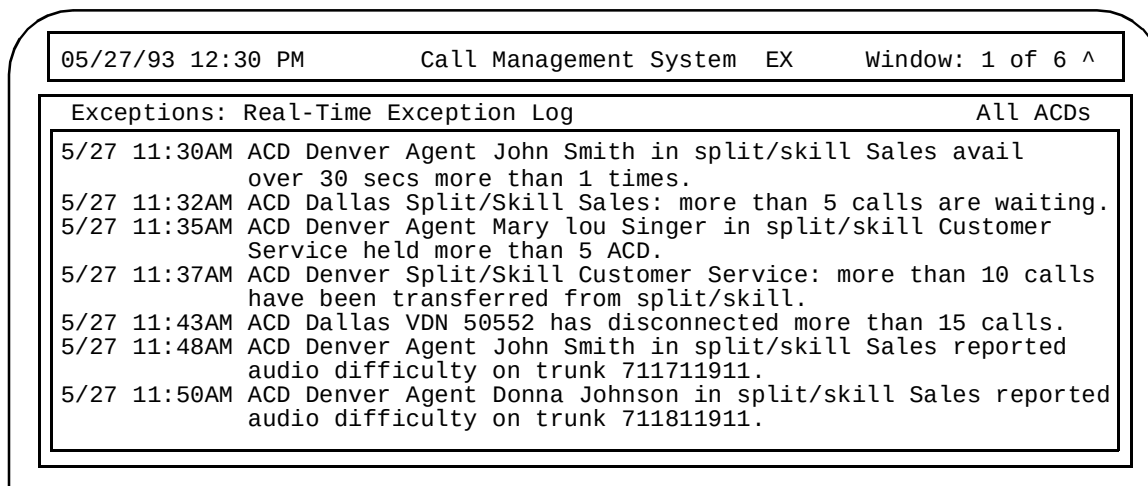


Figure 8-8: Real-Time Exceptions Log

How to Use the Real-Time Exceptions Log

You can use the Real-Time Exceptions Log in two ways:

- Access the Log periodically (or whenever you get notification of an exception) to see exactly what has happened.
- Maintain the Log as an open window so you can monitor exceptions as they occur.

When you first access the Log, the most recent exception record is on the last line in the window. Then, as long as the Log's window remains open, the Log automatically scrolls to display each new exception record. If you manually page or scroll up to see older exception records, automatic scrolling for new exceptions stops until you page or scroll back to the bottom of the log.

What Exception Log Records Tell You

Each exception record in the Real-Time Exceptions Log gives you the following information:

- The date and time the exception occurred.
- The ACD (ACD name) for which the exception occurred.
- The specific ACD element (a specific agent, split, skill, VDN, etc.) that was involved in the exception. If you have defined names in the Dictionary subsystem, names display (names may be truncated). Otherwise, numeric identifiers display.
- The conditions you set up for exception checking in the associated Exceptions Administration window.

Note

The record tells you only that an activity has fallen outside of the exception conditions you set. Thus, for a peg count exception, the exception record shows the occurrence threshold you set, even though the actual number of occurrences may be substantially greater. For a timed exception, the exception record shows the time limit you set, not the actual duration of an occurrence.

Agent Exceptions Historical Report

Purpose

- The Agent Exceptions Historical Report (Figure 8-10) shows exceptions that have occurred in the past for the agents you select. For each agent exception, the report shows the time, agent, and type of exception that occurred.
 - Use the Agent Exceptions Input window (Figure 8-9) to run an Agent Exceptions Historical report.
-

Things to Know Before You Start

The number of days in the past for which you can get exceptions is determined by two things:

- The number of exception records allocated for storage on the System Setup: Data Storage Allocation window. The maximum number of agent exception records you can store is 2000.
 - The frequency with which exceptions are recorded each day. If you allocate storage for 1000 exception records, and about 100 exceptions occur each day, you will be able to save exception reports for approximately the last 10 days.
-

Prerequisite System Administration

- You must have **read** permission for the Exceptions subsystem and **read** permission for the particular split(s) or skill(s) in the report.
- To get data for an agent exception, checking for exceptions (on the Agent Exceptions Administration window) must be turned on (active) for the time period of the report **and** exceptions must have occurred for the exception types turned on.

Agent Exceptions Input Window

You must fill in the Agent Exceptions Input window to order an historical Agent Exceptions Report.

05/27/93 12:30 PM Call Management System Window: 1 of 6 ^

Exceptions: Historical Reports: Agent Exceptions Input acd1

Run

Date: _____

Split/Skill: _____

Agent(s): _____

Order by (Select one):

<x> Time

< > Agent

Exceptions (Select any you wish):

[x] Time available

[x] Time on inbound ACD call (min)

.

.

.

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 8-9: Agent Exceptions Input Window Example

Field/Action List Usage

Date, Split/Skill, Order by, Report destination

To get a report, you must complete the Date, Split/Skill, Order by, Report destination fields, and at least one Exceptions type. If you do not select at least one exception type, you will receive a blank report.

Agent(s)

You may leave the Agent(s) field blank to get a report on all agents in the split or skill or fill in this field to restrict the report to certain agents.

Field Descriptions

Date (Required field)

Type the `date` for which you want the report.

Type the date in an MM/DD/YY format or as a relative day such as 0, -1, -7, etc.

Split/Skill (Required field)

Type the split or skill number or name for which you want a report.

Agent(s)

Type the agent name(s) for which you want a report.

Order by (Select one)

Enter an `x` in either the `Time` or `Agent` field to determine how the exceptions data for each day is sorted.

If you select `Time`, exceptions data is listed by the time exceptions occurred. If you select `Agent`, exceptions data is listed numerically by login ID.

Exceptions (Select any you wish)

Enter an `x` in the field for each exception type you want to include in the report. Enter a blank (space) next to each exception type you **do not** want in the report.

Report destination (Select one):

Enter an `x` next to `Terminal`, `Printer`, or `File`.

- `Terminal` is the default destination.
- If you selected `Printer` and want to use a printer other than your default printer, enter the printer name in addition to the `x`.
- If you selected `File`, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (`/usr/<your login ID>`) unless you specify a full path name.



This window scrolls automatically when you move the cursor to fields not currently visible.

Agent Exception | Historical Report

See Table 8-7, “Historical Agent Exceptions Report Description,” for a description of each agent exception report item.

Agent Exceptions					
Date: 5/27/93		Printed: 05/28/93 09:30 PM			
Split/Skill: 1		ACD 1			
Time	Agent Name	LoginID	Exception	Time Limit	Threshold
08:47AM	Klein, Cal	5641	Time on inbound ACD call (max)	300	2
09:32AM	Birkby, Emma	5555	Time available	300	1
10:16AM	Birkby, Emma	5555	Time on inbound ACD call (min)	10	3
11:35AM	Nguyen, Jenny	5234	Time available	300	2
01:04PM	Klein, Cal	5641	Time on inbound ACD call (max)	300	2

Figure 8-10: Agent Exception Historical Report Example

Table 8-7: Historical Agent Exceptions Report Description

Field	Description
Split/Skill	The name or number of the split or skill in which the exception occurred.
ACD	The name or number of the ACD in which the exception occurred.
Date	The date all the exceptions in the report occurred.
Printed	The date and time the report was printed.
Time	The time the exception occurred for the agent.
Agent Name	The name of the agent or login ID (if the name has not been administered) that had the exception.
Login ID	The login ID of the agent that had the exception.
Exception	The type of exception that occurred.
Time Limit	The length of time, in seconds, that one occurrence of an exception type must last in order for CMS to count that occurrence against the occurrence threshold. If the exception type is a min time exception type, an occurrence is counted against the occurrence threshold only if the time does not reach the number of seconds specified in the Time Limit field. If the exception type is a max time exception type, an occurrence is counted against the occurrence threshold only if the time exceeds the number of seconds specified in the Time Limit field on the Administration: Agent Exceptions window.
Threshold	The number of occurrences above which an exception is recorded. The occurrence threshold is specified on the Administration: Agent Exceptions window.

Split/Skill Exceptions Historical Report

Purpose

- The Split/Skill Exceptions Historical Report (Figure 8-12) shows exceptions that have occurred in the past for the split/skill you select. For each split/skill exception, the report shows the time and type of exception that occurred.
 - Use the Split/Skill Exceptions Input window (Figure 8-11) to run a Split/Skill Exceptions Historical report.
-

Things to Know Before You Start

The number of days in the past for which you can get exceptions is determined by two things:

- The number of exception records allocated for storage on the System Setup: Data Storage Allocation window. The maximum number of split or skill exception records you can store is 2000.
 - The frequency with which exceptions are recorded each day. If you allocate storage for 1000 exception records, and about 100 exceptions occur each day, you will be able to get exception reports for approximately the last 10 days.
-

Prerequisite System Administration

- You must have **read** permission for the Exceptions subsystem and **read** permission for the particular split(s) or skill(s) in the report.
- To get data for a split or skill exception, checking for exceptions (on the Split/Skill Exceptions Administration window) must have been turned on (active) for the time period of the report **and** exceptions must have occurred for active exception types.

Split/Skill Exceptions Input Window

You must fill out the Split/Skill Exceptions Input window to order an historical Split/Skill Exceptions Report.

05/27/93 12:30 PM Call Management System Window: 1 of 6 ^

Exceptions: Historical Reports: Split/Skill Exceptions Input acd1

Run

Date: _____

Split(s)/Skill(s): _____

Agent(s): _____

Order by (Select one):

<x> Time

< > Agent

Exceptions (Select any you wish):

[x] Time call has waited in queue

[x] Number calls waiting

.

.

.

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 8-11: Split/Skill Exceptions Input Window Example

Field/Action List Usage

Date, Split(s)/Skill(s), Order by (Select one), Report destination

To get a report, you must complete the Date, Splits/Skill, Order by, and Report destination fields, and you should select at least one Exceptions type. If you do not select at least one exception type, you will receive a blank report.

Field Descriptions

Date (Required field)

Enter the date you want the report.

Type the date in an MM/DD/YY format or as a relative day such as 0, -1, -7, etc.

Split(s)/Skill(s)

Type the Split/Skill name(s) or number(s) for which you want a report. If you want a report for all available splits or skills, leave this field blank or fill in this field to restrict the report to certain splits or skills.

Order by (Select one)

Enter an **x** in either the `Time` or `Split/Skill` field to determine how the exceptions data for each day is sorted.

If you select `Time`, exceptions data is listed by the time exceptions occurred. If you select `Split/Skill`, exceptions data is listed by split or skill number or name, such that all exceptions data for the lowest-numbered split or skill is listed first.

Exceptions

Enter an **x** in the field for each exception type you want to include in the report. Type a blank next to each exception type you **do not** want in the report.

Report destination (Select one):

Enter an **x** next to `Terminal`, `Printer`, or `File`.

- `Terminal` is the default destination.
- If you selected `Printer` and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected `File`, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (`/usr/<your login ID>`) unless you specify a full path name.

Note

This window scrolls automatically when you move the cursor to fields not currently visible.

Split/Skill Exceptions Historical Report

See Table 8-8, “Historical Split/Skill Exceptions Report Description,” for a description of each split or skill exception report item.

Agent Exceptions

Date: 4/27/93

Printed: 04/28/93 09:30 PM
ACD 1

Time	Split/Skill	Exception	Time Limit	Threshold
09:16AM	Catalog Sales	Number calls waiting		20
09:24AM	Catalog Sales	Average speed of answer	10	0
10:02AM	Customer Service	Number calls waiting		10
10:04PM	Customer Service	Number calls waiting		10
11:35AM	Catalog Sales	Number calls abandoned		15

Figure 8-12: Split/Skill Exceptions Historical Report Example

Table 8-8: Historical Split/Skill Exceptions Report Description

Field	Description
Date	The date all the exceptions in the report occurred.
Printed	The date and time the report was printed.
ACD	The name or number of the ACD in which the exception occurred.
Time	The time the exception occurred for the split or skill.
Split/Skill	The name or number of the split or skill that had the exception.
Exception	The type of exception that occurred.
Time Limit	The length of time, in seconds, that one occurrence of an exception type must last in order for CMS to count that occurrence against the occurrence threshold. If the exception type is a min time exception type, an occurrence is counted against the occurrence threshold only if the time does not reach the number of seconds specified in the Time Limit field. If the exception type is a max time exception type, an occurrence is counted against the occurrence threshold only if the time exceeds the number of seconds specified in the Time Limit field as specified on the Administration: Split/Skill Exceptions window.
Threshold	The number of occurrences above which an exception is recorded. The occurrence threshold is specified on the Administration: Split/Skill Exceptions window.

Trunk Group Exceptions Historical Report

Purpose

- The Trunk Group Exceptions Historical Report (Figure 8-14) shows exceptions that have occurred in the past for the trunk groups you select. For each trunk group exception, the report shows the time and type of exception that occurred.
 - Use the Trunk Group Exceptions Input window (Figure 8-13) to run a Trunk Group Exceptions Historical report.
-

Things to Know Before You Start

- The number of days in the past for which you can get exceptions is determined by two things:
 - The number of exception records allocated for storage on the System Setup: Data Storage Allocation window. The maximum number of trunk group exception records you can store is 2000.
 - The frequency with which exceptions are recorded each day. If you allocate storage for 1000 exception records, and about 100 exceptions occur each day, you will be able to get exception reports for approximately the last 10 days.
 - The Audio Difficulty exception is always provided for all switches that support stroke counts.
-

Prerequisite System Administration

- You must have **read** permission for the Exceptions subsystem and **read** permission for the particular trunk group(s) in the report.
- To get data for a trunk group exception, checking for exceptions (on the Trunk Group Exceptions Administration window) must have been turned on (active) for the time period of the report **and** exceptions must have occurred for the active exception types.

Trunk Group Input Window

You must fill in the Trunk Group Exceptions Input window to order an historical Trunk Group Exceptions Report.

05/27/93 12:30 PMCall Management SystemWindow: 1 of 6 ^

Exceptions: Historical Reports: Trunk Group Exceptions Inputacd1

Date: _____

Trunk group(s): _____

Order by (Select one):

<x> Time< > Trunk group< > Trunk location

Exceptions (Select any you wish):

[x] Time trunk in use (min)[x] Time trunk in use (max).

.

.

.

Report destination (Select one):

<x> Terminal< > Printer, Printer name _____< > File,

File name: _____

Figure 8-13: Trunk Group Input Window Example

Field/Action List Usage

Date, Trunk group(s), Order by (Select one), Report destination

To get a report, you must complete the Date, Trunk groups, Order by, and Report destination fields, and you should select at least one Exceptions type. If you do not select at least one exception type, your report will be blank.

Field Descriptions

Date (Required field)

Type the date for which you want the report.

You can enter the date in an MM/DD/YY format or as a relative day such as 0, -1, -7, etc.

Trunk group(s)

Type the trunk group name(s) or number(s) for which you want a report. If you want a report for all available trunk groups, leave this field blank, or fill in this field to restrict the report to certain trunk groups.

Order by (Select one)

Enter an **x** in either the **Time**, **Trunk group**, or **Trunk location** field to determine how the exceptions data is sorted for the report.

If you select **Time**, exceptions data is listed by the time exceptions occurred. If you select **Trunk group** or **Trunk location**, exceptions data is listed by trunk group or location number, such that all exceptions data for the lowest-numbered trunk group or location is listed first.

Exceptions (Select any you wish):

Enter an **x** in the field for each exception type you want to include in the report. Enter a blank (space) next to each exception type you **do not** want in the report.

Report destination (Select one):

Enter an **x** next to **Terminal**, **Printer**, or **File**.

- **Terminal** is the default destination.
- If you selected **Printer** and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected **File**, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.



This window scrolls automatically when you move the cursor to fields not currently visible.

Trunk Group Historical Report

See Table 8-9, “Historical Trunk Group Exceptions Report Description,” for a description of each trunk group report exception item.

Trunk and Trunk Group Exceptions							
Date: 4/27/93		Printed: 04/28/93 09:30 PM					
ACD 1							
			Time				
Time	Trunk Group	Exception	Limit	Threshold	Trunk	Agent	LoginID
09:16AM	Catalog Sales	Audio difficulty		0	811811202	Birkby, Emma	5555
09:24AM	Customer Service	Trunk time in use (min)	2	10	811811191		
10:02AM	Customer Service	Time all trunks busy	60	2			
10:04AM	Customer Service	Number trunks in use		20			
11:35AM	Catalog Sales	Audio difficulty		0	811811202	Klein, Cal	5641

Figure 8-14: Historical Trunk Group Report Example

Table 8-9: Historical Trunk Group Exceptions Report Description

Field	Description
ACD	The name or number of the ACD in which the exception occurred.
Date	The date all the exceptions in the report occurred.
Printed	The date and time the report was printed.
Time	The time the exception occurred for the trunk.
Trunk Group	The name or number of the trunk group that had the exception.
Exception	The type of exception that occurred.
Time Limit	The length of time, in seconds, that one occurrence of an exception type must last in order for CMS to count that occurrence against the occurrence threshold. If the exception type is a min time exception type, an occurrence is counted against the occurrence threshold only if the time does not reach the number of seconds specified in the Time Limit field. If the exception type is a max time exception type, an occurrence is counted against the occurrence threshold only if the time exceeds the number of seconds specified in the Time Limit field in the Administration: Trunk Group Exceptions window.
Threshold	The number of occurrences above which an exception is recorded. The occurrence threshold is specified on the Administration: Trunk Group Exceptions window.
Trunk	The trunk number that had the exception. If the exception is for a trunk group, this field will be blank.
Agent	The name of the agent who logged audio difficulty.
Login ID	The login ID of the agent who reported the audio difficulty.

VDN Exceptions Historical Report

Note

If you do not have the Vectoring feature, the VDN Exceptions Historical report is **not** available.

- Purpose
- |
- The VDN Exceptions Historical Report (Figure 8-16) shows exceptions that have occurred in the past for the VDN(s) you select. For each VDN exception, the report shows the time, VDN, vector, and type of exception that occurred.
 - |
 - Use the VDN Exceptions Input window (Figure 8-15) to run a VDN Exceptions Historical report.
-

- Things to Know Before You Start
- The number of days in the past for which you can get exceptions is determined by two things:
- The number of exception records allocated for storage on the System Setup: Data Storage Allocation window. The maximum number of VDN exception records you can store is 2000.
 - The frequency with which exceptions are recorded each day. If you allocate storage for 1000 exception records, and about 100 exceptions occur each day, you may be able to get exception reports for the last 10 days approximately.
-

- Prerequisite System Administration
- You must have **read** permission for the Exceptions subsystem and **read** permission for the particular VDN(s) in the report.
 - To get data for an exception, checking for VDN exceptions (on the VDN Exceptions Administration window) must have been turned on for the time period of the report **and** exceptions must have occurred for the active exception types.

VDN Exceptions Input Window

You must fill in the VDN Exceptions Input window to order an historical VDN Exceptions Report.

05/27/93 12:30 PM Call Management System Window: 1 of 6 ^

Exceptions: Historical Reports: VDN Exceptions Input acd1

Date: _____

VDN(s): 2050-2055;sales-west;3044 _____

Agent(s): _____

Order by (Select one):

- <x> Time
- < > VDN
- < > Vector

Exceptions (Select any you wish):

- ☒ Time in vector (max)
- ☒ Time at agent (min)
- .
- .
- .

Report destination (Select one):

- <x> Terminal
- < > Printer, Printer name _____
- < > File,
- File name: _____

Run

Figure 8-15: VDN Exceptions Input Window

Field/Action List Usage

Date, VDN(s), Order by (Select one), Report destination

To get a report, you must complete the Date, VDN(s), Order by, and Report destination fields, and you must select at least one Exceptions type.

Field Descriptions**Date** (Required entry field)

Enter the date for which you want the report.

You can enter the date in an mm/dd/yy format or as a relative day such as 0, -1, -7, etc.

VDN(s)

Type the VDN number(s) or name(s) for which you want a report. If you want a report for all available VDNs, leave this field blank.

Order by

Enter an **x** in either the **Time** or **VDN** field to determine how the exceptions data for each day is sorted.

If you select **Time**, exceptions data is listed by the time exceptions occurred. If you select **VDN**, exceptions data is listed by VDN number, such that all exceptions data for the lowest-numbered VDN is listed first.

Exceptions

Enter an **x** in the field for each exception type you want to include in the report. Enter a blank (space), if necessary, next to each exception type you **do not** want in the report.

Report destination (Select one):

Enter an **x** next to **Terminal**, **Printer**, or **File**.

- **Terminal** is the default destination.
- If you selected **Printer** and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected **File**, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Note

Some exceptions options might not be visible in the window when the window first displays. However, the window scrolls automatically to reveal the undisplayed options if you move the cursor to the bottom of the window and continue to press **Tab**.

VDN Exceptions Historical Report Description

See Table 8-12, "Malicious Call Trace Exceptions Report Description," for a description of each VDN report exception item.

VDN Exceptions					
ACD: burbank			Printed: 04/28/93 04:35 PM		
Date: 04/27/93					
Time	VDN	Vector	Exception	Time Limit	Threshold
09:16AM	Catalog Sales	Weekday Sales	Number calls abandoned in vector		20
09:24AM	Catalog Sales	Weekday Sales	Calls in ACD split queue		10
10:02PM	Catalog Sales	Off-hours Sales	Calls disconnected		50

Figure 8-16: VDN Exceptions Historical Report

Table 8-10: VDN Exceptions Report Description

Field	Description
ACD	The name or number of the ACD in which the exception occurred.
Printed	The date and time the report was printed.
Date	The date the exception occurred.
Time	The time the exception occurred.
VDN	The VDN name or number that had the exception.
Vector	The vector name or number that had the exception.
Exception	The type of exception that occurred. See Table 8-5, "Definition of VDN Exception Types," for a description of each of VDN exception type.
Time Limit	The length of time, in seconds, that one occurrence of an exception type must last in order for CMS to count that occurrence against the occurrence threshold. If the exception type is a min time exception type, an occurrence is counted against the occurrence threshold only if the time does not reach the number of seconds specified in the Time Limit field. If the exception type is a max time exception type, an occurrence is counted against the occurrence threshold only if the time exceeds the number of seconds specified in the Time Limit field on the Administration: VDN Exceptions window.
Threshold	The number of occurrences above which an exception is recorded. The occurrence threshold is specified on the Administration: VDN Exceptions window.

Vector Historical Exceptions Report

Note

If you have not purchased the Vectoring feature, the Vector Exceptions Historical report is **not** available.

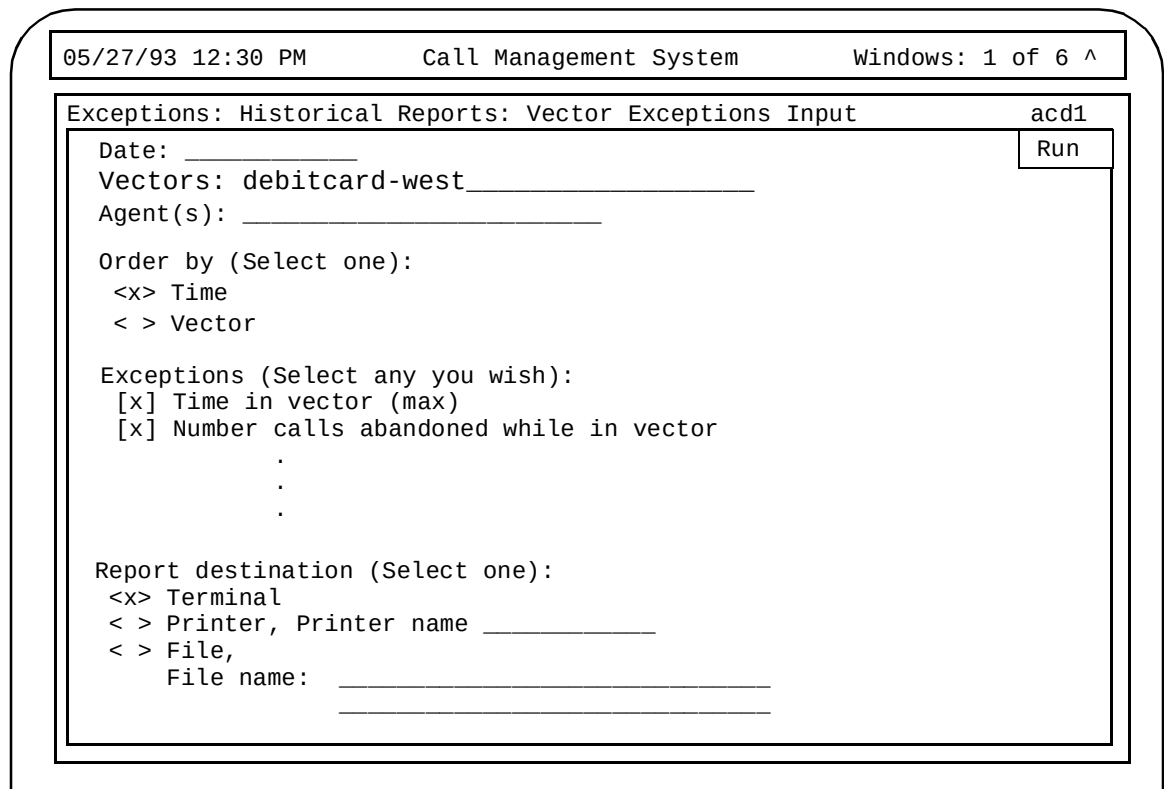
- Purpose
- |
- The Vector Exceptions Historical Report (Figure 8-18) shows exceptions that have occurred in the past for the vector(s) you select. For each vector exception, the report shows the time, vector, and type of exception that occurred.
 - |
 - Use the Vector Exceptions Input window (Figure 8-17) to run a Vector Exceptions Historical report.
-

- Things to Know Before You Start
- The number of days in the past for which you can get exceptions is determined by two things:
- The number of exception records allocated for storage on the System Setup: Data Storage Allocation window. The maximum number of vector exception records you can store is 2000.
 - The frequency with which exceptions are recorded each day. If you allocate storage for 1000 exception records, and about 100 exceptions occur each day, you may be able to get exception reports for the last 10 days approximately.
-

- Prerequisite System Administration
- You must have **read** permission for the Exceptions subsystem and **read** permission for the particular vector(s) in the report.
 - To get data for an exception, checking for vector exceptions (on the Vector Exceptions Administration window) must have been turned on for the time period of the report **and** exceptions must have occurred for the active exception types.

Vector Exceptions Input Window

You must fill in the Vector Exceptions Input window to order an historical Vector Exceptions Report.



05/27/93 12:30 PM Call Management System Windows: 1 of 6 ^

Exceptions: Historical Reports: Vector Exceptions Input acd1

Date: _____

Vectors: debitcard-west _____

Agent(s): _____

Order by (Select one):

<x> Time

< > Vector

Exceptions (Select any you wish):

☒ Time in vector (max)

☒ Number calls abandoned while in vector

.

.

.

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 8-17: Vector Exceptions Input Window

Field/Action List Usage

Date, Vector, Order by, Report destination

To get a report, you must complete the Date, Vector, Order by, and Report Destination fields, and you must select at least one Exceptions type.

Field Descriptions

Date (Required entry field)

Enter the date for which you want the report.

You can enter the date in an mm/dd/yy format or as a relative day such as 0, -1, -7, etc.

Vectors

Type the vector number(s) or name(s) for which you want a report. If you want a report for all available vectors, leave this field blank.

Order by (Select one)

Enter an **x** in either the `Time` or `Vector` field to determine how the exceptions data for each day is sorted.

If you select `Time`, exceptions data is listed by the time exceptions occurred. If you select `Vector`, exceptions data is listed by vector number, such that, all exceptions data for the lowest-numbered vector is listed first.

Exceptions (Select any you wish)

Enter an **x** in the field for each exception type you want to include in the report. Enter a blank (space) next to each exception type you **do not** want in the report.

Report destination (Select one):

Enter an **x** next to `Terminal`, `Printer`, or `File`.

- `Terminal` is the default destination.
- If you selected `Printer` and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected `File`, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (`/usr/<your login ID>`) unless you specify a full path name.



Some exceptions options are not visible in the window when the window first displays. However, the window scrolls automatically to reveal the undisplayed options if you move the cursor to the bottom of the window and continue to press **Tab**.

Vector Exceptions Report Description

See Table 8-13, "Data Collection Exceptions Report Description," for a description of each vector report exception item.

Vector Exceptions

Date: 04/27/93

Printed: 04/28/93 04:15 PM

ACD: burbank

Time	Vector	Exception	Time Limit	Threshold
09:16AM	Weekday Sales	Number calls abandoned in vector		20
9:24AM	Weekday Sales	Calls in ACD split queue		10
10:02PM	Weekday Cust Serv	Calls forced busy		5

Figure 8-18: Vector Exceptions Report

Table 8-11: Vector Exceptions Report Description

Field	Description
ACD	The name or number of the ACD in which the exception occurred.
Date	The date the exception occurred.
Time	The time the exception occurred.
Vector	The vector name or number that had the exception.
Exception	The type of exception that occurred. See Table 8-6, "Definition of Vector Exception Types," for a description of each of vector exception type.
Time Limit	The length of time, in seconds, that one occurrence of an exception type must last in order for CMS to count that occurrence against the occurrence threshold. If the exception type is a min time exception type, an occurrence is counted against the occurrence threshold only if the time does not reach the number of seconds specified in the Time Limit field. If the exception type is a max time exception type, an occurrence is counted against the occurrence threshold only if the time exceeds the number of seconds specified in the Time Limit field on the Administration: Vector Exceptions window.
Threshold	The number of occurrences above which an exception is recorded. The occurrence threshold is specified on the Administration: Vector Exceptions window.

Malicious Call Trace Exceptions Historical Report

Purpose

- The Malicious Call Trace Historical Report (Figure 8-20) gives you specific information on malicious call occurrences. For each malicious call, the report shows the date and time the call occurred, the agent and split or skill that received the call, and where the call originated from (if you have the Automatic Number Identification/Station Number Identification (ANI/SID) network feature with a Generic 2 switch and Generic\ 3r and Generic 3 Version 2 switches).
- Use the Malicious Call Trace Input window (Figure 8-19) to run a Malicious Call Trace Historical report.

Prerequisite System Administration

- You must have **read** permission for the Exceptions subsystem to see this report.
- You must have exception permission for the appropriate split or skill to be notified of a malicious call exception.

Malicious Call Trace Input Window

You must fill in the Malicious Call Trace Input window to order an historical report on malicious call occurrences.

Figure 8-19: Malicious Call Trace Input Window Example

Field Descriptions

Dates (Required field)

Type the dates you want the report to cover.

You can enter the dates in an MM/DD/YY format or as a relative day such as 0, -1, -7, etc.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Malicious Call
Trace Exceptions
Report

See Table 8-12, “Malicious Call Trace Exceptions Report Description,” for a description of each report item.

Malicious Call Trace Report								
ACD: 1						Printed: 04/28/93 09:30 PM		
Date	Time	Split/Skill	Agent	LoginID	Trunk group	Trunk	VDN	ANI/SID
04/12/93	09:32AM	Customer service	Oilman, Kay	5555	Customer service	811202	5882	2015552434
04/13/93	11:12PM	Sales	Smith, Jack	5432	Sales	821181	5885	2015552434

Figure 8-20: Malicious Call Trace Exceptions Report Example

Table 8-12: Malicious Call Trace Exceptions Report Description

Field	Description
ACD	The name or number of the ACD in which the malicious call occurred.
Printed	The date and time the report was printed.
Date	The date the malicious call in the report occurred.
Time	The time the malicious call occurred.
Split/Skill	Name of the split or skill that carried the malicious call.
Agent	The name of the agent that received the malicious call.
Login ID	The login ID of the agent.
Trunk Group	The name of the trunk group that carried the malicious call.
Trunk	The trunk number that carried the malicious call.
VDN	The VDN number that carried the malicious call.
ANI/SID	For Generic 2 only, the ANI/SID number from which the call originated.

Data Collection Historical Report

- Purpose**
- The Data Collection Historical Report (Figure 8-22) shows any event that affects data collection, including starting or stopping data collection, resetting the clock, and session (link) down.
 - Use the Data Collection Input window to run a Data Collection Historical report.

- Prerequisite System Administration**
- You must have **read** permission for the Exceptions subsystem to view this report.
 - You must have exceptions permissions for the ACD to be notified of a link down exception.

Data Collection Input Window

You must fill in the Data Collection Input window to order an historical Data Collection Exceptions Report.

05/27/93 12:30 PM

Call Management System

Windows: 1 of 6 ^

Exceptions: Historical Reports: Data Collection Input

acd1

Date: 04/12/93-04/16/93

Run

Report destination (Select one):

<x> Terminal

< > Printer, Printer name

< > File,

File name:

Figure 8-21: Data Collection Input Window Example”

Field Descriptions

Dates (Required field)

Type the dates you want the report to cover.

You can enter the dates in an MM/DD format or as a relative day such as 0, -1, -7, etc.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Data Collection | Historical Report

See Table 8-13, "Data Collection Exceptions Report Description," for a description of each report item.

Data Collection Report

ACD: acd1 Printed: 04/27/93

Date	Time	Event
04/12/92	01:32AM	Data collection turned off.

Figure 8-22: Data Collection Historical Report Example

Table 8-13: Data Collection Exceptions Report Description

Field	Description
ACD	The name or number of the ACD associated with the data collection.
Printed	The date and time the report was printed.
Date	Date the data collection event occurred.
Time	Time the data collection event occurred.
Event	Any event that affected data collection, like: Data collection started. Data collection started - new translations. Data collection turned off. Data collection timed out. Unable to receive data from switch. Data collection clock was reset. Data collection session down. Switch reloaded - agents must log in again.

General Information

From the ACD Administration subsystem (Figure 9-1), you can do any of the following:

- Move agent extensions between splits or skill groups [Generic 2.2 with the Expert Agent Selection (EAS) feature]
- Set a maximum acceptable service level for calls to wait in queue before being answered
- Start an agent trace and list agents being traced
- Generate a report showing extensions that are members of a specific split, which trunk groups point to which VDNs, and which VDNs point to which vectors
- Generate a report showing trunk members and their equipment locations for a trunk group
- View trunk group assignments.

For Generic 2 and System 85, you can also do the following:

- Move trunk groups from one split to another
- Set the delay time for prerecorded announcements
- Control intraflow for splits.

If you have the Vectoring feature, you can also do the following:

- Move trunk groups from one VDN to another (Generic 2/System 85 only).
- Define vectors.
- Run a report that lists, by vector, the trunk groups and VDNs that route calls to vectors.
- Run a report (Generic 2/System 85 only) that lists, by split, the vectors that queue calls to splits.
- Set an acceptable service level and service level increments used to track answered and abandoned calls in the VDN Call Profile reports.
- Change VDN-to-vector assignments.

If you have the EAS feature, you can also do the following:

- With Generic 3, change skill assignments.
- Change VDN skill preferences.

ACD
Administration
Menus

Note

If you do not have the Vectoring feature, the VDN and Vector menu items do **not** appear.

If you have the Vectoring feature or a Generic 3 switch or a Generic 2.2 with the EAS feature, the Split Parameters menu item does **not** appear.

If you have a Generic 3 switch, the Split References in Vectors menu item does not appear.

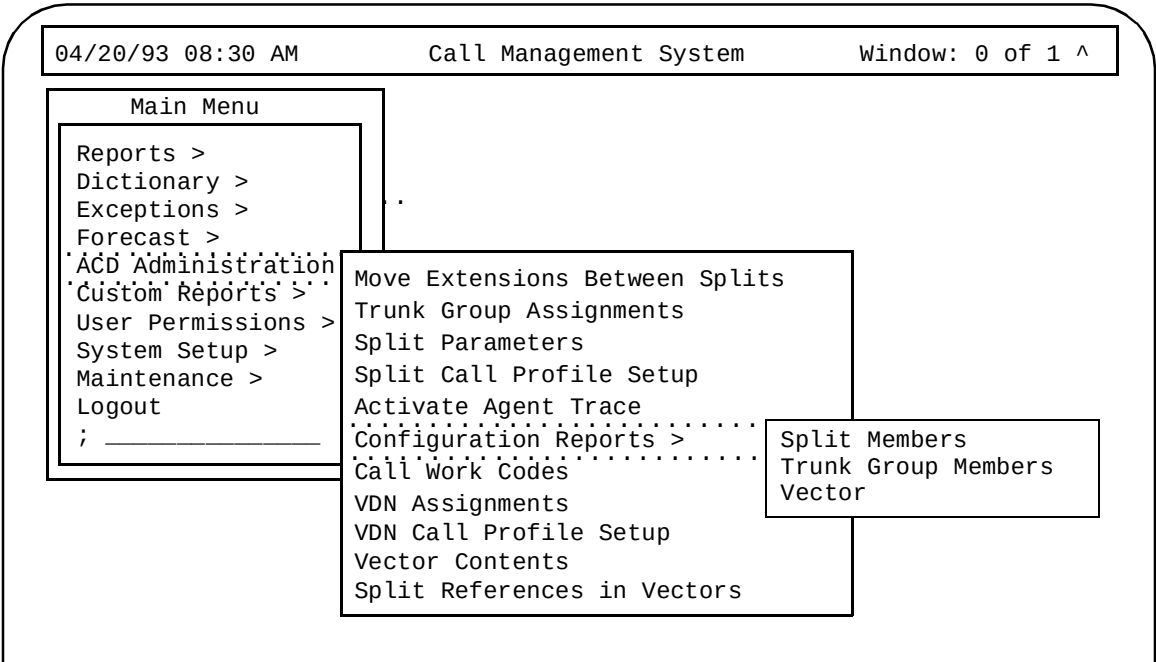


Figure 9-1: ACD Administration Menu

ACD Administration Menus With EAS

If you have purchased the Expert Agent Selection (EAS) feature on a Generic 2.2 switch or on a Generic 3 Version 2 switch, your ACD Administration menu looks different (Figure 9-2 and Figure 9-3). All menu items are described in this chapter.

For the Generic 3 Version 2 switch with EAS enabled, the item “Change Agent Skills” replaces the “Move Agent Extensions” item that appears for switches without EAS and for Generic 2.2 with EAS.

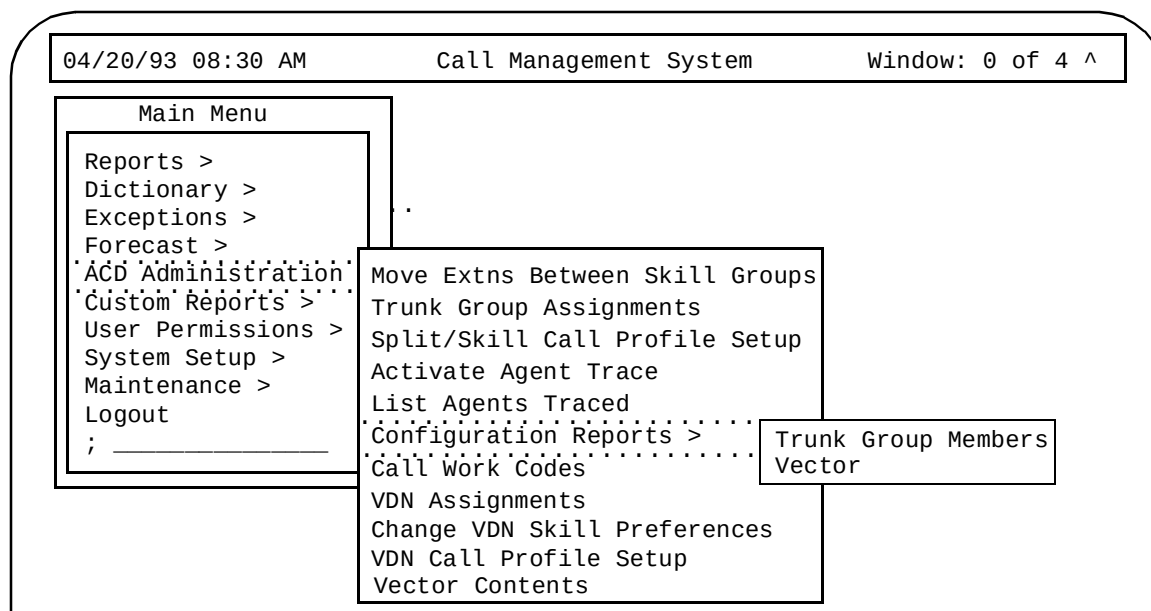


Figure 9-2: Generic 2.2 With EAS ACD Administration Menu

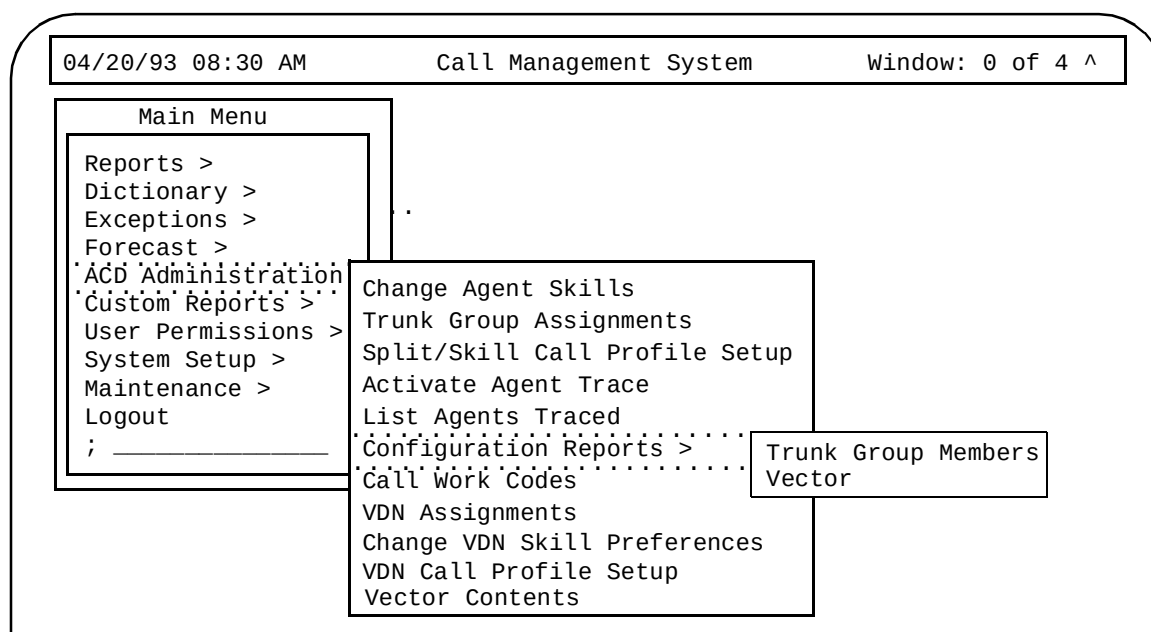


Figure 9-3: Generic 3 Version 2 With EAS Administration Menu

Move Agent Extensions Between Splits

Purpose

The Move Agent Extensions Between Splits window allows you to move measured extensions between splits. From this window, you can list the current extension assignments for any split, and then determine which extensions you want to move to different splits.

Things to Know Before You Start

- Agents must be unstaffed in order to move their extensions.



If you have a Generic 3 with *Automatic Available* splits, agents can remain staffed while moving in these splits only.

- You can move up to 1023 extensions with Generic 2/System 85 and up to 32 with Generic 3 and Generic 1 in a single move.
- You can move agents to Split 0 if you have a Generic 2 or System 85. Split 0 is a dummy split typically used for assigning extensions that you do not want in any of your measured splits. In addition, measured extensions that you assign to unmeasured splits are automatically assigned to Split 0 so that you can keep track of them for future reassignments.
- See Chapter 2, "User Basics" for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- You need **write** permission for the ACD Administration subsystem and for all affected splits. See Chapter 10, "User Permissions"—Feature Access and Split/Skill Access."
- You need **read** permission for the ACD Administration subsystem to view extension assignments.

Relationships to Other Subsystems

Dictionary

If you enter a Split name in the Split moving from (optional): or Split moving to: field, the name must first be entered in the Dictionary. See Chapter 7, "Dictionary" for more information.

Timetable

You can place the Move Agent Extensions Between Splits window on a timetable. See Chapter 6, "Timetables and Shortcuts" for more information and the procedures.

Move Agent Extensions Window

You must fill out this window to move agent extensions between splits.

03/20/93 08:30 AM

Call Management System

Windows 1 of 1 ^

ACD Administration: Move Agent Extensions Between Splits

ACD1

Split moving from (optional): Custserv

Split moving to*: Sales

Extensions: 2050-2060;2062

*Split moving to not used for Find one or List all

Find one

List all

Modify.....

Next

Previous

Figure 9-4: Move Agent Extensions Between Splits Window Example

Field/Action List Usage

Modify

If you have a Generic 1 or Generic 3 switch with extensions that are members of multiple splits, an entry is required in all fields with `Modify`.

If you select `Modify` and the link to the switch is down, an Acknowledgment window appears with the link status [for example, waiting session, not collecting data, busy out (switch)].

With `Modify`, you are not able to exit this window until the switch responds to your requested changes. You can go to another window using the `MainMenu` or `Current` SLK. A secondary status window displays the reason(s) for failures. See the "Move Agent Extensions Between Splits Status" section.

The status line also shows a success or failure message with `Modify`. See the "Move Agent Extensions Between Splits Status Window" section of this chapter.

Find one, Next, and Previous

When data is displayed as a result of a Find one, Next, or Previous, only the current split that the agent is in is displayed in the Split moving from: field and the Split moving to field is blank.

Find one and List all

Find one and List all use only the Split moving from: field for the search.

Field Descriptions

Split moving from (optional):

Enter the split number or name to designate which split you are moving the extensions from. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Note

This field is required if the extensions are members of *multiple splits* (multiple splits are available only with a Generic 1 or Generic 3).

Split moving to: (Required entry)

Enter the split number or split name you are moving the extension(s) to.

Note

If you have a Generic 2 or System 85 switch and want to move extensions to Split 0, you must leave this field **blank**.

Extensions:

Enter the extension number(s) to be moved (up to 1023 extensions for Generic 2 and System 85 in a single move, and 32 for Generic 1 and Generic 3 in a single move).

Move Agent
Extensions
Between Splits
Status Window

If the entire move completes successfully, Successful appears on the Move Agent Extensions Between Splits window status line.

If the move either partially or totally **fails**, a secondary status window shows the extension number(s) and the reason(s) for the failure(s).

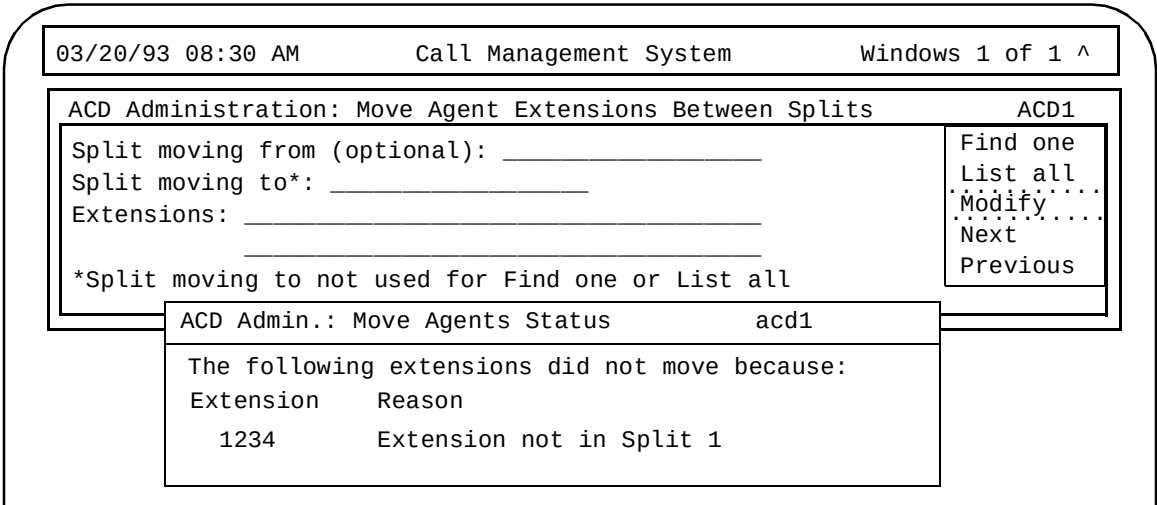


Figure 9-5: Move Agent Extensions Between Splits Status Window Example

Move Extensions Between Skill Groups (Generic 2.2 With EAS)

Note

You must have purchased and enabled the Generic 2.2 Expert Agent Selection (EAS) feature on your switch for this menu item to appear.

Purpose

The Move Agent Extensions window allows you to move agent extensions between skill groups. From this window, you can list which extensions are assigned to which skill groups (using the `List all` window).

Things to Know Before You Start

- You can move up to 1023 extensions to a different skill group with Generic 2.2.
- Please read Appendix E, "CMS and the Expert Agent Selection Feature" for more detailed EAS information.
- See Chapter 2, "User Basics" for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- You need **write** permission for the ACD Administration subsystem and for all affected skills. See Chapter 10, "User Permissions"—Feature Access and Split/Skill Access."
- You need **read** permission for the ACD Administration subsystem to view extension assignments.

Relationships to Other Subsystems

Dictionary
If you enter a Skill name in the `Skill group:` field, the name must first be entered in the Dictionary. See Chapter 7, "Dictionary" for more information.

Timetable

You can place the Move Agent Extensions window on a timetable. See Chapter 6, "Timetables and Shortcuts" for more information and the procedures.

Move Agent Extensions Window

You must fill out this window to move agent extensions between skill.

03/20/93 08:30 AM		Call Management System	Windows 1 of 1 ^
ACD Administration: Move Extns Between Skill Groups			
Skill group: _____		Find one List all Modify... Next Previous	
Extensions: _____			

Figure 9-6: Move Extensions Between Skill Groups Window Example

Field/Action List Usage

Modify

If you select **Modify** and the link to the switch is down, an Acknowledgment window appears with the link status [for example, waiting session, not collecting data, busy out (switch)].

If some of the extensions could not be moved, a secondary status window displays the reason(s) for failures. See the "Move Agent Extensions Between Splits" section of this chapter.

The status line also shows a success or failure message with **Modify**. See the "Move Agent Extensions Between Splits" section of this chapter.

Field Descriptions

Skill group:

Enter the name or number of the skill group to which the extensions currently belong (for searching) or to which you wish to move the extensions. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Note

Skill group numbers **must** end in 0 (zero). Names must correspond to skill group numbers that end in 0 (zero).

Extensions:

Enter lists or ranges of up to 1023 extensions to be moved.

Move Agent
Extensions
Status Window

If the entire move completes successfully, `Successful` appears on the Move Agent Extensions window status line.

If the move partially or completely **fails**, a secondary status window gives the extension number(s) and the reason(s) for the failure(s).

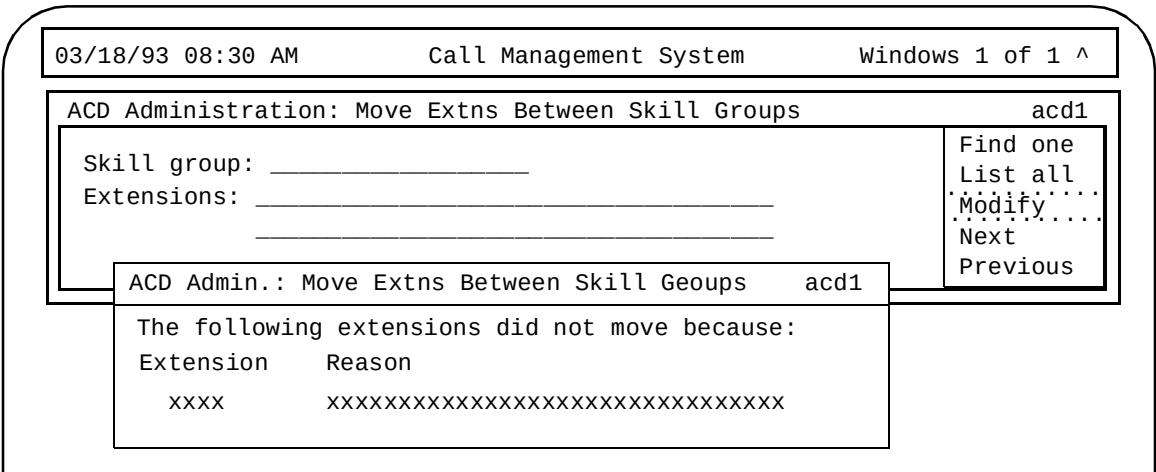


Figure 9-7: Move Extensions Between Skill Groups Status Window Example

Change Agent Skills (Generic 3 Version 2 EAS)



You must have purchased and enabled the Generic 3 Version 2 Expert Agent Selection (EAS) feature on your switch for this menu item to appear.

Purpose

The Change Agent Skills window allows you to change an agent's assigned skills and also whether those skills are assigned as primary or secondary skills. You can also find out what skills are assigned currently to any given agent. For more information on skills, see Appendix E, "CMS and the Expert Agent Selection Feature".

Things to Know Before You Start

- Skills left blank are sent to the switch as skill "0". This effectively removes skills from the agent.
- You cannot specify the same nonzero skill more than once for a given agent. Each skill entered for an agent must be unique or left blank.
- The first skill specified for an agent has an impact on the way tracking is done for the agent, since extension calls, direct agent calls, and time are attributed to the first skill administered and successfully logged into.
- The agent's skill is changed immediately if the agent is not currently logged in. If the agent is logged in, the change takes place after the agent logs out and then back in again.
- When you make a change, the change is made in switch administration and remains in effect until you make another change.
- Please read Appendix E, "CMS and the Expert Agent Selection Feature", for more detailed EAS information.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite
System
Administration

- You need **write** permission for the ACD Administration subsystem and for all affected skills. See Chapter 10, "User Permissions"—Feature Access and Split/Skill Access."
- You need **read** permission for the ACD Administration subsystem to view skill assignments.

Relationships to
Other
Subsystems

Dictionary
If you enter an Agent name in the Agent field or a Skill name in the Skill field, these name must first be entered in the Dictionary. See Chapter 7, "Dictionary" for more information.

Timetable
You can place the Change Agent Skills window on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

Change Agent
Skills Window

You must fill out this window to view or change agent skills.

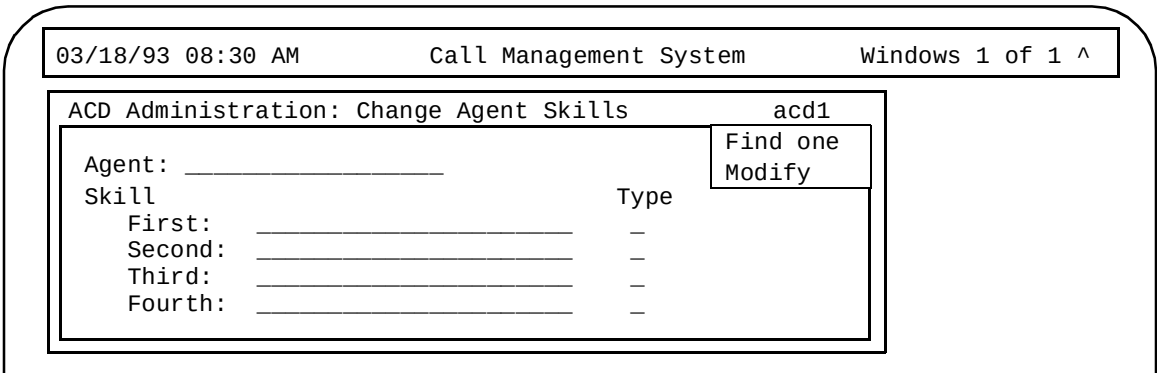


Figure 9-8: Change Agent Skills (Generic 3 Version 2 EAS) Example

**Field/Action List
Usage****Modify**

If you select **Modify** and specify no skills for an agent, an Acknowledgment window warns you that the change will not occur until the next time the agent logs in.

Field Descriptions**Agent :**

Enter the name or login ID of the agent whose skills you want to view or change. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Skill First through Fourth:

Enter the name or number of the skill to be assigned to the agent in each of the skill fields (see "Things to Know Before You Start"). Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Type

Enter a **P** or **p** if the skill is a primary skill. Enter an **S** or **s** if the skill is a secondary skill.

Trunk Group Assignments

Purpose

From this window, you can view trunk group assignments for all switches and move trunk groups from one split to another for Generic 2 and System 85 switches only.

- You are not able to exit this window until the switch responds to your requested changes. You can go to another window using the `MainMenu` or `Current` SLK. A secondary window displays the reason(s) for failures. See the “Trunk Group Assignments Status” section.
- If you have vectoring or call prompting, your window looks different. See the Vectoring/Prompting description for more information.
- The trunk group assignments for Generic 1 and Generic 3 can be displayed in this window, but you cannot make any changes to them.
- Split 0 is a dummy split used to assign trunk groups that you do not want directed to any of your measured splits (Generic 2 and System 85 only).
- See Chapter 2, "User Basics" for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- You must have **write** permission for the ACD Administration subsystem and all affected trunk groups. See Chapter 10, "User Permissions"—Feature Access and Trunk Group Access.”
- All affected splits and trunk groups must be measured.
- You must have **read** permission for the ACD Administration subsystem to view trunk group assignments.
- If you are using trunk group names, the names must first be entered in the Dictionary subsystem. See Chapter 7, "Dictionary" for more information.

Relationships to Other Subsystems

Timetable

The Trunk Group Assignments window can be placed on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

Trunk Group Assignments Window

You must complete this window to move trunk groups from one split to another for a Generic 2 or System 85 switch.

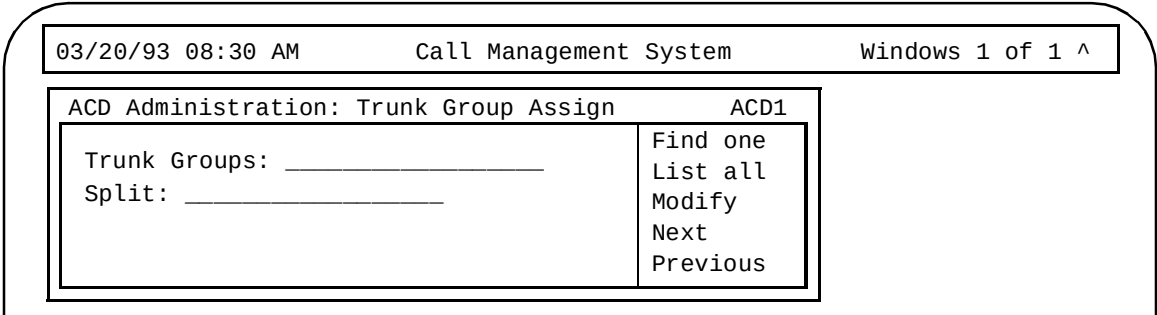


Figure 9-9: Trunk Group Assignment Window Example

Field/Action List Usage

Modify

If you select **Modify** and the link to the switch is down, an Acknowledgment window appears with the link status [for example, waiting session, not collecting data, busy out (switch)].

The status line also shows a success or failure message with **Modify**. See the "Trunk Group Assignment Status Window" section of this chapter.

Field Descriptions

Trunk Groups:

Enter the trunk group name(s) or number(s) that you are modifying or searching for. See on-line help for the valid numeric ranges for your particular switch. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Split:

Enter the split name or number to which you are moving the trunk group(s). See on-line help for the valid numeric ranges for your particular switch. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Trunk Group Assignment Status Window

If the entire move successfully completes, **Successful** appears on the Trunk Group Assignment window status line.

If the move either partially or totally **fails**, a secondary status window gives the trunk group number(s) and the reason(s) for the failure(s).

03/20/93 08:30 AM
Call Management System
Windows 1 of 1 ^

ACD Administration: Trunk Group Assign
ACD1

Trunk Groups: _____
Split: _____

Find one
List all
Modify...
Next
Previous

ACD Admin.: Trunk Group Assign Status
xxxxxxx

The following trunk groups did not move because:
Trunk Group Reason
xxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Figure 9-10: Trunk Group Assignment Status Window (Generic 2/System 85 Only)

Trunk Group Assignments

(Generic 2/System 85 With Vectoring Only)

Note

If you do not have the Vectoring feature, this Trunk Group Assignments window **not** available.

Purpose

You assign automatic-in trunk groups to VDNs so that ACD calls arriving on those trunk groups can be linked to vectors. From vectors, the calls are ultimately routed to other destinations—primarily splits.

Use the Trunk Group Assignments window (Figure 9-6) to view and change trunk-group-to-VDN assignments.

Note

You **do not** assign DID trunk groups to VDNs.

Things to Know Before You Start

- You cannot exit this window via the **Exit** SLK until the switch responds to your requested changes. You can, however, go to another window using the **MainMenu** or **Current** SLK.
- See Chapter 2, "User Basics" for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- Trunk groups must be initially assigned to VDNs on the switch using an appropriate switch administration tool. You can use CMS only to **change** those trunk-group-to-VDN assignments.
- To change trunk-group-to-VDN assignments, you must have **write** permission for the ACD Administration subsystem and any trunk groups and VDNs involved in your changes.
- To view trunk-group-to-VDN assignments, you must have **read** permission for the ACD Administration subsystem and any trunk groups or VDNs you want to view.

Relationships to Other Subsystems

Timetable

You can change trunk group assignments using a timetable. This capability can be particularly useful if you want to make changes during off-hours. See Chapter 6, "Timetables and Shortcuts" for more information and procedures.

Trunk Group Assignments Window

Fill out this window to review or modify trunk-group-to-VDN assignments for a System 85 or Generic 2 switch with vectoring.

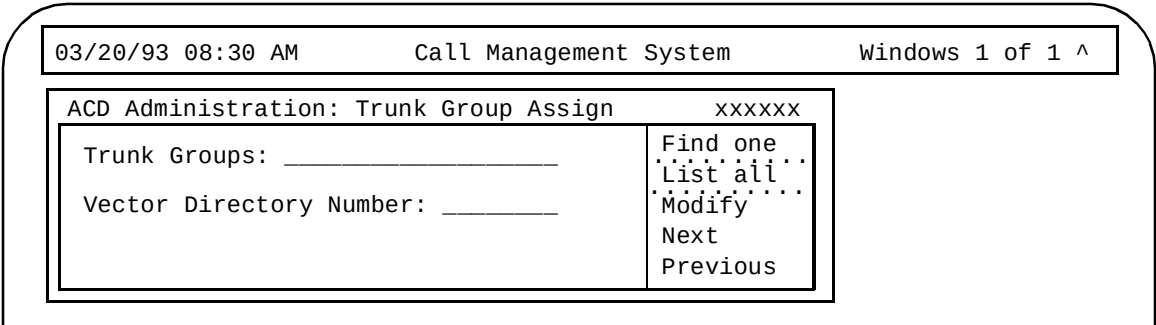


Figure 9-11: Trunk Group Assignments Window (System 85/Generic 2 Vectoring)

Field/Action List Usage

Modify

To Modify trunk group-to-VDN assignments, complete **both** the Trunk Groups and Vector Directory Number fields.

List all

Selecting List all with blank input fields displays a list of trunk groups and the VDNs they are assigned to.

Field Descriptions

Trunk Groups:

Enter the name(s) or number(s) of the trunk group(s) you want to reassign.

Vector Directory Number:

Enter the name or number of the VDN you want to assign the trunk group(s) to.

Trunk Group Assignments (Generic 3 Vectoring Only)

Note If you do not have the Vectoring feature, this Trunk Group Assignments window is **not** available.

Purpose

Automatic-in trunk groups on the Generic 3 are assigned to VDNs or non-vector-controlled splits using the DEFINITY Manager I administration tool.

Use the Trunk Group Assignments window (Figure 9-7) to see what VDNs or non-vector-controlled splits your trunk groups are assigned to.

Note You cannot use this window to actually assign trunk groups or to change trunk group assignments.

Things to Know Before You Start

- DID trunk groups are **not** assigned to VDNs or splits since, with DID trunk groups, the Central Office passes VDN digits or split extension digits to the switch.
 - Trunk groups are **never** assigned to vector-controlled splits because vector-controlled splits can receive calls only via vector processing.
-

Prerequisite System Administration

- Trunk groups must be assigned to VDNs or splits on the switch using the Manager I administration tool. You can use CMS only to **view** those trunk-group assignments.
- To view trunk-group-to-VDN assignments or trunk group-to-split assignments, you must have **read** permission for the ACD Administration subsystem and any trunk group(s), split(s), and VDN(s) you want to view.

Trunk Group Assignments Window

You must fill out this window to view trunk-group-to-VDN and trunk-group-to-split assignments for Generic 3 with vectoring.

03/20/93 08:30 AM Call Management System Windows 1 of 1 ^

ACD Administration: Trunk Group Assign xxxxxx

Trunk Groups: _____

Select one: _____

<x> VDN: _____

< > Split: _____

Find one
List all
Next
Previous

Figure 9-12: Trunk Group Assignments Window (Generic 3 Vectoring)

Field/Action List Usage

Find one

To **view** specific trunk group assignments, you can complete the Trunk Groups field and either the Vector Directory Number or the Split field.

List all

Selecting List all with blank fields displays a list of trunk groups and the VDNs or splits they are assigned to.

Field Descriptions

Trunk Groups:

Enter the number(s) of the trunk group(s) you want to view.

VDN:

Enter an **x** to select VDN as the object(s) to search for. Also, enter the name or number of the VDN whose assigned trunk group(s) you want to view.

Split:

Enter an **x** to select Split as the object(s) to search for. Also, enter the name or number of the split whose assigned trunk group(s) you want to view.

Split Parameters (Generic 2/System 85 Nonvectoring)

Purpose

From the Split Parameters window, you will set the delay time for prerecorded announcements and control intraflow for splits for Generic 2 and System 85 switches without the Vectoring feature.

Intraflow helps balance the workload during peak periods by moving callers to splits that are not as busy. You could also send your calls to an AUDIX Split on weekends or after normal working hours to inform callers of your working hours, or ask them to leave a message. You set up intraflow by entering the forwarding destination(s) and the forwarding conditions on the Split Parameters window.

Things to Know Before You Start

- **Intraflow** is the redirection of ACD calls from a local split to another local split or other local destination.
 - You are not able to exit this window until the switch responds to your requested changes. You can go to another window using the `MainMenu` or `Current` SLK. A secondary status window displays the reason for failures. See the "Split Parameters (Generic 2/System 85 Nonvectoring)" section.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- Switch administration is required to change to Queue Directory and Priority Queue Directory numbers.
 - You need **write** permission for the ACD Administration subsystem to change split parameters. See Chapter 10, "User Permissions"—Feature Access."
 - You need **read** permission for the ACD Administration subsystem to view split parameters.
 - You do *not* need **write** permission for the affected split to intraflow calls to another split.
 - If you are using names for splits, the names must first be entered in the Dictionary subsystem. See Chapter 7, "Dictionary", for more information.
-

Relationships to Other Subsystems

Timetable

You can place the Split Parameters window on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and procedures.

Split Parameters Window

You must fill out this window to modify the delay time for prerecorded announcements and control intraflow for splits for a Generic 2 or System 85 switch without vectoring.

03/20/93 08:30 AM Call Management System Windows 1 of 1 ^

ACD Administration: Split Parameters ACD1

Split: _____ Find one
Modify

Queue director no.: xxxxx

Priority queue directory no.: xxxxx

Delay time for annnc. 1: ____ Delay time for annnc. 2: ____

Inflow threshold: ____ Outflow threshold: ____

Intraflow type (Select on - optional):

< > none

<x> conditional

< > all

(Select one for each destination - optional):

Destination 1	Destination 2	Destination 3
<x> split, split ____	<x> split, split ____	<x> split, split ____
< > ext., no. ____	< > ext., no. ____	< > ext., no. ____
< > prior, split ____	< > prior, split ____	< > prior, split ____
< > CAS attendant	< > CAS attendant	< > CAS attendant
< > attendant	< > attendant	< > attendant
< > unsigned	< > unsigned	< > unsigned

Figure 9-13: Split Parameters Window Example

Field/Action List Usage

Modify or Find one

If the link is down when you select Modify or Find one, an Acknowledgment window displays the reason the link is down (such as not collecting data, switch busied out, waiting session).

The status line also shows a success or failure message with Modify. See the "Split Parameters Status" section after the Field Descriptions.

Field Descriptions

Split: (Required entry)

Enter the split name or number you are viewing or modifying. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Queue directory no.: (Display only field)

The main (primary) extension number associated with this split.



Switch administration is required for this field.

Priority queue directory no.: (Display only field)

The priority extension number associated with this split. This extension number gives the caller priority in the queue over calls to the main split number.



Switch administration is required for an extension number to appear in this field. It is not required to have a priority extension number for this split.

Delay time for annnc. 1:

(Required entry field if the split will have one announcement.)

Enter the number of seconds, in even numbers, that you want a queued caller to wait before hearing the *first* recorded announcement.



Because announcements play only from the beginning, the length of an announcement plus your delay time may pass before the caller actually hears the announcement. For example, if the announcement lasts 10 seconds and you have specified a 20-second delay time, the caller may wait up to 30 seconds before hearing the announcement.

Delay time for annnc. 2:

(Required entry field if the split will have two announcements.)

Enter the number of seconds in even numbers that you want a queued caller to wait before hearing the *second* recorded announcement. (See the note for Delay time for annnc. 1: field.)

Inflow threshold: (Valid ranges are 0 through 98)

Enter the total number of queued calls this split can have before the split will no longer accept forwarded calls from other splits into its queue.

- For example, if you specify an inflow threshold of nine, forwarded calls are accepted by this split when the number of calls in queue meets or exceeds nine.
- When a destination split's inflow threshold is met or exceeded, the ACD tries to forward calls to the next destination specified in the original split's intraflow parameters. See the Split Parameters window for that particular split's specified second or third destination.

Outflow threshold: (Valid ranges are 1 through 99)

Enter the number of calls in *queue* that will trigger call forwarding for this split.

- A split's outflow must always exceed its inflow. For example, if you specify an outflow threshold of 10, the call at the head of the queue is forwarded when the number of calls in queue meets or exceeds 10.
- If you choose **all** as your intraflow type, you do not need to enter an outflow threshold for the split, since all calls are intraflowed regardless of split queue conditions.

Intraflow type (Select only one - optional):

Enter the type of intraflow for this split.

< > none

No calls are forwarded; all calls remain in the queue. If you select none, a destination is not required.

< > conditional

Calls are forwarded according to outflow thresholds.

Note

If the destination has not been set on the switch, you need to select a destination in this window.

< > all

All calls are forwarded.

This is an unconditional type of intraflow and is most useful at times such as weekends or evenings when no one is staffing the split. If all of a split's calls are intraflowed and you specify more than one destination, the ACD tries to send each call to the first destination checking the inflow threshold, then the second, and finally the third.

(Select one for each destination - optional):

Destination 1, 2, or 3

Select one of the following for each intraflow destination. You can specify up to three forwarding destinations for each split.

Note

Do not specify an attendant or CAS attendant as the destination of unconditionally (a l l) intraflowed calls, *except as the last destination*. If the first destination is one of these, calls are always accepted and no calls ever reach the second or third destination. Use extensions for all but the last destination (the first two, if the total is three destinations; the first, if the total is two destinations).

< > split, split

Enter a measured split name or number that receives this split's intraflowed calls.

< > ext., no.

Enter a valid extension number in your switch that receives this split's intraflowed calls.

< > prior. split

Enter a measured split number or name that has a Priority Queue Directory Number (PQDN) that receives this split's intraflowed calls.

With this selection, intraflowed calls get priority over other calls queued to this split.

< > CAS attendant

Intraflowed calls go to the CAS attendant.

< > attendant

Intraflowed calls go to the attendant.

< > unassigned

No intraflow destination.

If you specify more than one destination, the ACD first tries to forward each call to Destination 1. If the conditions are not met for a successful forwarding (such as the inflow threshold being exceeded at the destination split), the intraflow software attempts to forward the call to the second destination, and then the third. If no forwarding conditions are met, the call remains queued to the original split.

Split Parameters
Status Window

If the entire modify completes successfully, Successful appears on the status line.

If the modify **fails** either partially or totally, a secondary status window automatically lists the field that failed and the reason for the failure.

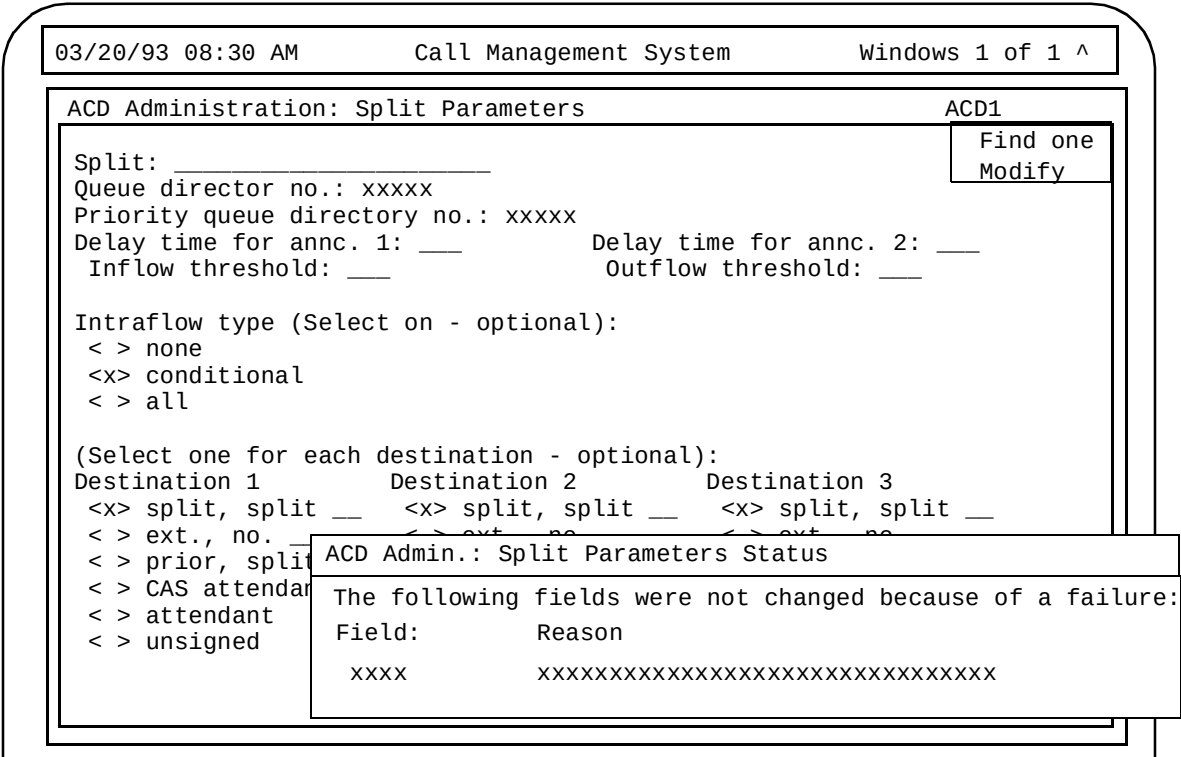


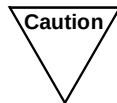
Figure 9-14: Split Parameters Status Window Example

Split/Skill Call Profile Setup

Purpose

The Split/Skill Call Profile Setup window allows you to set a target *acceptable service level* (time limit in seconds) for calls to wait in queue before being answered and also to define the service level increments for split/skill call profile reports and graphs. You can then use the Split/Skill Call Profile reports to see how many calls were either answered or abandoned within each increment.

Things to Know Before You Start



If you change the increments, data will be distorted for the interval in which you made the change. CMS deletes the split/skill call profile data already collected for that interval and only keeps the split/skill call profile data that occurred in that interval after the change. Then CMS tries to combine the split/skill call profile data gathered both before and after the change into a single daily record of split/skill call profile data. As a result, some data is placed in the wrong time intervals.

Daily, weekly, and monthly summaries that include the date of the increment change will look peculiar. The time increments shown on the report for the changed increment in the Call Profile Setup window will be the maximum values entered for each increment before or after the change. For example, if you change the increments from all "0s" to 1, 3, 5, 10, etc., the Split/Skill Call Profile report shows 1, 3, 5, 10, etc. If you change from 1, 3, 5, 10, ... to 1, 5, 7, 9, ..., the report shows 1, 5, 7, 10 for the date of the change.

To avoid misleading split/skill call profile data, change the time increments early in the day, preferably before agents begin staffing splits/skills and before a large amount of data has been gathered. Also change the profile increments at the beginning of your reporting week and, if possible, the beginning of the month. If the beginning of the week does not coincide with the beginning of the month, you will not be able to avoid some misleading profile data for the month in which you make profile changes.

- You can set each of the first nine service level increments to a different time length. Each increment represents a unit of wait time.
- If you do not administer this window, zero (0) seconds is used for all service level increments (therefore, all calls appear in the first increment on the Split/Skill Call Profile report).
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- You need **write** permission for the ACD Administration subsystem and for all affected splits/skill. See Chapter 10, "User Permissions"—Feature Access and Split/Skill Access."
- You need **read** permission for the ACD Administration subsystem to view split/skill call profiles.
- If you are using names for splits/skills, the names must first be entered in the Dictionary subsystem. See Chapter 7, "Dictionary", for more information.

Relationships to Other Subsystems

Reports

CMS counts the calls that are either answered or abandoned within each increment and then displays the totals on the Split/Skill Call Profile reports and graph reports. Therefore, what you enter here affects what you see on the Split/Skill Call Profile reports (real-time and historical).

Timetable

You can place the Split/Skill Call Profile Setup window on a timetable. See Chapter 6, "Timetables and Shortcuts" for more information and procedures.

Split/Skill Call Profile Setup Window

You must fill out this window to set your acceptable service level for calls to wait in queue before being answered and to define the service level increments for splits/skills.

Figure 9-15: Split/Skill Call Profile Setup Window Example

Field Description

Splits/Skills:

Enter the split or skill number(s) or name(s) you are searching for or modifying. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Acceptable service level: (Required entry)

Enter the number of seconds that is acceptable for an ACD call to wait before connecting to an agent.

Service level increments (seconds): (Required entry)

Enter a progressively greater number of seconds in each “to” field. The seconds before and after each word “to” define an increment or the seconds of wait time.

Each of the nine increments can vary in length (for example, 0 to 15 to 20 to 26 to 38 to 43, etc.) Each increment represents a progressively longer wait time for the call and is used for both answered and abandoned calls.

Activate Agent Trace

Purpose

From this window, you can start CMS tracing agent activities. These activities include all state changes by an agent until the trace is turned off.

Things to Know Before You Start

- You can activate traces for a maximum of 25 agents at any one time.
 - The agent trace file rolls over when the number of records reaches your allocated number. Old records are overwritten by new records. You do not have to delete agent trace records. If you want to keep records of old agent traces, you should print them.
 - To list agents and dates for which there is data in the current trace file, select the List Agents Traced menu option.
 - See Chapter 2, "User Basics" for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- You must have Data Collection turned **on** for the ACD to activate or deactivate agent traces. See Chapter 11, "System Setup"—Data Collection," for more information.
 - You need to specify what agent data and how much agent data is stored for use in historical reports before turning on an agent trace. See Chapter 11, "System Setup"—Agent Trace Record Contents," for more information.
 - You need **write** permission for the ACD Administration subsystem. See Chapter 10, "User Permissions"—Feature Access," for more information.
 - You need **read** permission for the ACD Administration subsystem to view agents being traced.
-

Relationships to Other Subsystems

Historical Reports

You must start an agent trace before you can obtain an Agent Trace report. This report lists each agent activity and the time it occurred. The Agent Trace report can be helpful when evaluating how well individual

agents are using their time. See Chapter 5, "Historical Reports", for more information on the Agent Trace Report.

Timetable

You can schedule the Activate Agent Trace window on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and procedures.

Activate Agent Trace Window

You must fill out this window to start or stop CMS tracing agent activities.

03/20/93 08:30 AM

Call Management System

Windows 1 of 1 ^

ACD Administration: Activate Agent Trace

ACD1

Agent name(s) or logid(s):

Agent trace (Select one):

< > On

<x> Off

Find one

List all

Modify

Next

Previous

Figure 9-16: Activate Agent Trace Window Example

Field/Action List Usage

Modify

The Agent names or logids: field requires an entry with Modify. You must select Modify to start or stop an agent trace.

List all

If you leave the fields blank, the list includes **all** agents in the ACD and their tracing status.

Field Descriptions

Agent name(s) or logid(s):
Enter the agent name(s) or login ID(s).

Agent trace (Select one): (Required entry)
Enter an x next to On or Off to start/stop a trace. Off is the default value.

Note

Turning an agent trace off does **not** delete the records for that agent. Agent trace records are overwritten automatically when the trace file has filled up.

List Agents Traced

Purpose

From this window, you can list the agents and dates for which agent trace data exists for the current ACD.

Things to Know Before You Start

- From this window, you can list all the agents for which data exists for given dates. You can list all the dates for which data exists for given agents. You can also leave the input fields blank to list all the dates and all the agents for which data exists.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- You must have turned **on** agent trace for some agents at some time in the past. Also, at some time in the past, those agents must have logged in to produce agent trace records.
- You need **read** permission for the ACD Administration subsystem to view the agent trace data.

Relationships to Other Subsystems

Timetable
You can schedule the List Agents Traced window on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and procedures.

List Agents Traced Window

You must fill out this window to view the list of agents and dates for agent trace data exists.

Date	Agent Traced	Login ID
mm/dd/yy	xxxxxxxxxxxxxxxxxxxxxx	xxxxxxxxxx
mm/dd/yy	xxxxxxxxxxxxxxxxxxxxxx	xxxxxxxxxx

Figure 9-17: List Agents Traced Window Example

Field/Action List Usage

List all

This action brings up a secondary window listing the dates and agents for which there is agent trace data. This list is displayed by date.

Field Descriptions

Agent(s):

Enter a list of agent names or login IDs.

Note

If you leave this field blank, the data for all agents is displayed.

Dates:

Enter a list or range of dates.

Note

If you leave this field blank, all dates for which there is data is displayed.

Split Members Configuration

Purpose	From this window you can generate a report showing extensions that are members of a specific split. This report is helpful for listing your splits and the extensions assigned to those splits.

Things to Know Before You Start	• You cannot create a custom report from the Split Members Configuration Report. • See Chapter 2, "User Basics" for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration	• You need read permission for the ACD Administration subsystem and for all affected splits. • If you are using names for splits, the name must first be entered in the Dictionary subsystem. See Chapter 7, "Dictionary", for more information.

Relationships to Other Subsystems	Timetable You can schedule the Split Members Configuration Input window and Report on a timetable. See Chapter 6, "Timetables and Shortcuts" for more information and the procedures.

Split Members Input Window

You must fill out this window to run the report.

Figure 9-18: Split Members Configuration Input Window Example

Field/Action List Usage

Run
Run generates the report.

Field Descriptions

Splits:

Enter the split name(s) or number(s). See on-line help for the valid numeric ranges for your particular switch. Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Split Members Configuration Report

The Split Members Configuration report lists the selected splits in numerical order, each split's assigned name, and the extensions that are assigned to the split. If the split does not have a name assigned, the `Split Name` field displays the split number. If the split does not have any extensions assigned to it, the `Extension` field is blank.

With Generic 2 and System 85, Split 0 lists the extensions in Split 0 as well as the extensions in other splits.

```
Split Members Configuration
Printed 3/12/93    9:32 AM

Split  Split Name      Extension
9      Billing          1289
9      Billing          1296
9      Billing          1295
15     Sales           1292
15     Sales           1294
15     Sales           1293
```

Figure 9-19: Split Members Configuration Report Example

Trunk Group Members Configuration

Purpose

From this window, you can generate a report showing trunk group members and their equipment locations for a particular trunk group. This report helps you quickly find a trunk's location.

Things to Know Before You Start

- You cannot create a custom report from the Trunk Group Configuration Report.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- You need **read** permission for the ACD Administration subsystem and for all affected trunk groups.
- If you are using names for trunk groups, the names must first be entered in the Dictionary subsystem. See Chapter 7, "Dictionary", for more information.

Relationships to Other Subsystems

Timetable

You can schedule the Trunk Group Members Input window and report on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

Trunk Group
Members Input
Window

You must fill out this window to run the Trunk Group Configuration report.

03/20/93 08:30 AM

Call Management System

Windows 1 of 1 ^

ACD Admin: Configuration Reports: Trunk Group Input

ACD1

Trunk Group:

Run

Report destination (Select one):

<x> Terminal

< > Printer, Printer name

< > File,

File name:

Figure 9-20: Trunk Group Members Configuration Input Window Example

Field/Action List	Run
Usage	Run generates the report.

Field Descriptions	Trunk Groups: Enter the trunk group number(s) or name(s). Any name(s) you want to appear on the report must have been previously defined and entered in the Dictionary subsystem. • The report displays the trunk group number/name and trunk number within the trunk group. • See on-line help for the valid numeric ranges for your particular switch.

Report destination (Select one): Enter an x next to Terminal, Printer, or File. • Terminal is the default destination. • If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the x.

- If you selected **File**, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Trunk Group Configuration Report

The Trunk Group Configuration report lists the selected trunk groups in numerical order, each trunk group's assigned name, and the equipment location of each trunk in the trunk group. If the trunk group does not have a name assigned, the **Trunk Group Name** field displays the trunk group number. If the trunk does not have any equipment location assigned to it, the **Equipment Location** field is blank.

Trunk Group Configuration

Printed 3/20/93 9:34 AM

<u>Trunk Group</u>	<u>Trunk Group Name</u>	<u>Equipment Location</u>
18	Billing_TG	000000302
18	Billing_TG	000000303
18	Billing_TG	000000301
19	Sales_TG	000000802
19	Sales_TG	000000703
19	Sales_TG	000000903

Figure 9-21: Trunk Group Configuration Report Example

Vector Configuration



If you do not have the Vectoring feature, this window is **not** available.

Purpose

The Vector Configuration Report (Figure 9-17) lists the trunk groups and VDNs that carry calls to a specified vector.

To run a Vector Configuration report, you must complete the Vector Configuration report input window (Figure 9-16).

Things to Know Before You Start



- A vector number may appear in the report even if it does not currently have a trunk group and VDN assigned to it. A vector number may also appear even if the vector does not yet contain any steps.
 - On Generic 2.2 or Generic 3, a “go to vector” step can cause a trunk group and/or VDN to carry calls to a vector to which the carrying VDN has not been assigned. Trunk groups and VDNs that carry calls to a secondary vector this way do not appear in the configuration report for those secondary vectors.
 - You cannot create a custom report from a Vector Configuration report.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- To run a Vector Configuration report, you must have **read** permission for the ACD Administration subsystem and the vector(s) you want listed in the report. However, the trunk groups and VDNs carrying calls to the vector(s) are listed even if you do not have read permission for those VDNs and trunk groups.

Relationships to Other Subsystems

Timetable

You can schedule the Vector Configuration Report to print on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

Vector Configuration Input Window

You must fill out this window to run the Vector Configuration Report.

Figure 9-22: Vector Configuration Input Window

Field Descriptions

Vectors:

Enter the name(s) or number(s) of one or more vectors for which you want to see the assigned VDNs and trunk groups.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new

report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

**Vector
Configuration
Report**

The Vector Configuration Report lists selected vectors in numerical order, each vector's assigned VDN(s), and each VDN's assigned trunk group(s). If a VDN has no assigned trunk groups, the Trunk Group and Trunk Group Name fields are blank. If a vector has no assigned VDNs, the VDN and VDN Name fields are also blank.

Although the report lists each vector's VDNs in numerical order, VDNs that have trunk groups assigned are listed first.

Vector Configuration					
			Printed 3/10/93		10:00 AM
Trunk Group	Trunk Group Name	VDN	VDN Name	Vector	Vector Name
45	region8sales	50001	salesreg1	1	sales
46	Billing_TG	50002	Billing_VDN	2	Billing_Vec
47	Order_Inquiry_TG	50003	Order_Inquiry_VD	3	Order_Inquiry_Ve
48	Complaints_TG	50004	Complaints_VDN	4	Complaints_Vec
49	Legal_TG	50005	Legal_VDN	6	Legal_Vec

Figure 9-23: Vector Configuration Report

Vector Configuration Report With Skill Preferences

Note

If you have EAS, this report replaces the Vector Configuration report shown for switches without the EAS feature.

Purpose

The Vector Configuration Report With Skill Preferences lists the trunk groups and VDNs that are associated with a given set of vectors, along with the skill preferences assigned to the VDNs.

Things to Know Before You Start

- A vector number may appear in the report even if it does not currently have a trunk group and VDN assigned to it. A vector number may also appear even if the vector does not yet contain any steps.
 - You cannot create a custom report from a Vector Configuration report.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

To run a Vector Configuration With Skill Preference report, you must have **read** permission for the ACD Administration subsystem and the vector(s) you want listed in the report. However, the trunk groups and VDNs carrying calls to the vector(s) are listed even if you do not have read permission for those VDNs and trunk groups.

Relationships to Other Subsystems

Timetable

You can schedule the Vector Configuration Report to print on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

Vector Configuration With Skill Preference Input Window

You must fill out this window to run the Vector Configuration With Skill Preference Report.

03/20/93 08:30 AM Call Management System Windows 1 of 1 ^

ACD Admin: Configuration Reports: Vector Input ACD1

Vector(s): _____ Run

Report destination (Select one):

<x> Terminal

< > Printer, Printer name _____

< > File,

File name: _____

Figure 9-24: Vector Configuration With Skill Preference Input Window

Field Descriptions

Vectors:

Enter a the names or numbers of vectors for which you want to run the report. You can enter a range of vectors.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Vector Configuration With Skill Preferences Report

This report gives the trunk groups and VDNs that are associated with a given set of vectors, along with the skill preference assigned to the VDNs.

Vector Configuration with Skills											
Printed mm/dd/yy hh:mm											
Trunk No.	Group Name	VDN No.	Name	Vector No.	Name	VDN 1st	Skills Name	2nd	Name	3rd	Name
---	-----	----	-----	----	-----	---	-----	---	-----	---	-----
xxx	xxxxxxxxxx	xxxxx	xxxxxxxxxx	xxx	xxxxxxxxxx	xxx	xxxxxxxxxx	xxx	xxxxxxxxxx	xxx	xxxxxxxxxx
xxx	xxxxxxxxxx	xxxxx	xxxxxxxxxx	xxx	xxxxxxxxxx	xxx	xxxxxxxxxx	xxx	xxxxxxxxxx	xxx	xxxxxxxxxx
xxx	xxxxxxxxxx	xxxxx	xxxxxxxxxx	xxx	xxxxxxxxxx	xxx	xxxxxxxxxx	xxx	xxxxxxxxxx	xxx	xxxxxxxxxx
xxx	xxxxxxxxxx	xxxxx	xxxxxxxxxx	xxx	xxxxxxxxxx	xxx	xxxxxxxxxx	xxx	xxxxxxxxxx	xxx	xxxxxxxxxx

Figure 9-25: Vector Configuration With Skill Preference Report Example

Call Work Codes

Purpose

From this window, you will assign the call work codes for which CMS will collect data. A call work code is a code you assign to a particular call activity your call center wants to track. This could be certain digits assigned to a sale item, complaints, repeat orders, promotional ads, or even sales made using a credit card. You can then see this data on the Call Work Codes historical reports.

Things to Know Before You Start

- Call work codes must be positive integers with 1 to 16 digits or must be names administered in the Dictionary subsystem. It is recommended that you select a fixed number of digits for **all** your call work codes. A fixed number of digits makes it easier when adding, deleting, or even searching for call work codes.
 - Call work code 0 is always administered and is used to collect information on unadministered call work codes. You cannot delete call work code 0.
 - You may administer 1999 call work codes per CMS (over all ACDs) and those codes are specific to that ACD. If you try to administer more codes than you are allocated, the addition fails and you receive an Acknowledgment.
 - If you are using the Call History feature, call work codes collected there need to be administered here. CMS puts any call work code into the call records. Each unadministered code shows up as code 0 in the Call Work Code report.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- Because call work codes directly affect the amount of storage space required for disk space, you need to allocate the number of call work codes to be saved by CMS. See Chapter 11, "System Setup"—Data Storage Allocation," for more information.
 - You must identify and specify where you want to store call work code data. See Chapter 11, "System Setup"—Free Space Allocation," for more information.
-

- You need **write** permission for the ACD Administration subsystem to add or delete call work codes. See Chapter 10, "User Permissions"—Feature Access."
- You need **read** permission for the ACD Administration subsystem to view call work codes.

Relationships to Other Subsystems

Reports

Daily, weekly, and monthly standard historical reports are available for call work codes. See Chapter 5, "Historical Reports"—Call Work Code Report," for more information.

Dictionary

For a name to show in the report instead of the numerical code, the name must first be defined and entered in the Dictionary subsystem. A call work code name is limited to codes with up to nine digits. See Chapter 7, "Dictionary"—Call Work Codes," for more information.

Timetable

You can place the Call Work Codes window on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and procedures.

Call Work Codes Window

You must complete this window to see data in the call work code standard historical reports.

ACD Admin: Call Work Codes		ACD1
Number of codes allocated:	1050	Add..... Delete Find one List all Next Previous
Number of codes administered:	50	
Call work code(s)	10051-10080	

Figure 9-26: Call Work Codes Window Example

Field Descriptions

Number of codes allocated: (Display only)

This is the total number of call work codes that will be saved in the CMS database. (This number comes from the Data Storage Allocation window in the System Setup subsystem.)

Number of codes administered: (Display only)

This is the total number of call work codes currently in use (administered via this window).

Call work code(s):

Enter the call work code(s) you want the agents to use.



It is recommended that you select a fixed number of digits for **all** your call work codes. A fixed number of digits makes it easier when adding, deleting, or even searching for call work codes.

VDN-to-Vector Assignments

Note

If you do not have the Vectoring feature, the VDN Assignments window is **not** available.

Purpose

VDNs, which are initially assigned to vectors on the switch, provide a software link to vectors. This link is necessary for ACD calls to enter vector processing. A VDN provides a link to a vector in one or more of the following ways:

- The auto-in trunk group(s) assigned to the VDN carry calls to the VDN's assigned vector.
- DID trunk groups carry calls to the VDN's assigned vector when the Central Office passes VDN digits to the switch.
- The switch sends internal calls to the VDN's assigned vector when the dialed digits are the VDN.

Use the VDN Assignments window (Figure 9-19) to change the vectors VDNs are assigned to.

Things to Know Before You Start

- You can assign multiple VDNs to a single vector. However, you **cannot** assign a VDN to more than one vector.
 - You cannot exit this window via the **Exit** SLK until the switch responds to your requested changes. You can, however, go to another window using the **MainMenu** or **Current** SLK.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
 - When scheduling VDN moves, you need to group all VDN moves together on one timetable, or schedule them far enough apart so that one move completes before the next one starts.
-

Prerequisite System Administration

- To assign VDNs to a vector, you must have **write** permission for the ACD Administration subsystem and for the vector to which you are assigning the VDNs.
- To view VDN assignments, you must have **read** permission for the vector and VDN(s) you are viewing and for the ACD Administration subsystem.

Relationships to Other Subsystems

Timetable

You can reassign VDNs using a timetable. This capability can be particularly useful if you want to make assignments during off-hours. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

VDN Assignments Window

You must fill out this window to assign VDNs to vectors.

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Call Management System

Windows 1 of 1 ^

ACD Administration: VDN Assignments

xxxxx

VDNs:

Vector:

Delete

Find one

List all

Next

Previous

Figure 9-27: VDN Assignments Window

Field/Action List Usage

Modify

To Modify VDN assignments, you complete the VDNs and Vector fields and select Modify.

List all

Selecting List all with blank fields displays a list of VDNs and the vectors they are assigned to. If a VDN is not assigned to a vector, the VDN lists with Vector 0 in the List All window.

Field Descriptions**VDNs :**

Enter the number(s) or name(s) of the VDN(s) you want to reassign.

To know what VDNs you can assign, you should first select `List all` with all blanks.

Vector :

Enter the name or number of the vector you want to assign the VDN(s) to.

To know what vectors you can assign VDNs to, you should first select `List all` on the Vector Configuration report input window. See the "Vector Configuration" section of this chapter.

Change VDN Skill Preferences



If you do not have the Vectoring and Expert Agent Selection features, the Change VDN Skill Preferences window is **not** available.

Purpose

The Change VDN Skill Preferences window allows you to change the first, second, and third VDN skill preferences for a list of VDNs. You can also list the currently assigned skill preferences for VDNs and list all the VDNs that currently have a given skill preference assigned.

Things to Know Before You Start

- To find out which VDNs have a given skill assigned as their first, second, or third skill preferences, you need to run `List` all three times, once for the skill in each of those positions.
 - When the VDN skill preferences are changed on a Generic 2.2 switch, the new skill preferences take effect for the new calls to the VDN. Any calls currently in progress in the VDN at the time the change is made are processed with the old VDN skill preferences.
 - When the VDN skill preferences are changed on a Generic 3 Version 2 switch, the change takes effect immediately and can affect the processing of any call currently in progress in the VDN at the time of the change.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- You must have **write** permission for the ACD Administration subsystem to change the skill preferences assigned to VDNs.
- You must have **write** permission for the VDNs whose skill preferences you want to change.
- To view current skill preference assignments, you must have **read** permission for the ACD Administration subsystem.
- To view the VDN current skill preference assignments, you must have **read** permission for the VDNs.

Relationships to Other Subsystems

Timetable

You can reassign skill preferences using a timetable. This capability can be particularly useful if you want to make assignments during off-hours. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

Change VDN Skill Preferences Window

You must fill out this window to change VDN skill preferences for a list of VDNS.

03/20/93 08:30 AM Call Management System Windows 1 of 1 ^

ACD Administration: Change VDN Skill Preferences ACD1

VDNs: _____	Find one
Skill preferences	List all
1st: _____	Modify
2nd: _____	Next
3rd: _____	Previous

Figure 9-28: Change VDN Skill Preferences Window

Field/Action List Usage

Modify

Modify changes the switch administration affecting all new calls on a Generic 2.2 switch and existing and new calls on a Generic 3 switch.

Field Descriptions

VDNs:

Enter a list or range of VDNs whose skill preferences you want to view or change.

To know what VDNs you can assign, you should first select `List all` with all blanks.

Skill preferences 1st, 2nd, 3rd:

Enter the skill preferences to be assigned to the list of VDNs you entered.

The skill preferences are assigned as the first, second, and third VDN skill preferences, respectively.

To list the skill preferences currently assigned VDNs to, select `List all` on the Vector Configuration With Skill Preference report input window. See the "Vector Configuration Report With Skill Preferences" section of this chapter.

VDN Call Profile Setup

Note

If you do not have the Vectoring feature, the VDN Call Profile Setup window is **not** available.

Purpose

You set up a VDN call profile to specify service level increments for VDNs. CMS counts the number of calls that are answered, connected to a non-ACD destination, and abandoned within each increment and displays them on the VDN Call Profile Reports.

Note

CMS stores zeroes (0) as default values for the profile increments. Therefore, CMS does not collect or store meaningful VDN call profile report data until you administer the increments for the particular VDN. Instead, a call profile report for a VDN adds up all answered, connected, and abandoned calls and displays them in the first increment of the report.

You also set up a VDN call profile to define acceptable service levels (wait time) for VDNs.

Use the VDN Call Profile Setup window (Figure 9-20) to set up a VDN call profile.

Things to Know Before You Start

Caution

If you change the increments, data will be distorted for the interval in which you made the change. CMS deletes the VDN call profile data already collected for that interval and only keeps the VDN call profile data that occurred in that interval after the change. Then CMS tries to combine the VDN call profile data gathered both before and after the change into a single daily record of VDN call profile data. As a result, some data is placed in the wrong time intervals.

Daily, weekly, and monthly summaries that include the date of the increment change will look peculiar. The time increments shown on the report for the changed increment in the Call Profile Setup window will be the maximum values entered for each increment before or after the change. For example, if you change the increments from all “0s” to 1, 3, 5, 10, etc., the VDN Call Profile report shows 1, 3, 5, 10, etc. If you change from 1, 3, 5, 10, ... to 1, 5, 7, 9, ..., the report shows 1, 5, 7, 10 for the date of the change.

To avoid misleading VDN call profile data, change the time increments early in the day, preferably before agents begin staffing splits and before a large amount of data has been gathered. Also change the profile increments at the beginning of your reporting week and, if possible, the beginning of the month. If the beginning of the week does not coincide with the beginning of the month, you will not be able to avoid some misleading profile data for the month in which you make profile changes.

- You can set each of the first nine service level increments to a different time length. Each increment represents a unit of wait time.
- CMS always tracks and records call information for the first VDN the call reaches until the call is answered, connected to a non-ACD destination, or abandoned.

Prerequisite System Administration

- To add or change a VDN call profile, you must have **write** permission for the ACD Administration subsystem and for the affected VDNs.
- To display a VDN call profile, you must have **read** permission for the ACD Administration subsystem and for the affected VDNs.

Relationships to Other Subsystems

Reports

The service level increments you define for a VDN determine the increments that appear for that VDN on both the real-time and historical VDN Call Profile reports. The acceptable service level you define for a VDN affects the percentage of calls answered within service level shown on that VDN's Call Profile report.

Timetable

You can place VDN Call Profile changes on a timetable.

VDN Call Profile Setup Window

You must fill out this window to define the acceptable service level and service level increments for VDNs.

03/20/93 08:30 AM Call Management System Windows 1 of 1

ACD Administration: Split/Skill Call Profile Set ACD1

VDNs: _____

Acceptable service level: ____

Service Level increments (seconds):

Inc 1 0 to ____	Inc 2 to ____	Inc 3 to ____	Inc 4 to ____	Inc 5 to ____
Inc 6 to ____	Inc 7 to ____	Inc 8 to ____	Inc 9 to ____	Inc 10 And above

Add
 Delete
 Find one
 List all
 Modify
 Next
 Previous

Figure 9-29: VDN Call Profile Setup Window

Field/Action List Usage

Add

To add a VDN call profile, you must complete all fields and select **Add**.

To copy an existing VDN call profile to a VDN that does not yet have a profile, use **Find one** to display the profile you want to copy, change the VDN listed in the VDNs field to the desired VDN(s), and select **Add**.

Delete

To delete a VDN call profile, you must complete only the VDNs field and select **Delete**.

Modify

To modify a VDN call profile, use **Find one** to display a profile, change the desired fields, and select **Modify**.

Field Descriptions**VDNs :**

Enter the VDN number(s) or name(s) whose profile you want to add, delete, change, or copy.

To know what VDNs you can assign, you should first select **List all** with all blanks on the VDN Assignments window. See "VDN-to-Vector Assignments" in this chapter.

Acceptable service level:

Enter a number of seconds to define the maximum acceptable time for incoming calls on the VDN to wait before connecting to an agent.

The number of seconds can be from 1 to 3600, the maximum number of seconds in an hourly intrahour interval.

Inc 1

Enter a number of seconds from 1 to 3600 to specify the lowest service level increment.

- The number you enter is the top of the range of seconds.
- CMS counts calls that are either answered, connected to non-ACD destinations, or abandoned within this range and display the totals on the VDN Call Profile report.

Inc 2 through Inc 9

Enter a number of seconds to define each service level increment from 2 through 9.

- The seconds you enter for each increment must be at least 1 second greater than the seconds of the previous increment. For example, if the previous increment were 25 seconds, you must enter in the current increment at least 26 seconds.
- The number you enter forms a range with the number you entered for the previous increment. Though the number you enter is included in the range (and is the top of the range), the number from the previous increment is not included in the range. CMS counts calls that are either answered, connected to a non-ACD destination, or abandoned within each range and display the totals on the VDN Call Profile report.

Vector Contents

Note

If you do not have the Vectoring feature, the Vector Contents window is **not** available. Also, the Vector Contents window is available **only** if the current ACD is a real ACD (that is, it is not a pseudo-ACD).

Purpose

You define the contents of a vector by entering vector steps, which consist of call-processing commands and conditions. The switch then processes calls with these steps when calls are routed to the vector.

Use the Vector Contents window to add, copy, and change steps in a vector.

Things to Know Before You Start

- You can define up to 32 steps in a single vector on a Generic 3 Version 2 switch only. All other switches support up to 15 steps in a single vector.
- Each step in a vector is a dynamic field in which you can enter one of a variety of commands and conditions. If you enter the first unique character(s) of a command, CMS automatically displays command words and additional input fields that you must complete.
- If you have the Expert Agent Selection (EAS) feature, the vector commands refer to *skill* instead of *split*.
- Use the following keys in the Vector Contents window.

↓	Move to the next field.
↑	Move to the previous field.
Tab	Move to the next field.
Shift Tab	Move to the previous field.
→	Move cursor to the right within a field.
←	Move cursor to the left within a field.
Back Space	Delete characters in a field.
Ctrl X	Delete characters from the cursor to the end of the field.
Ctrl Y	Delete all characters in the field.

- If you leave a blank step in a vector, CMS automatically replaces the blank with a “go to step” command when you select **Modify**. The “go to step” command sends the call to the next step.
- You may enter vector commands that reference splits to which you have neither read nor write permission.
- You **cannot** place the Vector Contents window on a timetable.
- You cannot exit the Vector Contents window via the **Exit** SLK until the switch responds to your requested changes. You can, however, go to another window using the **MainMenu** or **Current** SLK.

About Generic 2/System 85

- On Generic 2.2, you can link one vector with another vector via a “go to vector” command. By linking two vectors, you can create a virtual vector of more than 15 steps. Yet, as a call moves from one vector to another, the original VDN continues to carry the call and permits accurate reports on specific-purpose call traffic.

Note Generic 2.1 and System 85 do not allow a “go to vector” command.

- On System 85/Generic 2, vectors may not contain Call Prompting commands. See Table 9-1.
- Generic 2.2 with EAS requires the *oldest call waiting* condition in the vector be “0” for the skill.

About Generic 3

- On Generic 3, you can link one vector with another vector via a “go to vector” command. By linking two vectors, you can create a virtual vector of more than 15 (or 32 with Generic 3 Version 2) steps. Yet, as a call moves from one vector to another, the original VDN continues to carry the call and permits accurate reports on specific-purpose call traffic.
- On Generic 3, your vectors may contain Vectoring commands, Prompting commands, or both, depending on which features you have on the switch. See Tables 9-2 and 9-3.
- On Generic 3, the maximum queue length assigned to a split could affect the “calls queued to split” condition for “go to” and “check backup split” commands. For example, if the maximum queue length administered on the switch for a split is 20, but your calls queued condition is greater than 20, the condition always fails.

Prerequisite System Administration

- To change anything about a vector's contents, you must have **write** permission for the ACD Administration subsystem and for the specific vector number.
- To view or copy a vector, you must have **read** permission for the specific vector number you are viewing or copying.
- For a vector to process calls, at least one VDN must be assigned to the vector.

On System 85/ Generic 2

- On System 85/Generic 2, the “route to” command requires that an Abbreviated Dial (AD) Group List be assigned to the Call Vectoring feature and that destinations be specified in the Group List. In addition, if any destinations in the Group List are external to the switch, Automatic Route Selection (ARS) or Automatic Alternate Routing (AAR) feature must be administered on the switch.
- On Generic 2.2, up to 5 AD Group Lists may be assigned to the Call Vectoring feature. If more than one group list is used, the items in the group lists must be numbered as follows:

Group List 1 1 to 95

Group List 2 101 to 195

Group List 3 201 to 295

Group List 4 301 to 395

Group List 5 401 to 495

Note

A controlling extension may be assigned to the AD group list so that destinations in the Group List may be changed from the extension's voice terminal.

- On System 85/Generic 2, the “announcement” command requires that announcement numbers be assigned to equipment locations of recorded announcement trunks.

On Generic 3

- On Generic 3, a split referenced in a “queue to main split” or “check backup split” vector command must be specified as vector-controlled on the split's Hunt Group Form.
- On Generic 3 with Prompting, at least one TN744 circuit pack (which has eight touch-tone receivers) must be connected to the switch.

Vector Contents Window

You must fill out this window to add, copy, or change steps in a vector.

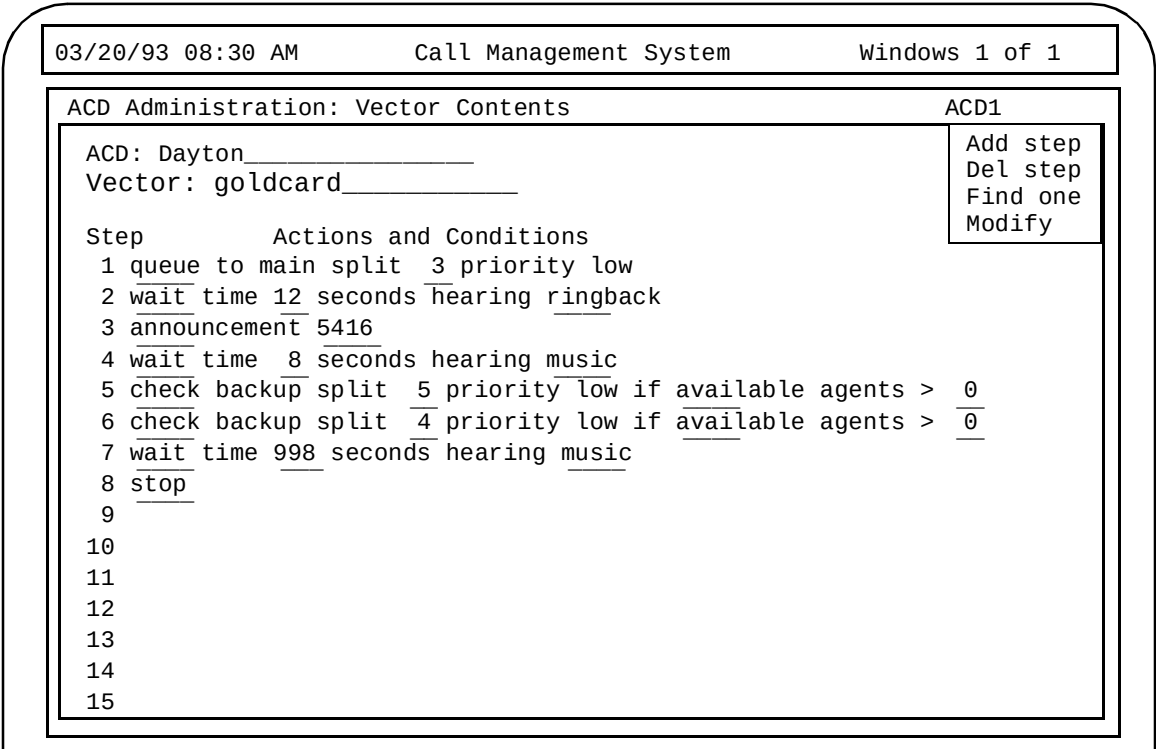


Figure 9-30: Vector Contents Window

Field/Action List Usage

Modify

To **add** the contents of a vector, **change** the contents of a vector, or **copy** the contents of a vector, you must use **Modify**. See the appropriate procedure (“How to Add a Vector,” “How to Modify a Vector,” or “How to Copy a Vector”) later in this section.

Add step

To **insert** steps between existing steps in a vector, you can place the cursor on a step and select **Add step**. CMS creates a blank step above the step on which you placed the cursor. You can then enter the command and conditions you want for the new step. However, you must still select **Modify** (see “How to Modify a Vector”) to save the vector with the steps you inserted.

Del step

To **delete** steps in a vector, you can place the cursor on a step and select Del step. CMS deletes the command for that step and moves any subsequent commands up one step. However, you must still select Modify (see “How to Modify a Vector”) to save the vector with the steps you deleted.

Find one

To **view** a vector's contents, complete the ACD and Vector fields and select Find one.



Your vector does not have to be complete or logical in order to save it. However, if an active VDN is assigned to an incomplete or illogical vector, calls will receive inappropriate treatment.

Field Descriptions

ACD:

Enter the number or name of the ACD in which you want to define a vector.

- The default ACD number or name is the current ACD.

Vector:

Enter the number or name of the vector you want to add, delete, copy, or modify.

Steps 1 through 15 or Steps 1 through 32

Enter a command for a step by typing the first unique letter(s) of the command (for example, **g** for go to). CMS automatically displays the remaining text for the command, as well as additional input fields you must complete.

- If the input fields require words (for example, **music**), you must enter only the first unique letter(s). CMS then automatically displays the remaining text for the field. This automatic display also occurs for the **if** conditions for the go to and check backup commands.



This automatic display does not work for a field in which none is an option (for example, the disconnect or the collect digits command).

The input field for a command word actually contains only the first four letters of the word. These letters are always underlined. To change a command word:

- You need to enter the first unique letter(s) of the work.

OR

- Press **Ctrl** **Y** to delete the four letters in the field, and then type the first unique letter(s) of the new word.

CMS automatically changes the remaining text and any other input fields in the command to match the word you entered. However, you do have to move the cursor to the remaining fields of the command and enter the appropriate values.

- You may need to press **Tab** or the spacebar in almost all fields. For Generic 3 Version 2, if you are on the last field in the window, tabbing out of the field moves you to the next page of the vector steps (17 through 32).
- For commands available for steps in a vector, as well as the conditions and valid inputs for those commands, see Table 9-1 for System 85/Generic 2 or Tables 9-2 and 9-3 for Generic 3. For in-depth descriptions of each command and its purpose, see Appendix B, "Call Vectoring and Related Generic 3 Features" or Appendix C, "Call Vectoring and Related System 85/Generic 2 Features" in this document.

Table 9-1: Vectoring Commands — System 85/Generic 2

<u>queue</u> to main split __ priority ____ (1-60) ↑ (top, high, med, or low)
EAS only <u>queue</u> to main skill __ priority ____ (10-609) ↑ 1st, 2nd, 3rd [VDN] (top, high, med, or low)
<u>check</u> backup split __ priority ____ if (1-60) ↑ (top, high, med, or low) { <u>available</u> agents > ____ (0 to 1023) <u>staffed</u> agents > ____ (0 to 1023) <u>calls</u> queued < ____ (1 to 99) <u>oldest</u> call waiting < ____ (1 to 999)
EAS only <u>check</u> backup skill __ priority ____ if (10-609) ↑ 1st, 2nd, 3rd [VDN] (top, high, med, or low)
{ <u>available</u> agents > ____ (0 to 1023) <u>staffed</u> agents > ____ (0 to 1023) <u>calls</u> queued < ____ (1 to 99) <u>*oldest</u> call waiting < ____ (1 to 999)
<u>wait</u> time ____ seconds hearing ____ ↑ ↑ (even numbers from 2-998 (ringback, silence, [S85/G2.1], 0-998 [G2.2]) or music)

* only if skill number ends with a zero (eg. 10, 20...)

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Table 9-1: Vectoring Commands — System 85/Generic 2 (Contd)

<u>go to</u> { <u>step</u> ____ (1-15) } if { <u>vector</u> ____ (1-511: G2.2 only)	<u>unconditionally</u> <u>available agents in split</u> ____ is ____ (0-60) (< (1-1023) or >) (0-1023) <u>staffed agents in split</u> ____ is ____ (0-60) (< (1-1023) or >) (0-1023) <u>calls queued in split</u> ____ is ____ (1-60) (< (1-99) or >) (0-99) <u>oldest call waiting in split</u> ____ is ____ (1-60) (< (1-999) or >) (0-999) <u>time of day is</u> ____ to ____ (mon, tue, wed, thur, (hh:mm in military time[19:40] fri, sat, sun, or all) or with am/pm [7:40pm]) prior ____ ↑ (top, high, med, or low)
EAS only <u>go to</u> { <u>step</u> ____ (1-15) } if { <u>vector</u> ____ (1-511: G2.2 only)	<u>unconditionally</u> <u>available agents in skill</u> ____ is ____ (10-609) (< (1-1023) or >) (0-1023) <u>staffed agents in skill</u> ____ is ____ (10-609) (< (1-1023) or >) (0-1023) <u>calls queued in skill</u> ____ is ____ (10-609) (< (1-99) or >) (0-99) <u>*oldest call waiting in skill</u> ____ is ____ (10-609) (< (1-999) or >) (0-999) <u>time of day is</u> ____ to ____ (mon, tue, wed, thur, (hh:mm in military time[19:40] fri, sat, sun, or all) or with am/pm [7:40pm]) prior ____ ↑ (top, high, med, or low)

* only if skill number ends with a zero (e.g. 10, 20...)

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Table 9-1: Vectoring Commands — System 85/Generic 2 (Contd)

<u>busy</u>
<u>route</u> to number _____ ↑ (An Abbreviated Dial Group List Item number 1-95 [S85/G2.1], or 1-95, 101-195, 201-295, 301-395, or 401-495 [G2.2])
<u>announcement</u> _____ ↑ (An announcement number 16-99 [S85/G2.1], 1-255 [G2.2])
<u>stop</u>
<u>disconnect</u> after announcement _____ ↑ (Optional: none or an announcement number 16-99 [S85/G2.1], 1-255 [G2.2])

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Table 9-2: Vectoring Commands — Generic 3

<u>collect</u> digits ____ after announcement ____ (1-16)	↑ (Optional: 5-digit extension or none)
<u>route</u> to	{ <u>number</u> _____ if (1- to 16-digit number, which may include ~p, ~s, ~w, or ~m) <u>digits</u> with coverage (y/n) _ (y or n) { <u>unconditionally</u> <u>digit</u> equals _ (0 to 9)
<u>go</u> to	{ <u>step</u> ____ (1-15) } <u>vector</u> ____ ↑ (1-256 [G3i]) (1-512 [G3r]) if <u>digits</u> equal _____ ↑ (1- to 16-digit number)

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Table 9-2: Vectoring Commands — Generic 3 (Contd)

queue to main split ____ priority ____
 (1-99 [G3i])
 (1-255 [G3r]) (top, high, med, or low)

EAS only

queue to main skill ____ priority ____
 (1 to 99 [specific: G3iV2])
 (1 to 255 [specific: G3rV2])
 (1 to 24 specific: [G3s/vsV2])
 (1st, 2nd, 3rd [VDN])
 (low, medium, high, top)

check backup split ____ priority ____ if
 (1-99 [G3i])
 (1-255 [G3r]) (top, high, med, or low)

{
available agents > ____
 (0-99 [G3i])
 (0-998 [G3r])
staffed agents > ____
 (0-199 [G3i])
 (0-998 [G3r])
calls queued < ____
 (1-200 [G3i])
 (1-999 [G3r])
oldest call waiting < ____
 (2-998)
unconditionally

EAS only

check backup skill ____ priority ____ if
 (1 to 99 [specific: G3iV2])
 (1 to 255 [specific: G3rV2])
 (1 to 24 [specific: G3s/vsV2])
 (1st, 2nd, 3rd [VDN])
 (low, medium, high, top)

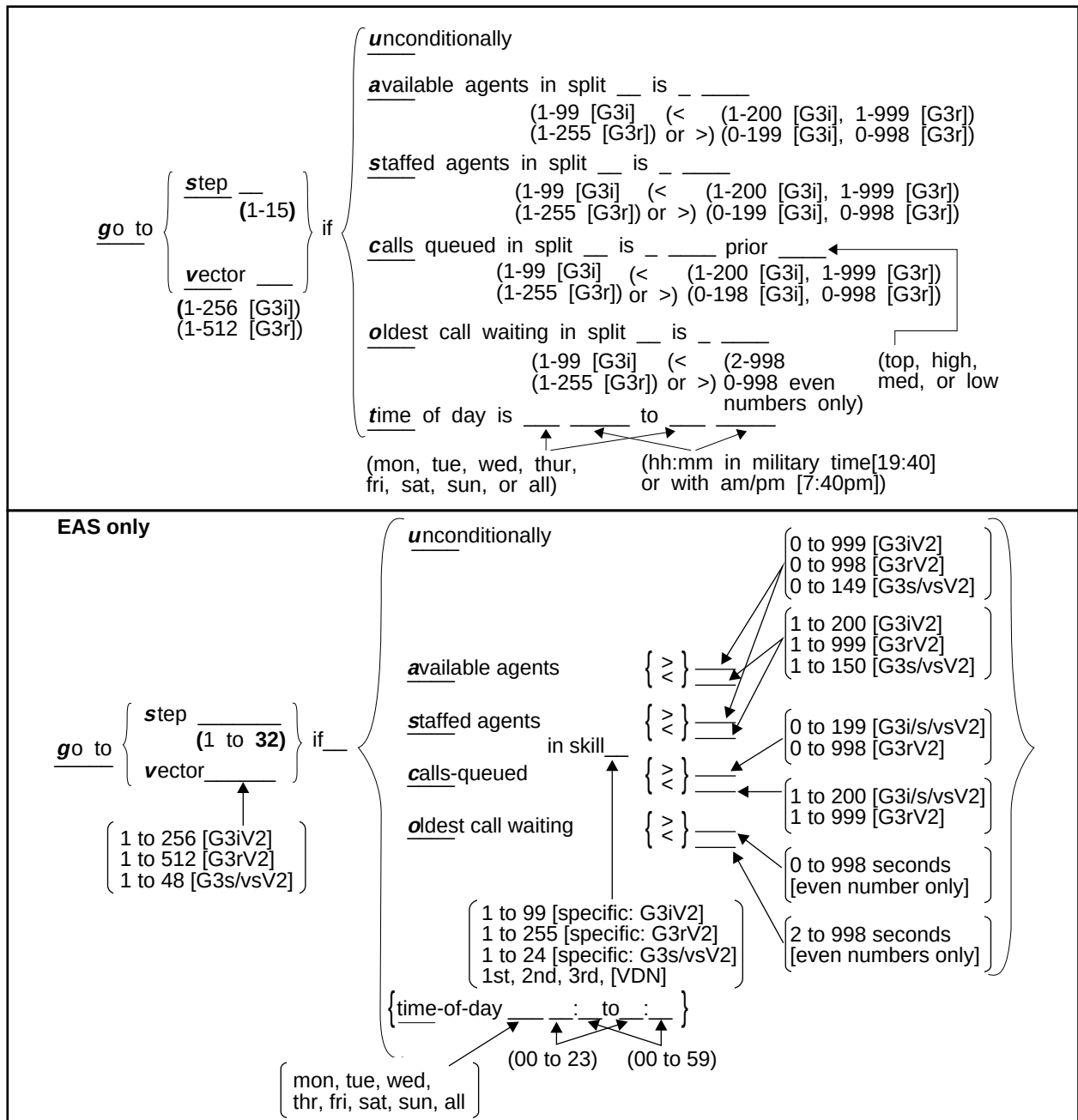
{
unconditionally
available agents > ____
staffed agents > ____
calls queued < ____
oldest call-waiting < ____
 }

 {
 0 to 199 [G3iV2]
 0 to 998 [G3rV2]
 0 to 149 [G3s/vsV2]
 1 to 200 [G3i/s/vsV2]
 1 to 999 [G3rV2]
 2 to 998 [even numbers only]
 }

wait time ____ seconds hearing ____
 (even numbers from 0-998) (ringback, silence, or music)

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Table 9-2: Vectoring Commands — Generic 3 (Contd)



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Table 9-2: Vectoring Commands — Generic 3 (Contd)

<u>busy</u>
<u>route</u> to number _____ ↑ (1- to 16-digit number, which may include ~p, ~s, ~w, or ~m)
* <u>adjunct</u> routing link extension _____ ↑ (extension of adjunct port)
* <u>announcement</u> _____ ↑ (1 to 5-digit extension)
* <u>messaging</u> split ___ for extension _____ (1-99 [G3i]) ↑ (1-255 [G3r]) (Optional: 1 to 5-digit extension or none [default])
EAS only * <u>messaging skill</u> _____ for extension _____ ↑ ↑ { 1 to 99 [specific: G3iV2] 1 to 255 [specific: G3rV2] 1 to 24 specific: [G3s/vsV2] 1st, 2nd, 3rd [VDN] } { 1- to 5-digit extension, or none }
* <u>stop</u>
<u>disconnect</u> after announcement _____ ↑ (Optional: 1 to 5-digit extension or none)

* These commands are also used for Call Prompting.

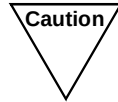
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Table 9-2: Vectoring Commands — Generic 3 (Contd)

<u>converse on split</u> ————— priority ————— passing ↑ (1-99 [G3i]) (1-255 [G3r]) (low, medium, high, top) +if <DATA 1> is administered as "none," <DATA 2> must be so administered string of no more than six digits or asterisks "vdn" "ani" "digits" "qpos" "#" "none"+ and string of no more than six digits or asterisks "vdn" "ani" "digits" "qpos" "#" "none"+	EAS only <u>converse on skill</u> ————— priority ————— passing ↑ 1 to 99 [specific: G3iV2] 1 to 255 [specific: G3rV2] 1 to 24 [specific: G3s/vsV2] 1st, 2nd, 3rd, [VDN] (low, medium, high, top) +if <DATA 1> is administered as "none," <DATA 2> must be so administered string of no more than six digits or asterisks "vdn" "ani" "digits" "qpos" "#" "none"+ and string of no more than six digits or asterisks "vdn" "ani" "digits" "qpos" "#" "none"+

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How to Add a New Vector



You should **always** test your vector by sending test calls to the vector. You can send test calls by dialing a test VDN that is assigned to the vector. A test VDN should not be currently in use for real calls nor referenced (via a “route to” command) in a vector that is currently in use. If you do not test your vectors, real incoming calls may receive inappropriate treatment.

1. Select Vector Contents from the ACD Administration submenu. → *The Vector Contents window displays with the ACD name or number displayed in the ACD field for the current ACD.*
2. Enter, in the Vector field, the number or name of the vector you want to add. Do a Find one first to ensure you are not overwriting steps that already exist for the vector. → *The steps in the vector appear.*



Do not delete or change the name or number that appears in the ACD field.

3. Enter, for each desired step, the initial letter(s) of a command, and complete the remaining fields of the command. See Tables 9-1 (for System 85/Generic 2) or 9-2/3 (for Generic 3) for possible values for each command.

4. Select **Modify** after adding your steps to save the vector on the switch.
- *A window displays asking you to verify that you want to make the change. After you select **y**, **Successful** appears on the status line to indicate that the vector has been added on the switch. If the switch does not accept the vector or a step in the vector, **Failed** appears on the status line, and an error message identifies the problem.*

How to Copy a Vector

1. Select Vector Contents from the ACD Administration submenu. → *The Vector Contents window displays with the ACD name or number displayed in the ACD field.*
2. Enter, in the Vector field, the number or name of the vector you want to copy from, and select Find one. → *The steps in the vector appear.*
3. Enter the copy to vector name or number in the Vector field. You can also change the ACD name or number.

If you change the ACD name/number and some vector steps are not valid for the associated switch type, a message displays indicating which steps are in error. Also, if you change the ACD the switch for that ACD supports a different number of vector steps (that is, Generic 3 Version 2 to a Generic 2.2 switch) a message window asks if you want to lose the additional steps. If you go from a Generic 2.2 to a Generic 3 Version 2 switch, the additional vector steps are added (16 to 32).
4. Add or delete any steps desired.
5. Select Modify. → *Successful appears on the status line to indicate that the vector has been copied.*

How to Modify a Vector

1. In the Vector Contents window, enter, in the **Vector** field, the vector name or number you want to change, and select **Find one**. → *The steps of the vector appear.*

Note Do not delete or change the name or number that appears in the **ACD** field.

- 2a. To **change** any commands or conditions, move the cursor to the field you want to change, and press **Ctrl** **Y** to erase all characters in the field or **Ctrl** **X** to erase characters from the cursor position to the end of the field. → *The data in the field disappears.*

Enter the new command, condition, or value in the field.

If you entered a new command or condition, the text/fields associated with that new command or condition overwrite the old text/fields.

Complete, if necessary, any additional fields associated with a new command or condition.

- 2b. To **insert** a command between two existing steps, move the cursor to the second of the two steps and select **Add step**. After selecting **Add step**, type the desired command in the blank. *A blank step appears above the step on which the cursor was resting. The command the cursor was on, and any following commands step shift down one step.*
- 2c. To **delete** a command, move the cursor to the step that contains the command, and select **Del step**. *The command is removed and any commands below shift up one step.*

3. Select **Modify** after making your changes to save the changes.

Successful appears on the status line to indicate that the vector changes have been saved on the switch. If the switch does not accept the vector or a step in the vector, **Failed** appears on the status line, and an error message identifies the problem.



You cannot insert a command in a vector that already uses all 15/32 steps. Also, you may need to change step number references in any “go to step” commands when adding/deleting steps.

How to Delete a Vector's Contents

- 1 On a blank Vector Contents window, enter, in the Vector field, the vector name or number for which you want to delete the contents.

Note Do not delete or change the name or number that appears in the ACD field.

- 2 Select Modify. → *A message asks you if you want to delete the vector's contents.*
- 3 Enter **y** to delete the vector's contents. → *The contents that previously existed for the vector are deleted.*

Note You can also erase all steps in a vector by using **Ctrl Z**.

Split References in Vectors (System 85/Generic 2 Vectoring Only)

Note If you do not have a System 85/Generic 2 and the Vectoring feature, the Split References in Vectors window is **not** available.

Purpose

Use the Split References in Vectors window to display vectors that reference a particular split with “queue to main split” and/or “check backup split” commands.

When used in conjunction with the Vector Configuration window, the Split Reference window can help you determine the source of calls to a split and what treatment those calls receive.

Prerequisite System Administration

- You must have **read** permission for the ACD Administration subsystem and the split whose references you want to display.
 - Vectors carrying calls to the split are listed even if you do not have read permission for those vectors.
-

Split References in Vectors Window

You must fill out this window to display vectors that reference a particular split with the “queue to main split” and/or “check backup split” commands.

The screenshot shows a window titled "Call Management System" with a status bar at the top displaying "03/20/93 08:30 AM" and "Windows 1 of 1". The main window is titled "ACD Admin: Split References in Vectors" and contains a "Run" button in the top right corner. Below the button is a form with the following fields:

- Split: _____
- Report destination (Select one):
 - <x> Terminal
 - < > Printer, Printer name _____
 - < > File,
 - File name: _____

Figure 9-31: Split References in Vectors Window (System 85/Generic 2 Vectoring)

Field Descriptions

Split:

Enter the number or name of the split whose vector references you want to list.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
 - If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
 - If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.
-

Split References in Vectors Report

```
Split References in Vectors
                                Printed 03/20/93
                                08:35PM

Split: sales_____

Vector No.   Vector Name      Main   Backup
122          goldcardsplit1    x
```

Figure 9-32: Split References in Vectors Report

General Information

From the User Permissions subsystem (Figure 10-1), you (as CMS administrator) can grant:

- CMS users their user ID, default printer, maximum number of open user windows, the minimum refresh rate for real-time reports, login ACD, and whether the user is a *normal* user or an *administrator*.
- User access permissions for the CMS subsystems and certain SLK menu items.
- Split/skill, trunk group, and ACD access permissions.

Note

If you have purchased the Vectoring feature, you can also assign access permissions to VDNs and vectors.

You are given a CMS administrator login ID at installation which gives you access to the entire CMS system, including read and write permissions for all subsystems and ACDs (real and pseudo-ACDs).

However, secondary administrators, such as split supervisors, may require access to only a limited number of subsystems, splits/skills, trunk groups, and ACDs and may require only read or write permission for a particular category.

For example, if your call center has a split (called Split 1), with two trunk groups (22 and 23) assigned to it, the supervisor of Split 1 could be restricted to read and write access only for Split 1 and Trunk Groups 22 and 23. In addition, the supervisor will probably have read and write permission for several subsystems to administer Split 1 and Trunk Groups 22 and 23 effectively.

Note

Only assign access permissions for what your call center really needs. If a CMS user has the CMS default permissions (i.e., **no** access), do not add access permission in the read and write fields. CMS does not actually store records of split/skill, trunk groups, VDN, and vector access permissions until you enter the permissions in the appropriate window(s). This way of storing permissions saves disk space. Also, you could wait a long time for a complete list of users' permissions if you administer records for those users with the default permissions.

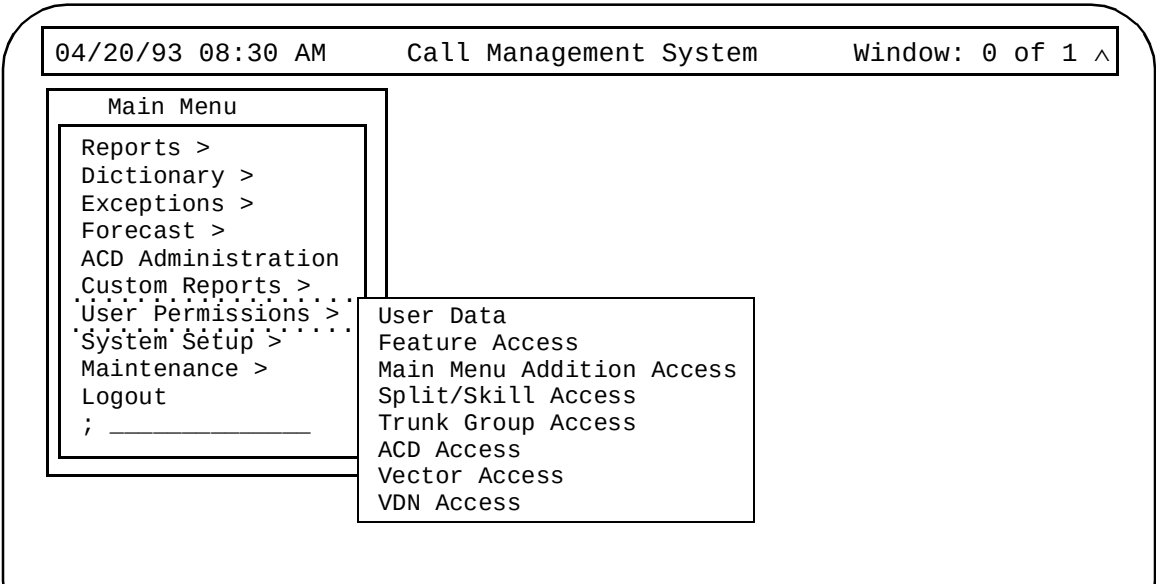


Figure 10-1: User Permissions Menu

Note If you have not purchased the Vectoring feature, your submenu the Vector Access and VDN Access selections are not available.

Terms

Read Permission	A user can access and view data (for example, read standard reports).
Write Permission	A user can add, modify, or delete data and execute processes.

User Data

Purpose

From the User Data window, you will assign a CMS user a user ID, default printer, specify whether the user is a *normal* user (such as a split supervisor) or an *administrator*, and administer the maximum number of open windows, the minimum refresh rate for real-time reports, and the default login ACD.

Things to Know Before You Start

- The user IDs you create become the users' CMS login IDs.
- You must enter the user data information into CMS (in this window) before you can grant feature, split/skill, trunk group, ACD, Vector, or VDN access.
- Default feature access permissions are assigned according to the type of user (Normal or Administrator) defined on the User Data window.
- If you change a user's type from Administrator to Normal, or vice versa, after initially setting up the user in CMS, the user's feature access permissions are not updated. You must change the feature access permissions manually.
- The number of windows a user has open directly affects processor resources. Therefore, the more open windows you allow, the more processor resources the user is allowed to consume.
- You **should not** allow users to share the same login ID because this quickly consumes UNIX system processes, and the users may not be able to complete required tasks. This also applies to one person logging in at multiple terminals using the same login ID.
- All CMS user IDs except `cms` and `cmssvc` user IDs must have a printer assigned.
- If a CMS user's login ACD is removed, and user attempts to login into CMS, an Acknowledgment window appears telling the user to either contact the CMS administrator or to change the login ACD.
- See Chapter 2, "User Basics" for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- You need **write** permission for the User Permissions subsystem to make any changes to the User Data window.
- Before assigning the default printer name in this window, you must administer the printer to identify it as a CMS printer. See Chapter 12, "Maintenance"—Printer Administration," for more information.

Relationships to Other Subsystems

Real-Time Reports

The default minimum refresh rate in the real-time report input windows is 30 seconds plus 15 seconds. Real-time reports can be refreshed or updated from every 3 to every 600 seconds. Before a CMS user can display a real-time report, you must administer a minimum refresh rate for the user.

The processor occupancy of the computer should be considered when selecting the refresh rate for real-time reports. (See "Refresh Rate in Seconds for Real-Time Reports" in Chapter 4 for more information.)

Timetable

The User Data window can be placed on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

UNIX System

A new user may have an existing UNIX System login ID. This is **not** required. If the user does not have an existing UNIX system login ID, CMS automatically creates one when you add the user here.

User Data Window

To assign user data information, you must complete this window.

04/20/93 08:30 AM		Call Management System		Window: 1 of 1 ^	
User Permissions: User Data			All ACDs		
User ID: _____ User Name: _____ Room number: _____ Telephone number: _____ Default printer name: _____			Add Delete Find one List all Modify Next Previous		
Login type (select only one): <x> Normal user < > Administrator					
Maximum user window count (1-5): 3__ Minimum refresh rate (seconds): 45_ Login ACD: 1__					

Figure 10-2: User Data Window Example

Field/Action List Usage

Find one and List all

Since this window has some default values (number of open windows, refresh rate, and login ACD), you should clear the default values before doing a Find one or List all (unless you want to include these values in the search).

To list all users, do a **Ctrl** **Z** to clear all fields, then select List all from the action list.

Modify

If you Modify the Maximum number of open windows, Minimum refresh rate, or Login ACD, the changes take effect when the user logs out and back in again.

User ID

When deleting, only the User ID field requires an entry.

If you try to add a login ID for a user that already exists in CMS, Already exists appears on the status line. If the user is neither a CMS or UNIX System user, CMS adds the user ID both to CMS and to the UNIX system.

User IDs added via the UNIX system have a login shell of /bin/sh (or whatever was administered). CMS does not change this. New user IDs added to CMS and the UNIX system via CMS have cms as the login shell.

Delete removes the user login ID and user permissions from CMS, **and** if the UNIX system ID was added via CMS (/cms/bin), from the UNIX System as well. If the user had a UNIX system login ID prior to the CMS login ID, that UNIX system login ID is not removed.

If the deleted user has custom reports or timetables, an Acknowledgment displays that asks if you want to move the deleted user's custom reports/timetables into your login. You do not have to save the deleted user's custom reports or timetables. If you do and there is a conflict between your timetable or custom report names and the deleted user's names (for example, two timetables have the same name), you are asked to rename the deleted user's timetable or custom report.

If you delete a user on a scheduled timetable:

- And the user was added via CMS, all files owned by the deleted user are removed unless you have previously moved the files to another directory or removed them yourself.
- The timetable fails if you have not moved or removed the timetables or custom reports owned by the deleted user.

Login ACD

An Acknowledgment appears if you add or modify the `Login ACD` field for this user and this user does not have access to the new or changed Login ACD. See the ACD Access window in this chapter.

Field Descriptions

User ID:

Enter the UNIX system login identification for the user you are adding, modifying, viewing, or deleting. The `User ID` must have three to eight lower-case, alphanumeric characters, with no blanks (no special characters are allowed).

User name: (Optional field)

Enter the name of the user.

Room number: (Optional field)

Enter the user's room number.

Telephone number: (Optional field)

Enter the user's telephone number.

Default printer name: (Required field)

Enter the user's default printer name.

All CMS user IDs except `cms` and `cmssvc` user IDs must have a printer assigned.



The default printer must have been previously administered in the UNIX system. Also, users can change their default printers at any time by selecting “Options” from the **Commands** SLK menu. If a user does this, the change automatically displays in this window the next time you display the User Data window for that user. To modify your default printer, see Chapter 2, “User Basics”—Default printer.”

Login type (select one):

Normal user

Enter an **x** if the CMS user **will not** have access (by default) to the System Setup, User Permissions, and Forecasting (if purchased) subsystems.

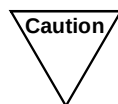
Administrator

Enter an **x** if the CMS user **will** have access (by default) to all parts of CMS.

Maximum user window count (1-12):

Enter the maximum number of open windows this user can have. The range is 1 to 12 open windows.

The default value is 4.

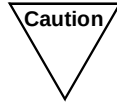


The more open windows you allow, the more processor resources this user is allowed to consume.

Minimum refresh rate (seconds):

Enter the minimum update rate for real-time reports.

The default is 30 seconds. You can enter a refresh rate from every 3 seconds to every 600 seconds.



Faster refresh rates consume more processor resources.

Login ACD:

Enter the ACD name or number for this user's current ACD each time this user logs into CMS.

The default value is 1.

Note

Users may change their *current* ACD any time during a login session by selecting "Options" and then "Current ACD" from the **Commands** SLK menu. However, when the user logs out and then logs back in, the *current* ACD defaults back to what has been entered in this window. See Chapter 2, "User Basics"—Current ACD," for the procedures.

Feature Access

Purpose

From this window, you will assign, view, or modify user access permissions for the CMS subsystems (for example, Reports, Dictionary, Exceptions) and certain SLK menu items (such as UNIX system, Timetable). The access permissions you give any user here affect what that person is able to do with CMS.

Things to Know Before You Start

- You cannot change or delete feature access permissions for **cms** and **cmssvc** login IDs. This prevents a user with access to the User Permissions subsystem from mistakenly turning off access permissions to all or any part of CMS for the CMS administrator and/or the AT&T Services organization.

You can create other administrator login IDs and modify the permissions for those login IDs at any time.

- Default feature access permissions are assigned when a user login ID is added. CMS administrator login IDs have defaults of **y** (yes) for all, and normal CMS users have yes for all except User Permissions, System Setup, and Forecasting.
- If you give a user write access to the User Permissions subsystem, that user is then able to change access permissions for anyone at any time. Normally, split supervisors do not need write access to User Permissions, Maintenance, or the UNIX system. However, you can give users any access permissions you deem necessary or desirable.
- When a user has neither read nor write permission for a subsystem or an SLK menu item, that subsystem or SLK menu item is not listed in that user's menu options.
- Whenever you change a user's permissions, the change does not occur until the user logs out and then back in or enters a subsystem through the Main Menu.
- Shortcut does not require read or write permission. See the "Shortcuts" section in Chapter 6, "Timetables and Shortcuts", for more information. |
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information. |

Prerequisite System Administration

- Before you can grant permissions for any user, you must enter an ID for the user into CMS. See the User Data window in this chapter.
- You need **write** permission for the User Permissions subsystem to make any type of change to the Feature Access window.

Relationships to Other Subsystems

Timetable

The Feature Access window can be placed on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

Feature Access Window

To modify Feature Access permissions for a user, you must complete this window.

03/10/93 08:30 AM Call Management System Window: 1 of 1 ^

User Permissions: Feature Access acd1

User IDs: _____

Read	Write	Feature
y	y	ACD Administration
y	y	Custom Reports
y	y	Dictionary
y	y	Exceptions
y	n	Forecast
y	y	Maintenance
y	y	Reports
n	n	System Setup
y	y	Timetable
n	n	User Permissions
	y	UNIX (r) System

Find one
List all
Modify
Next
Previous

Figure 10-3: Feature Access—Normal CMS User Example

Field/Action List Usage

Modify

If you modify the read permission for Feature Access, the change takes effect when the user logs out and back in again.

If you modify the write permission for Feature Access, the change takes effect when the user reopens a window in which the access permission is checked.

Field Description

User IDs:

Enter the ID(s) of the user whose feature access permissions you want to modify or view.

Read (Defaults shown are for a “normal” user type.)

If the user entered in the `User IDs:` field will have **read** permission, enter a **y** for yes. If this user will *not* have **read** permission, enter an **n** for no.

Write (Defaults shown are for a “normal” user type.)

If the user entered in the `User IDs:` field will have write permission for the features listed in the `Features:` field, enter a **y** for yes. If this user will *not* have write permission, enter an **n** for no.



You cannot assign a user **write** permission *without read* permission.

Feature (Display only field)

The names of the features that the user(s) listed in the `User IDs` field will or will not be able to access.

Main Menu Addition Access

Purpose

From this window, you will assign, view, or modify user access permissions for the additional menu items of your choosing. These items could be access to your local electronic mail environment or daily news articles about your call center for agents or supervisors.

Things to Know Before You Start

- If the assigned access permission is **no**, this Main Menu item does not appear on the user's Main Menu.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- Before you can grant permissions for any user, you must enter an ID for the user into CMS. See the User Data window in this chapter.
- You need **write** permission for the User Permissions subsystem to make any type of a change to the Main Menu Additions Access window.
- You must first add the menu additions before you can grant permissions to them. See Chapter 11, "System Setup"—Main Menu Addition," for more information.

Relationships to Other Subsystems

Timetable

This window can be placed on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

Main Menu
Addition Access
Window

To assign Main Menu Addition Access permissions for a user, you must complete this window.

04/20/93 08:30 AM

Call Management System

Window: 1 of 1 ^

User Permissions: Main Menu Addition Access

acd1

Available Additions:

Find one

List all

Modify

Next

Previous

User IDs: _____

Addition: _____

Access (y/n): ____

Figure 10-4: Main Menu Addition Access Window Example

Field/Action List
Usage

The User IDs: field requires an entry with all action list items.

Modify

If you Modify the Main Menu Addition access, the change takes effect when the user logs out and back in again.

Field Description

Available Additions: (Display only field)

Displays the available Main Menu additions.

User IDs:

Enter the ID(s) of the user whose access permissions you want to modify or view.

Addition:

Enter the name(s) of the menu additions that the user(s) listed in the User IDs: field will or will not be able to access. The name entered in the field must match the menu addition name exactly.

Access (y/n):

Enter a **y** (yes) or **n** (no) if this user will or will not have access to the items listed in the `Addition` field.

Split/Skill Access

Purpose

From the Split/Skill Access window, you will assign, view, modify, or delete a user's access permissions to specific splits/skills. Split/Skill Access permissions determine a CMS user's ability to access and administer agent/queue data for a particular split or skill. You will also turn on or off the exceptions notification for splits/skills in this window.

Things to Know Before You Start

- Whenever you change a user's permissions, the change does not occur until the user logs out and then back in or enters a subsystem through the Main Menu.
- You cannot assign a user **write** permission *without* **read** permission.
- For each split/skill, you can give users read and write permission, read-only permission, or no permission.
- The CMS default permissions for all splits/skills is **no read** and **no write** permission. However, CMS does not actually store records of split/skills access permissions until you enter permissions on the Split/Skill Access window. This way of storing permissions saves disk space.

In addition, if you want to turn off a user's access permissions to a split/skill, you can simply delete that user's permissions for that split or skill instead of entering **no** in the **Read** and **Write** fields. Then, the CMS default of **no** permissions is in effect again for that user for that split or skill.

- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- Before you can grant Split/Skill Access permissions for any user:
 - You must give the user a CMS user ID. See the User Data window in this chapter.
 - You should have already assigned access permission for the correct ACD. See ACD Access later in this chapter.

Note

If you have not done this, you receive an Acknowledgment when you make a change that indicates the user does not have ACD access for the split(s)/skill(s). Therefore, any change you make has no immediate effect (that is, until the user's ACD access permissions change).

- You need **write** permission for the User Permissions subsystem to make any type of change to the Split/Skill Access window.
- Since you turn on the exception notification in this window, you will want to define the exception conditions for splits/skills in the Exceptions subsystem. See Chapter 8, "Exceptions", for more information.

Relationships to Other Subsystems

Timetable

The Split/Skill Access window can be placed on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

Split/Skill Access Window

To assign, modify, delete, or view Split/Skill Access permissions for a user, you must complete this window.

03/20/93 08:30 AM

Call Management System

Window: 1 of 1 ^

User Permissions: Split/Skill Access

acd1

User ID: _____

Split(s)/Skill(s): _____

Read (y/n): __

Write (y/n): __

Exceptions (y/n): __

Add

Delete

Find one

List all

Modify

Next

Previous

Figure 10-5: Split/Skill Access Window Example

Field/Action List Usage

You cannot use the * or ? for searching in any field.

Modify

The User ID: field requires an entry for Modify.

You receive an Acknowledgment if you Modify and this user does not have the correct ACD access.

If you Modify the Split/Skill Access permissions, the change takes effect when a window is reopened in which the permissions are checked.

Find one/List all

With Find one/List all, only user IDs with Split/Skill Access permissions previously saved are displayed.

Field Descriptions**User ID:**

Enter the ID of the user whose split/skill access permissions you want to add, delete, modify, or view.

Split(s)/Skill(s):

Enter the split/skill name(s) or number(s) that this user will be able to access.

Read (y/n):

Enter **y** (yes) if this user *will* have **read** permission for the split(s)/skill(s), or enter **n** (no) if this user will *not* have **read** permission for the split(s)/skill(s).

Write (y/n):

Enter **y** (yes) if this user will have **write** permission for the split(s)/skill(s), or enter **n** (no) if this user will *not* have **write** permission for the split(s)/skill(s).

Note

If you assign **write** permission, you must also assign this user **read** permission.

Exceptions (y/n):

Enter **y** (yes) if this user will receive split/skill exceptions for the given split(s)/skills(s), or enter **n** (no) if this user will **not** receive an exception notification.

The notification is either an audio (beep) sound or a screen flash when an exception occurs. You will also see entries in the real-time exceptions log and an exception count on the title bar.

Note

You select the exceptions notification (audio or screen flash) from the **Commands** SLK. See Chapter 8, "Exceptions"—Selecting Your Exception Notification" for the procedures.

Trunk Group Access

Purpose

From the Trunk Group Access window, you will assign, view, modify, or delete a user's access permissions to specific trunk groups. Trunk Group Access permissions determine a CMS user's ability to access and administer data for a particular trunk group. You will also turn on or off the exceptions notification for trunk groups in this window.

Things to Know Before You Start

- Whenever you change a user's permissions, the change does not occur until the user logs out and then back in or enters a subsystem through the Main Menu.
- For each trunk group, you can give users read and write permission, read-only permission, or no permission.
- You cannot assign a user **write** permission *without* **read** permission.
- The CMS default permissions for all trunk groups is **no read** and **no write** permission. However, CMS does not actually store records of trunk group access permissions until you enter permissions on the Trunk Group Access window. This way of storing permissions saves disk space.

In addition, if you want to turn off a user's access permissions to a trunk group, you can simply delete that user's permissions for that trunk group instead of entering **no** in the Read and Write fields. Then, the CMS default of **no** permissions is in effect again for that user for that trunk group.

- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- Before you can grant Trunk Group Access permissions for any user:
 - You must give the user a CMS user ID. See the User Data window in this chapter.
 - You should have already assigned access permission for the correct ACD. See ACD Access later in this chapter.

Note

If you have not done this, an Acknowledgment indicates the user does not have ACD access for the trunk group(s). Therefore, any change you make does not have any immediate effect (that is, until the user's ACD access permissions change).

- You need **write** permission for the User Permissions subsystem to make any type of a change to the Trunk Group Access window.
- Since you turn on the exception notification in this window, you need to define the exception conditions for trunk groups in the Exceptions subsystem. See Chapter 8, "Exceptions", for more information.

Relationships to Other Subsystems

Timetable

The Trunk Group Access window can be placed on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

Trunk Group
Access Window

To assign Trunk Group Access permissions for a user, you must complete this window.

03/20/93 08:30 AM

Call Management System

Window: 1 of 1 ^

User Permissions: Trunk Group Access

acd1

User ID: _____

Trunk Groups: _____

Read (y/n): __

Write (y/n): __

Exceptions (y/n): __

Add

Delete

Find one

List all

Modify

Next

Previous

Figure 10-6: Trunk Group Access Window Example

Field/Action List
Usage

You cannot use the * or ? for searching in any field.

Modify

The User ID: field requires an entry for Modify.

You receive an Acknowledgment if you Modify and this user does not have the correct ACD access.

If you Modify the Trunk Group Access permissions, the change takes effect when a window is reopened in which the permissions are checked.

Find one/List all

Find one and List all display only the user IDs with Trunk Group Access permissions previously saved.

Field Description**User ID:**

Enter the ID of the user whose trunk group permissions you want to add, delete, modify, or view.

Trunk Groups:

Enter the trunk group name(s) or number(s) that this user will access.

Read (y/n):

Enter **y** (yes) if this user *will* have **read** permission for the trunk group(s), or **n** (no) if this user will *not* have **read** permission for the trunk group(s).

Write (y/n):

Enter **y** (yes) if this user will have **write** permission for the trunk group(s), or **n** (no) if this user will *not* have **write** permission for the trunk group(s).

Note

If you assign **write** permission, you must also assign this user **read** permission.

Exceptions (y/n):

Enter **y** (yes) if this user will receive trunk group exceptions, or **n** (no) if this user will **not** receive an exception notification for the trunk group(s).

The notification is either an audio (beep) sound or a screen flash when an exception occurs. You also have entries in the real-time exceptions log and an exception count on the title bar.

Note

You select the exceptions notification (audio or screen flash) from the Commands SLK. See Chapter 8, "Exceptions"—Selecting Your Exception Notification," for the procedures.

ACD Access

Purpose

You will assign, view, delete, and modify a user's ability to access real or pseudo ACDs. This could be just one ACD or several. You will also turn on or off the exceptions notification for ACDs in this window.

Things to Know Before You Start

- The default permissions for ACD Access is **yes**; all users have access to all ACDs (real or pseudo).
If you want to turn off a user's access permissions to an ACD (real or pseudo), you can simply delete that user's permissions for ACD instead of entering **no** in the **Read** and **Write** fields to save disk space. Then, the CMS default of **no** permissions is in effect for that user for that ACD.
- Whenever you change a user's permissions, the change does not occur until the user logs out and then back in or enters a subsystem through the Main Menu.
- You cannot assign a user **write** permission *without* **read** permission.
- For each ACD, you can give users read and write permission, read without write permission, or no permission.
- If you turn the ACD read/write access permission off for any user, then read/write access permission for all splits/skills, trunk groups, vectors and VDNs (if you have the Vectoring feature) in that ACD is overridden by the ACD's permission.
- If you try to modify access permissions for a split/skill, trunk group, vector, or VDN, an Acknowledgment that indicates the user does not have ACD access, and the change does not affect this user's ACD access permissions.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- Before you can grant ACD Access permissions for any user, you must give the user a CMS user ID. See the User Data window in this chapter.
- If you remove a user's access to his or her login ACD, you must change the user's login ACD. See the User Data window in this chapter.
- Since you turn on the exception notification in this window, you need to define the exception conditions for the ACD in the Exceptions subsystem. See Chapter 8, "Exceptions", for more information.
- You need **write** permission for the User Permissions subsystem to make any type of change to the ACD Access window.

Relationships to Other Subsystems

Timetable

The ACD Access window can be placed on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

ACD Access Window

To assign ACD Access permissions, you must complete this window.

03/20/93 08:30 AM		Call Management System		Window: 1 of 1 ^	
User Permissions: ACD Access				acd1	
User ID: _____		Add			
ACDs: _____		Delete			
Read (y/n): __		Find one			
Write (y/n): __		List all			
Exceptions (y/n): __		Modify			
		Next			
		Previous			

Figure 10-7: ACD Access Window Example

Field/Action List Usage

The `User ID`: field requires an entry for all action list items.
You cannot use the `*` or `?` for searching in any field.

Modify

If you `Modify` the ACD Access permissions, the change takes effect when a window is reopened in which the permissions are checked.

Field Description

User ID:
Enter the ID of the user whose ACD access permissions you want to add, modify, or view.

ACDs:
Enter the ACD name(s) or number(s) that this user will be able to access (real or pseudo).

Read (y/n):
Enter an `n` (no) if this user will *not* have **read** permission for the ACD(s)—real or pseudo, or enter a `y` (yes) if this user *will* have **read** permission for the ACD(s)—real or pseudo.

Write (y/n):
Enter an `n` (no) if this user will *not* have **write** permission for the ACD(s), or enter an `y` (yes) if this user *will* have **write** permission for the ACD(s).

Note

If you assign **write** permission, you must also assign this user **read** permission.

Exceptions (y/n):
Enter `n` (no) if this user will **not** receive exceptions, or enter `y` (yes) if this user will receive exception notifications.

The notification is either an audio (beep) sound or a screen flash when an exception occurs. You also see entries in the real-time exceptions log and an exception count on the title bar.

Note

You select the exceptions notification (audio or screen flash) from the `Commands` SLK. See Chapter 8, "Exceptions"—Selecting Your Exception Notification," for the procedures.

Vector Access

Purpose

You define vector access permissions for users to determine a user's ability to administer vectors and to access report/administration data for vectors.

Use the Vector Access window (Figure 10-2) to assign, view, modify, or delete a CMS user's access permissions to specific vectors.

Things to Know Before You Start

- For any particular vector, you can give a user either:
 - Read-only permission
 - Read and write permission for a vector.
 - You *cannot* assign a user **write** permission without also assigning **read** permission.
 - CMS activates any changes you make to a user's vector permissions the next time the user opens a window or runs a report involving vectors.
 - The CMS default permissions for all vectors is **no read** and **no write** permission. However, CMS does not actually store records of vector access permissions until you enter permissions on the Vector Access window. This way of storing permissions saves disk space.

In addition, if you want to turn off a user's access permissions to a vector, you can simply delete that user's permissions for that vector instead of entering **no** in the Read and Write fields. Then, the CMS default of **no** permissions is in effect again for that user for that vector.
-

Prerequisite System Administration

- You must assign (on the User Data window) a user ID for a user before you can assign vector permissions for that user.
- You must have **write** permission for the User Permissions subsystem.

Vector Access Window

To assign Vector Access permissions, you must complete this window.

03/20/93 08:30 AM

Call Management System

Window: 1 of 1 ^

User Permissions: Vector Access

acd1

User ID: _____

Vector(s): _____

Read (y/n): __

Write (y/n): __

Exceptions (y/n): __

Add

Delete

Find one

List all

Modify

Next

Previous

Figure 10-8: Vector Access Window

Field/Action List Usage

- List all

To view a user's vector access permissions, enter the user's ID and select List all.
- Add

To add a user's vector access permissions for the first time, complete all fields, and select Add.
- Modify

To Modify a user's vector access permissions, complete the User ID and Vectors fields, and any of the remaining fields. Then, select Modify.
- Delete

To remove all vector permissions for a user, enter the user's ID, and select Delete.

Field Descriptions**User ID:**

Enter the ID of the user whose vector access permissions you want to add, delete, modify, or view.

Vector(s):

Enter the vector name(s) or number(s) for which you want to add or change this user's permissions.

Read (y/n):

Enter **y** (yes) if this user will have **read** permission for the vector(s),.

Enter **n** (no) if this user will *not* have **read** permission for the vector(s).

Write (y/n):

Enter **y** (yes) if this user will have **write** permission for the vector(s),.

Enter **n** (no) if this user will *not* have **write** permission for the vector(s).

Exceptions (y/n):

Enter **y** (yes) if this user will receive vector exception notices, or enter **n** (no) if this user will *not* receive vector exception notices.

The notification is either an audio (beep) sound or a screen flash when an exception occurs. The user will also see entries in the real-time exceptions log and an exception count on the title bar. See Chapter 8, "Exceptions".

VDN Access

Purpose

You define VDN access permissions to users to determine a user's ability to administer VDNs with the various CMS subsystems and to access report/administration data for VDNs.

Use the VDN Access window (Figure 10-8) to assign, view, modify, or delete a CMS user's access permissions to specific VDNs.

Things to Know Before You Start

- For any particular VDN, you can give a user either:
 - Read-only permission
 - Read and write permission.
- You *cannot* assign a user **write** permission without also assigning **read** permission.
- CMS activates any changes you make to a user's VDN permissions the next time the user opens a window or runs a report involving VDNs.
- The CMS default permissions for all VDNs is **no read** and **no write** permission. However, CMS does not actually store records of VDN access permissions until you enter permissions on the VDN Access window. This way of storing permissions saves disk space.

In addition, if you want to turn off a user's access permissions to a VDN, you can simply delete that user's permissions for that VDN instead of entering **no** in the Read and Write fields. Then, the CMS default of **no** permissions is in effect again for that user for that VDN.

Prerequisite System Administration

- You must assign (on the User Data window) a user ID for a user before you can assign VDN permissions for that user.
- You must assign (on the ACD Access window) the user's ACD access. Without access to a specific ACD, the user cannot access the VDNs for that ACD.
- You must have **write** permission for the User Permissions subsystem.

VDN Access Window

To assign VDN Access permissions, you must complete this window.

User Permissions: VDN Access		acd1
User ID: _____		Add
VDN(s): _____		Delete
Read (y/n): __		Find one
Write (y/n): __		List all
Exceptions (y/n): __		Modify
		Next
		Previous

Figure 10-9: VDN Access Window

Field/Action List

Usage

List all

To view a user's VDN access permissions, enter the user's ID and select List all.

Add

To add a user's VDN access permissions for the first time, complete all fields, and select Add.

Modify

To Modify a user's VDN access permissions, complete the User ID and VDNs fields, and any of the remaining fields. Then, select Modify.

Delete

To remove a user's permissions for one or more VDNs, complete the User ID and VDNs fields, and select Delete. To **remove** all VDN permissions for a user, complete the User ID: field, and select Delete.

Field Descriptions**User ID:**

Enter the ID of the user whose VDN access permissions you want to add, delete, modify, or view.

VDN(s):

Enter the VDN name(s) or number(s) that this user will be able to access.

Read (y/n):

Enter **y** (yes) if this user will have **read** permission for the VDN(s), or enter **n** (no) if this user will *not* have **read** permission for the VDN(s).

Write (y/n):

Enter **y** (yes) if this user will have **write** permission for the VDN(s), or enter **n** (no) if this user will *not* have **write** permission for the VDN(s).

Exceptions (y/n):

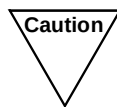
Enter **y** (yes) if this user will receive VDN exception notices, or enter **n** (no) if this user will *not* receive VDN exception notices.

The notification is either an audio (beep) sound or a screen flash when an exception occurs. The user will also see entries in the real-time exceptions log and an exception count on the title bar. See Chapter 8, "Exceptions".

General Information

From the System Setup subsystem (Figure 11-1), you can view windows that display how your CMS was configured during installation. You can also do the following from this subsystem.

- View switch information.
- Define an ACD (pseudo-ACD) to be used for unarchiving previously backed-up historical data.
- Load data into a pseudo-ACD.
- Allocate the amount of storage to be used for collecting historical data.
- Identify and specify where you would like to store specific CMS files.
- Specify the intervals of time for data to be stored (archived), and define what days of the week constitute a week for your call center (for example, Monday through Friday).
- Specify what and how much agent data to store for later use in the Agent Trace historical report.
- Add menu items that are associated with your own custom shell scripts/executable programs.
- Check the current state of CMS, and change the state to or from single-user mode and multiuser mode.
- Turn data collection on or off.
- Start, stop, or view the status of external applications.
- Archive on **demand** for daily, weekly, and/or monthly summaries.
- Migrate data from R2 CMS to R3 CMS.
- Migrate data from R3 CMS to R3V2 CMS.



The System Setup subsystem is not a subsystem you should be working in daily because any changes you make in this subsystem could affect performance, disk space, or data collection.

For information on how to calculate your disk space, see the "Calculating Disk Space" section later in this chapter.

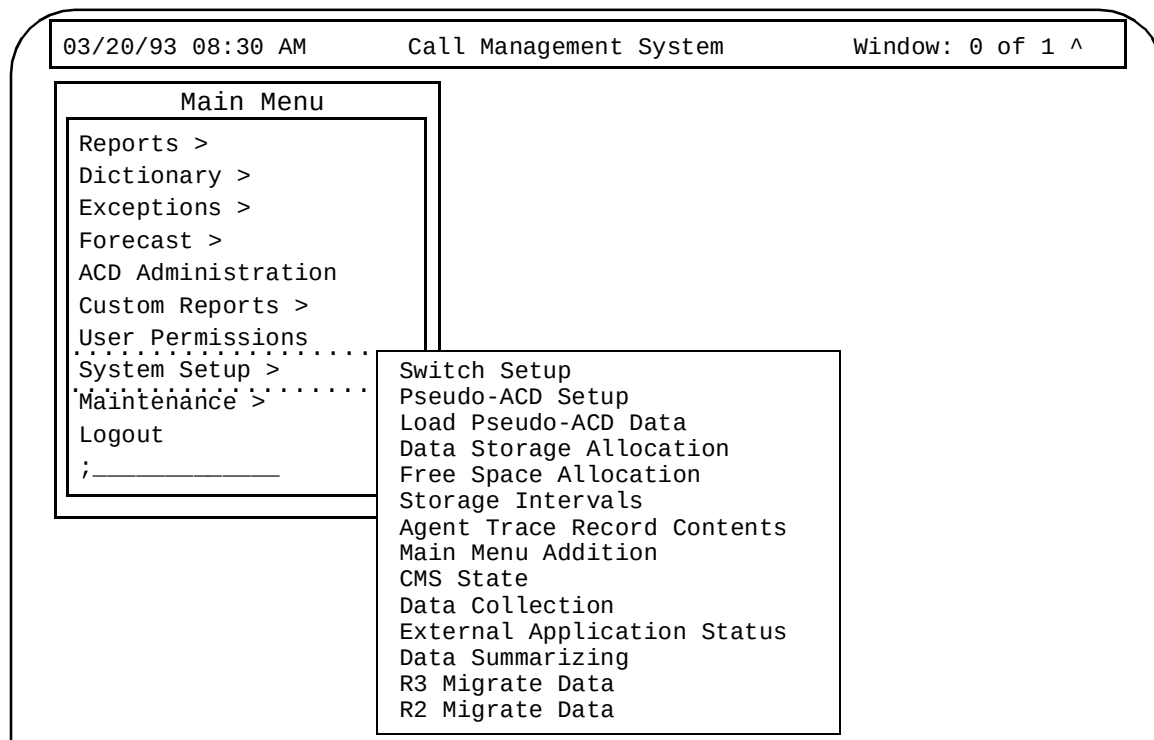


Figure 11-1: System Setup Menu

The following windows can be displayed by multiple users at the same time. To change any values in these windows, CMS must be in single-user mode, with data collection off.

- Data Storage Allocation
- Free Space Allocation
- Storage Intervals
- Agent Trace Contents.

Terminology

Single-User Mode	Only one person can log into CMS. Data continues to be collected if data collection is on.
Multiuser Mode	Any administered CMS user can log into CMS. Data continues to be collected if data collection is on.
Data collection off	CMS is not collecting ACD data. If you turn off data collection, you lose data on current call activity.
External application	A software application that sends CMS real-time data to an external device such as a wallboard.

Calculating Disk Space

Whenever you want to make changes that affect disk space (for example, changing Data Storage Allocation, Storage Intervals, Agent Trace Record Contents, Call Work Codes, or Data Storage Allocation in the Forecasting subsystem), you may want to use the Disk program to help you understand the results of your changes.

To calculate disk space, go to the CMSADM Menu in the UNIX system and select the menu item 4) diskmap program. This program bases its calculations on your computer type, your ACD configuration, and the amount of data you want to store.

Switch Setup

Purpose

This window displays the following switch setup information as it was assigned during installation.

- Switch type
 - Switch release
 - CMS-administrable switch features (that is, Call Vectoring, Call Prompting, and Expert Agent Selection).
-

Things to Know Before You Start

- The Switch Setup window does not accept pseudo-ACD names or numbers in the ACD field. It is only for the *live* (real) ACDs, not pseudo-ACDs.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- To view switch setup information, you need **read** permission for the System Setup subsystem. See Chapter 10, "User Permissions" for more information.
-

Relationships to Other Subsystems

Dictionary

For an ACD name to appear in this window, you must first enter the name in the Dictionary subsystem. See Chapter 7, "Dictionary"—ACDs," for more information.

Switch Setup Window

View this window to see your switch name, switch release, and whether you have Call Vectoring or Call Prompting.

Figure 11-2: Switch Setup Window Example

Field Descriptions

ACD:

Enter the name or number of the ACD you want to view or modify.

Switch type: (Display only field)

Your switch type (DEFINITY, System 85).

Switch release: (Display only field)

The switch release (G1.1, G3i, G2.1, R2V4, G3r, etc.)

Switch Features: (Display only field)

Displays the switch features that affect CMS data (that is, Call Vectoring, Call Prompting, and Expert Agent Selection).

Pseudo-ACD Setup

Purpose

You will create an area on your CMS for a model ACD (pseudo-ACD) and give this pseudo-ACD a number. This area and number are used by CMS to place previously backed-up ACD data using the Load Pseudo-ACD Data window. You can also take data previously backed up on one R3 CMS and then unarchive that data on another CMS using this window.

Things to Know Before You Start

Pseudo-ACDs are numbered from 5 through 26.

- Because a pseudo-ACD is not a *live* (real) ACD, it does not communicate with any switch.
- When you create a pseudo-ACD, that pseudo-ACD's parameters (like number of agents, splits/skills, etc.) are set to zero. You must change these parameters as appropriate in the Data Storage Allocation window to match the specific switch from which data will be loaded. See the Data Storage Allocation window description later in this chapter.
- When a pseudo-ACD is the current ACD, only the following menu items are available (if you have appropriate feature access permissions):

Reports	System Setup	Maintenance
Historical	Switch Setup	Backup/Restore Devices
Dictionary	Pseudo-ACD Setup	Printer Administration
all submenu items	Load Pseudo-ACD	Connection Status
Forecast	Data Storage Allocation	ACD Status
all submenu items	Free Space Allocation	Error Log Report
Custom Reports	Storage Intervals	
all submenu items	Agent Trace Record Contents	
User Permissions	Main Menu Addition	
all submenu items	CMS State/Parameters	
	Data Summarizing	
	R3 Migrate Data	
	R2 Migrate Data	

- Pseudo-ACDs do not summarize data into weekly and monthly summaries unless data from the backup is already in weekly and monthly summaries.

- Before you load the previously backed-up ACD data to the pseudo-ACD, you **must** make the pseudo-ACD your current ACD. After you change your current ACD, use the Load Pseudo-ACD Data window to load the data. See Chapter 2, "User Basics"—Selecting the Current ACD," for changing your current ACD, and the Load Pseudo-ACD Data description later in this chapter.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

Before you create a pseudo-ACD, make sure you complete the following items.

- If you have the Forecasting feature on the pseudo-ACD, you should change, as appropriate, the values for the Forecasting Archive Parameters. These values affect the free space allocation. To change these values, see the Archive Parameters window in the Forecasting subsystem.
- You must have **read** permission for the System Setup subsystem to view the Pseudo-ACD Setup window. See Chapter 10, "User Permissions"—Feature Access."
- You must have **write** permission for the System Setup subsystem to create pseudo ACDs. See Chapter 10, "User Permissions"—Feature Access."

After you create a pseudo-ACD, and **before** you load the data into the pseudo-ACD, do the following:

- Back up the historical data you want for the pseudo-ACD. See Chapter 12, "Maintenance"—Back Up Data."
- Define a synonym for your pseudo-ACD in dictionary.
- See if there is enough free space to unarchive the data. The Free Space Allocation window is used to see where data is stored, how much space is required for the "real" ACD, and how much space is available for the pseudo-ACD data. You must know how much data will be unarchived. See "Free Space Allocation" in this chapter.
- Define how much historical data will be stored for this pseudo-ACD. See "Data Storage Allocation" in this chapter.

You do this to provide a place to put the data in the pseudo-ACD.

- Set the storage intervals for the data to be loaded to the pseudo-ACD. The data storage values are zero for a newly created pseudo-ACD. The storage interval size and data collection times for the pseudo-ACD should match those of the loaded data. See “Storage Intervals” in this chapter.
 - Change access permissions as appropriate for the pseudo-ACD (see Chapter 10, “User Permissions”—ACD Access”).
-

Relationships to Other Subsystems

Maintenance

The Back Up Data window in the Maintenance subsystem is used to archive the data that will be loaded into the pseudo-ACD created in this window.

System Setup—Free Space Allocation

For both real and pseudo-ACDs, data collection must be off and CMS in the single-user mode before you can modify anything in the Free Space Allocation window.

System Setup—Data Storage Allocation, Storage Intervals

Data collection can be on when you modify the Data Storage Allocation or Storage Interval window for a pseudo-ACD. CMS must be in single-user mode.

User Permissions

You should turn off permissions to the pseudo-ACD before deleting it. This minimizes the risk that someone could be working in the pseudo-ACD when it is deleted.

When a pseudo-ACD is deleted, any window currently open in the pseudo-ACD no longer has access to the data. The deletion succeeds even if windows are open.

Timetable

You can place this window on a timetable. See Chapter 6, “Timetables and Shortcuts”.

Pseudo-ACD Setup Window

You must complete this window to create a pseudo-ACD.

03/20/93 08:30 AM Call Management System Window 1 of 4 ^

System Setup: Pseudo-ACD Setup

ACD: _____

- Add
- Delete
- Find one
- List all
- Modify
- Next
- Previous

Figure 11-3: Pseudo-ACD Setup Window Example

Field/Action List Usage

Add

With Add, you must enter an ACD number if you have not defined a synonym for it. With all other action list items, you can enter the ACD name.

Field Descriptions

ACD: (Required field)

Enter the number (5 through 26) or name of the pseudo-ACD.

Load Pseudo-ACD Data

Purpose

Use this window to load ACD data into the pseudo-ACD created in the Pseudo-ACD Setup window.

Things to Know Before You Start

- You must make the pseudo-ACD the **current ACD** before you can load the data. You do this from the **Commands** SLK menu, selecting Options, then Current ACD. See Chapter 2, "User Basics"—Selecting the Current ACD," for the procedures.
- Since this window accepts whatever data exists on any backup volume that is mounted, the data loaded from a full backup might be much more than you need (which could create disk space problems, etc.). Therefore, you should determine the amount of data needed and disk space required and do only a *Specific Tables* backup for use with this window.

Load Pseudo-ACD automatically removes existing data and inserts new data if pseudo-ACD data already exists.

- Data is migrated to the pseudo-ACD between the specified start and stop dates in this window.
-

Prerequisite System Administration

Before you load the pseudo-ACD data, do the following:

- Do a backup to generate pseudo-ACD data volume.
- Set up the pseudo-ACD in the Pseudo-ACD Setup window. See "Pseudo-ACD Setup" in this chapter.
- Define how much historical data will be stored for this pseudo-ACD. The storage allocation parameters must be large enough to accommodate the data to be loaded. See "Data Storage Allocation" in this chapter.
- Set the storage intervals for the data to be unarchived. The storage interval size and data collection times for the pseudo-ACD must match those of the data to be loaded. See "Storage Intervals" in this chapter.

- If desired, change access permissions for the pseudo-ACD in the User Permissions subsystem, ACD Access window (see Chapter 10, "User Permissions"—ACD Access”).
- If you have the Forecasting feature, you should change, as appropriate, the values for the Forecasting Archive Parameters. These values affect the free space allocation. To change these values, see the Archive Parameters window in the Forecasting subsystem.

Relationships to Other Subsystems

Maintenance

The Back Up Data window in the Maintenance subsystem is used to back up the data that will be loaded using this window.

Timetable

You can place this window on a timetable. See Chapter 6, "Timetables and Shortcuts".

Load Pseudo-ACD Data Window

You must complete this window to load data into the pseudo-ACD created in the Pseudo-ACD Setup window.

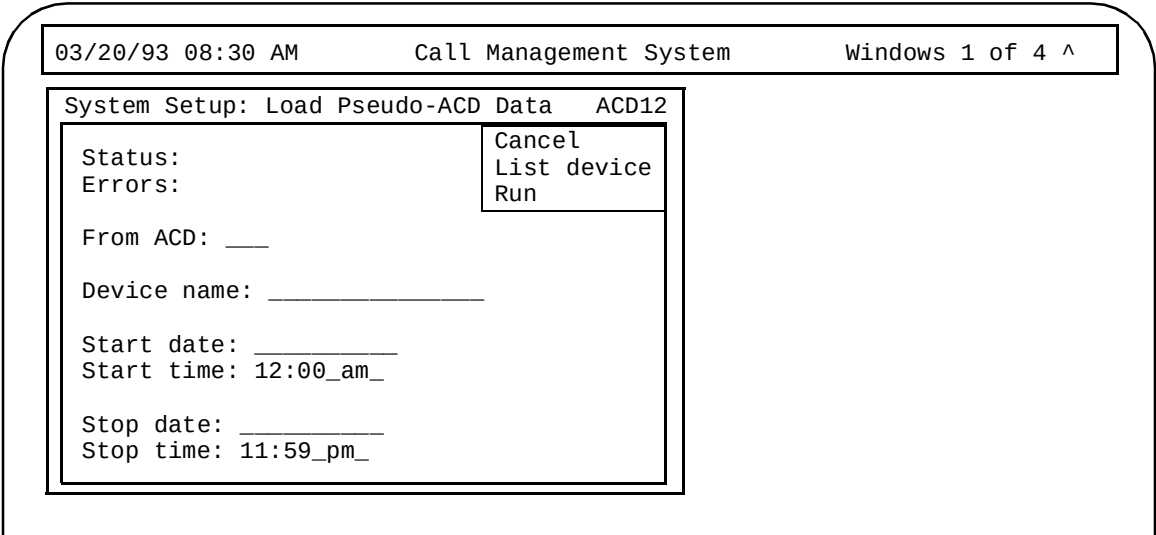


Figure 11-4: Load Pseudo-ACD Data Window Example

Field/Action List Usage

Cancel

Cancel stops loading the data. If you stop loading data before it is finished, partial data for this pseudo-ACD remains.

List device

List device displays a list of all the devices which have been specified in the Backup/Restore Devices window.

Run

Run starts loading the data.



Standard action list selections and procedures apply for all action list items. See Chapter 2, "User Basics".

Field Descriptions

Status: (Display only field)

Displays the status of the data being loaded to the pseudo-ACD.

Errors: (Display only field)

Displays any errors found while loading the pseudo-ACD data.

From ACD:

Enter the ACD number the data is coming from. This is the ACD number for the machine on which the backup was made.

Device name:

Enter the name of the device from which you are loading data. The devices are listed in the Backup/Restore Devices window in the Maintenance subsystem. See Chapter 12, "Maintenance", for more information on this window.

Start date:

Enter the date that is contained on the volume which you want to load to the pseudo-ACD.

Note

The start date tells CMS which date to look for on the backup volume and to begin at this point loading data to the pseudo-ACD.

Start time: (Default is 12:00 A.M.)

Enter the time for which you want to start loading data to the pseudo-ACD.

Note

The time tells CMS which time to look for on the backup volume and to begin at this point loading data to the pseudo-ACD. The start/stop time is inclusive.

Stop date: (Required field)

Enter the date at which you want to stop loading the data from the backup volume to the pseudo-ACD.

Note

This is the date on the backup volume at which you want CMS to stop loading data to the pseudo-ACD.

Stop time: (Default is 11:59 A.M.)

Enter the time you want to stop loading data from the volume to the pseudo-ACD.

Note

This is the time on the backup volume at which you want CMS to stop loading data to the pseudo-ACD. The start/stop time is inclusive.

Data Storage Allocation

Purpose

The Data Storage Allocation window allows you to specify how much and how long data is saved by CMS. This affects disk space and is limited by your specific system configuration. Initially, these parameters are set during installation.

This window lists the maximum number of splits/skills, agents, trunk groups, trunks, call work codes, vectors, and VDNs for your system. You can choose to allocate storage space for those maximums or you can change those maximums to meet your specific needs. You also enter shift times and the number of agents for those shifts. This information is used to calculate the amount of space to be reserved for the historical agent table.

Note In order to better manage disk space requirements, this window asks for the times and numbers of agents logged into each shift (up to four shifts).

The Data Storage Allocation requirements vary from CMS installation to CMS installation. You have to determine your CMS data requirements based on the following:

- Available disk space on your specific system configuration.
- The number of ACDs (the real ACD and pseudo-ACDs) on the system.
- The size of the real ACD and all pseudo-ACDs (number of agents, trunks, etc.).
- The length of time for data to be stored (for example, 30 days versus 100 days versus 2 years).

Note When you change the switch parameters using *swsetup* (this may include changing the type of switch, enabling vectors and EAS), you need to check the parameters on the data storage allocation screen. In particular, if you enable vectoring, you need to allocate space for VDNs and vectors in order to store data for them. Changing the release of the switch may change the number of measured entities that are allowed, and would have an impact on the storage allocation for each entity.

The historical database will probably be the largest user of disk space. You can use the Data Storage Allocation window to reduce the amount of historical data being saved.

Your CMS reporting priorities also determine how you set your data storage allocation.

Things to Know Before You Start

- The maximum storage for each data type (i.e., agent, split/skill, trunk, trunk group, etc.) is limited by the amount of free space available in the specified file system and the maximum storage requirements. (The amount of free space in a file system may be determined by accessing the Free Space Allocation window in the System Setup subsystem). Assuming free space is available, the maximum storage capabilities are as follows:
 - Intrahour Storage — 62 days
 - Daily Storage — 5 years (1825 days, 260 weeks, 60 months)
 - Weekly/Monthly Storage — 10 years (3650 days, 520 weeks, 120 months).

- The length of your intrahour interval (Storage Intervals window) affects how much disk space is needed to store the days of intrahour data. For example, if you set your intrahour interval to be 15 minutes, the amount of disk space required is four times larger than if you set your intrahour interval at 60 minutes (for the same number of days of data).

The start time, stop time, weekly start day, and weekly stop day in the Storage Intervals window also affect disk space.

- Have a good idea of your future growth potential to properly allocate the correct amount of data storage.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- Check the free space (Free Space Allocation window) and determine where you can allocate space for data storage. This window displays the amount of disk space that is currently available for use. The values entered in the Data Storage Allocation window affect the amount of free space still available. (See the Free Space Allocation window description later in this chapter.)
- CMS must be in the single-user mode if you want to modify your data storage parameters. Use the CMS State window to put CMS in single-user mode (see CMS State later in this chapter). (If you log out of CMS while in the single-user mode, you must wait at least 10 seconds before logging in again.)

After your changes are made successfully, the status line reads "Successful" and you can restore CMS to the multiuser state.

- Data collection for all *real* ACDs must be off if you want to change data storage parameters. Turn data collection on and off in the Data Collection window (see Data Collection later in this chapter). After the status line reads "Successful" you can turn data collection back on.



With a pseudo-ACD only, data collection can be on when you modify the Data Storage Allocation window. See "Pseudo-ACD Setup" earlier in this chapter.

- To view how space has been allocated, you need **read** permission for the System Setup subsystem.
- To modify data storage allocation, you must have **write** permission.

Relationships to Other Subsystems

Maintenance

After you change the data storage allocation parameters, you should do a full backup of the historical data.

Timetable

You **cannot** place this window on a timetable.

Reports

The values specified for data storage determines how much data you have available for running historical reports. For example, if you choose not to save weekly and monthly data, you cannot run a weekly or monthly historical report.

Data Storage Allocation Window

To change the allocated amount of storage space used when collecting historical data, you fill out this window. This window displays the values set during installation of your CMS.

03/20/93 08:30 AM
Call Management System
Window 1 of 4 ^

System Setup: Data Storage Allocation

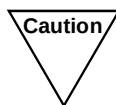
Warning: Print a copy of this window prior to modifying

Modify

Data Item:	# of Items	Days of Intrahour	Days of Daily	Weeks of Weekly	Months of Monthly
Splits/Skills (1-60)	60	7	31	0	0
Agents		7	31	0	0
Trunk Groups (0-255)	99	7	31	0	0
Trunks (0-2000)	600	7	31	0	0
Call Work Codes (0-1999)	200	7	31	4	2
Vectors (0-511)	256	7	31	0	0
VDNs (0-2000)	500	7	31	0	0
Shift 1 Times: xx:xxAM-xx:xxAM Maximum agents logged in: ____					
Shift 2 Times: xx:xxAM-xx:xxPM Maximum agents logged in: ____					
Shift 3 Times: xx:xxPM-xx:xxPM Maximum agents logged in: ____					
Shift 4 Times: xx:xxPM-xx:xxAM Maximum agents logged in: ____					
Total split/skill members, summed over all splits/skills (0-xxxx): ____					
Number of agent login/logout records (0-99999): ____					
Number of agent trace records (0-99999): ____					
Number of unmeasured trunk facilities: ____					
Number of exception records (0-xxxx): ____					
Number of call records (0-xxxx): ____					

Figure 11-5: Data Storage Allocation Window Example

Field/Action List Usage

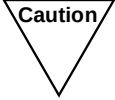


Data may be removed if you **Modify** this window, and RAM will be reallocated. *It is recommended that you print a copy of this window prior to modifying.*

If you are currently doing a **Modify**, **do not** open another Data Storage Allocation window and start an additional **Modify** action. You could lose data tables doing multiple modifies. **Do not** start another modify until the initial modify finishes.

 If you do not have the Vectoring feature or your switch does not support call work codes, the fields corresponding to Call work codes, Vectors, and VDNs are not displayed.

Field Descriptions

 After your changes are made successfully, the status line reads “Successful.” At that time you should **turn data collection back on and restore the CMS to the multiuser state.**

Data Item: (Display only)

Lists the maximum number of splits/skills, trunk groups, trunks, call work codes, vectors, and VDNs allowed for your system.

of Items

Enter the number of items for splits/skills, trunk groups, trunks, call work codes, vectors, and VDNs for which you want space allocated.

- When you enter this window, the fields display the number of currently administered data items. This number should include expected growth. For example, if you currently have allocated space for three splits/skills, 3 is displayed under the # of Items header in the row corresponding to the Splits/Skills data item.

 When you enter a value for the skills measured on a Generic 2.2 switch, you must include the default skills in your count. For example, if you have skills 10-109, you would enter “100” in the # of Items field.

Days of Intrahour

Enter the number of days for which you want intrahour data stored for splits/skills, agents, trunk groups, trunks, call work codes, vectors, and VDNs.

- Each entry (split/skill, trunk group, etc.) can be different.
- When you enter this window, the fields display the number of days for which you are currently storing intrahour data. For example, if you currently have administered the Days of Intrahour to store 31 days of intrahour data, then 31 displays under the Days of Intrahour header in the row corresponding to the appropriate data item.

Days of Daily

Enter the number of days for which you want daily data stored for splits/skills, agents, trunk groups, trunks, call work codes, vectors, and VDNs. If you enter 0 (zero), CMS does not save any data.

Note When you enter a value for the skills measured on a Generic 2.2 switch, you must include the default skills in your count. For example, if you have skills 10-109, you would enter "100" in the # of Items field. If you want monthly archiving, enter 31 here. This number saves data for a complete month.

- Each entry (split/skill, trunk group, etc.) can be different.
- When you enter this window, the fields display the number of days that you are currently storing daily data. For example, if you currently have administered the Days of Daily to store daily data for 387 days, then 387 displays under the Days of Daily header in the row corresponding to the appropriate data item.

Enter the number of weeks for which you want weekly data stored for splits/skills, agents, trunk groups, trunks, call work codes, vectors, and VDNs. If you enter 0 (zero), CMS does not save any data.

- Each entry (split/skill, trunk group, etc.) can be different.
- When you enter this window, the fields display the number of weeks that you are storing weekly data. For example, if you currently have administered the Weeks of Weekly to store weekly data for 104 weeks, then 104 displays under the Weeks of Weekly header in the row corresponding to the appropriate data item.

Months of Monthly

Enter the number of months for which you want monthly data stored for splits/skills, agents, trunk groups, trunks, vectors, and VDNs. If you enter 0 (zero), CMS does not save any data.

- Each entry (split/skill, trunk group, etc.) can be different.
- When you enter this window, the fields display the number of months that you are currently storing monthly data. For example, if you currently have administered the Months of Monthly to store monthly data for 60 months, then 60 displays under the Months of Monthly header in the row corresponding to the appropriate data item.

Shift 1 (2, 3, or 4) Times

Enter the shift start and stop times for each shift of agents (up to four shifts) for your ACD. (This information is used to calculate the amount of space to be reserved for the historical agent table.)

- Shifts may overlap.
- If you specify a shift that starts before the data collection start time or ends after the data collection stop time, you receive an Acknowledgment.
- CMS *rounds* shift times to the nearest interval. For example, if you use 30-minute intervals and specify a shift from 8:15 to 5:15, CMS assumes that this shift is from 8:00 to 5:30.
- CMS uses the shift times you specify to do the space calculation for the historical agent table.
- Shifts specified in this window and during installation must be at least 1 minute long. You cannot specify a shift from 8:00 AM to 8:00 AM for a 24-hour shift; you must specify 8:00 AM to 7:59 AM for a 24-hour shift.

Maximum Agents logged in:

Enter the maximum number of agents who could be logged into each shift. Agents who are logged into more than one split or skill must be counted once for each split or skill they log into.

Total split/skill members, summed over all splits/skills (0-xxxx):

Enter the maximum number of measured split/skill members summed over all splits/skills. For Generic 2/System 85, this includes members of split/skill 0. For Generic 1 and Generic 3, you need to count extensions in multiple splits/skills once for **each** split/skill in which they are members. With Generic 3 Version 2, this could be the maximum number of skills measured at any one time. This number cannot exceed the maximum number you paid for.

Note

When you enter a value for the skills measured on a Generic 2.2 switch, you must include the default skills in your count. For example, if you have skills 10-109, you would enter "100" in the # of Items field. If you want monthly archiving, enter 31 here. This number saves data for a complete month. The link between CMS and the switch does not come up if you assign more agent members to splits/skills than you have paid for. You can assign an agent member to several different splits/skills, but an agent can only be logged into three of those splits/skills simultaneously.

Number of Agent login/logout records (0-999999):

Enter the number of agent login/logout records you want the system to store. A record is generated each time an agent logs out, one record per login/logout session. To calculate how many records you need, multiply (the number of days you would like to save this information) *times* (the number of agents who log in and out each day) *times* (the number of times each agent logs out each day).

Note

When an agent changes their skills, a new record is generated.

Number of agent trace records (0-999999):

Enter the number of agent trace records *for this ACD*, not for all ACDs.

Number of unmeasured trunk facilities:**Note**

An unmeasured facility may be either an external trunk or an internal (intercom) trunk. All call activity to or from measured agents or measured splits/skills/VDNs that does not use a measured trunk group uses an unmeasured trunk facility.

Enter the number of unmeasured trunk facilities.

This number should be set high enough to handle the traffic expected over these unmeasured trunk facilities and **cannot** exceed the maximum number of trunks minus the number of measured trunks. An unmeasured facility is needed for all extension calls and all calls that arrive on an unmeasured CMS trunk group.

Total exceptions records for all ACDs (0-2000):

Enter the total number of exceptions stored for CMS. This total is for each *type* of exception (e.g., agents, splits/skills, VDNs).

Number of call records (0-xxxxx):

Enter the number of call records you want the system to store for this ACD. If you will be sending these records to another computer for storage and analysis, this will be the amount of buffer space set aside to collect these records prior to transmission to the other system. This amount is from 0 to 99999. If you will collect and report on these records on the CMS itself, this is the number of records that CMS will store and it can be from 0 to 5000.

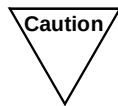
Free Space Allocation

Purpose

The Free Space Allocation window allows you to identify and specify where you would like to store specific CMS files. For example, you can specify where to store all the files associated with trunks. This window is used to identify which file systems CMS uses.

Things to Know Before You Start

- The *available space* is calculated as follows: free space currently available minus space allocated for CMS but not yet used.



CMS does not automatically check the database for disk space used by data in custom tables. As a result, you can inadvertently fill up your disk with custom data. When this happens, you can lose or damage custom data and ACD data. Therefore, if you create custom data tables, be careful to check the amount of disk space available from time to time.

- When you alter any of the CMS data storage parameters, the change is reflected in the Free Space Allocation window. For example, if in the Data Storage Allocation window, you increase the number of splits/skills on your system, the Free Space Allocation window displays the new number as well as the approximate amount of memory required to handle the total number of splits/skills.
- If you overallocate space on a file system, the number of blocks the file system is short appears in parentheses.
- The Free Space Allocation screen includes a “% Available” column as a convenience for determining how much space is available on the file systems.
- The values entered in the following System Setup windows directly affect the amount of disk space required for each file system.
 - Data Storage Allocation
 - Storage Intervals
 - Agent Trace Record Contents
 - Call Work Codes.

The **Data Storage Allocation** window in the **Forecasting** subsystem also affects storage space.

- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- You must turn off data collection (see "Data Collection" later in this chapter).

After your changes are made successfully, the status line reads "Successful." You can turn data collection back on at this time.

- You must put CMS in single-user mode (see "CMS State" later in this chapter). (If you log out of CMS while in the single-user mode, you must wait at least 10 seconds before logging in again.)

After the status line reads "Successful" you can restore the CMS to the multiuser mode.

- You need **read** permission for the System Setup subsystem to view the Free Space Allocation window. See Chapter 10, "User Permissions"—Feature Access."
- You need **write** permission to change the fields located in the Free Space Allocation window. See Chapter 10, "User Permissions"—Feature Access."

Relationships to Other Subsystems

Forecasting

The values entered in the Forecasting—Data Storage Allocation window affect storage space. See Chapter 14, "Forecasting", for more specific information on the Forecasting feature.

Note

Forecasting is a separately purchased CMS feature.

Timetable

This window **cannot** be placed on a timetable.

Free Space Allocation Window

You must fill out this window to specify where you would like to store specific CMS files.

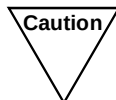
File system for:	Blocks Required	File System	Blocks Avail	% Avail
Agents:				
Agent trace:				
Call wrk codes:				
Call records:				
Exceptions:				
Forecasting:				
Login/logout:				
Splits/Skills:				
Trunk groups:				
Trunks:				
VDNs:				
Vectors:				

Figure 11-6: Free Space Allocation Window Example

Field/Action List Usage

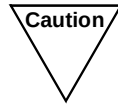
Modify

Data collection must be off for all *real-ACDs* before you can modify the data storage (file systems). If you try to modify the data storage while data collection is on or CMS is in the multiuser mode, an Acknowledgment window displays an error message. Also, if there is not enough space available in the file system to move files/tables, an error displays in a message window and **Failed** displays on the status line.



If you are currently doing a **Modify**, **do not** open another Free Space Allocation window and start an additional **Modify** action. You could lose data tables doing multiple modifies. **Do not** start another modify until the initial modify finishes.

Field Descriptions



After your changes are made successfully, the status line reads "Successful." At that time you should **turn data collection back on and restore the CMS to the multiuser state.**



Several minutes may be required for your changes to be made to this window. Messages display as these changes are being made. When all the changes have been made successfully Successful appears on the status line.

Status: (Display only)

Displays the name of each table as it is being moved.

File system for:

Enter the specific file system name where you would like to store the CMS files for Agents, Agent trace, Call work codes, Call records, Exceptions, Forecasting, Logins/Logouts, Splits/Skills, Trunk groups, Trunks, VDNs, and Vectors.



Fields such as Vectors, VDNs, Forecasting do not appear if you have not purchased these features.

This allows you to specify the file systems where you would like to store your CMS files. For example, the path name might look like */cms*. The files are then placed in a directory *cmstables* in that file system.

Blocks Required:

The approximate number of blocks to be used for agents, agent trace, call work codes, call records, exceptions, forecasting, logins/logouts, splits/skills, trunk groups, trunks, VDNs, and vectors.

File System

The names of the file systems that are available for storing CMS data.

Blocks Available

The amount of free space (in blocks) currently available minus space allocated for CMS but not yet used.

% Available

The percentage of space still available.

Storage Intervals

Purpose

From this window, you can specify a 15-, 30-, or 60-minute storage interval for call data, thereby allowing you to choose the storage interval that best meets the needs of your call center. You will also select the days of the week that begin and end your call center's week.

Storage intervals can be changed to affect how often intrahour data is archived as well as altering the times at which the data is archived. For example, if there is a change in the hours of your call center, you could change the Daily start time or Daily stop time to change when data is collected. Also, if you have specified a 60-minute intrahour interval and then you require a more detailed intrahour report, you could select a 15- or 30-minute intrahour interval and CMS automatically adjusts your historical data to reflect the change and give you the 15- or 30-minute interval data. See Field/Action List Usage in this section for more intrahour interval information.

Things to Know Before You Start

- The Free Space Allocation window displays the amount of free space still available on your CMS. As you increase the number or frequency of the storage intervals, more storage is required. Therefore, you may need to adjust the location of CMS files or reduce the length of time you store data if the storage intervals change. Free space, data storage, and storage intervals are closely tied.

The Data Storage Allocation window allows you to set aside additional space (if you need it) due to an increase in the frequency of the storage intervals. To determine how much storage is available and can be used, refer to the Free Space Allocation window.

- Defaults for the storage intervals are the storage intervals that were specified at the time of installation.
- CMS automatically archives your data based on your entries in this window.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- Data Collection must be off for all *real ACDs* before you can modify any storage intervals. You may want to modify the storage intervals during “off-peak” hours. See “Data Collection” later in this Chapter.

After your changes are made successfully, the status line reads “Successful.” You can turn data collection back on at this time.

Note

With a pseudo-ACD only, data collection can be on when you make a change in the Storage Intervals window because there is no data collection for a pseudo-ACD. See “Pseudo-ACD Setup” earlier in this chapter.

- CMS must be in the single-user mode before you can modify any storage intervals. After the status line reads “Successful” you can restore CMS to the multiuser state.
- Again, you may want to modify the storage intervals during “off-peak” hours. See “CMS State” later in this chapter. (If you log out while CMS is in the single-user mode, you must wait at least 10 seconds before logging in again.)
- You need **read** permission for the System Setup subsystem to view the Storage Intervals, Free Space Allocation and Data Storage Allocation windows. See Chapter 10, “User Permissions”—Feature Access.”
- You need **write** permission for the System Setup subsystem to change the fields located in the Storage Intervals, Free Space Allocation and Data Storage Allocation window. See Chapter 10, “User Permissions”—Feature Access.” These permissions are necessary to alter the storage specifications in CMS.

Relationships to Other Subsystems

Real-Time Reports

The intrahour interval you select also represents how long the current intrahour interval lasts in real-time reports. Data is zeroed out at the end of the current intrahour interval.

Historical Reports

When you request a weekly report, the date you enter must correspond to the day of the week you specified in the `Weekly start day/Weekly stop day` fields in this window.

Maintenance

Prior to changing the storage interval size or data collection times (the daily start or stop time), you should do a full backup of the historical data.

Timetable

This window cannot be placed on a timetable.

Storage Intervals Window

During installation, defaults were set for this window. You can, however, change this window to specify a 15-, 30-, or 60-minute storage interval for call data and to select the days of the week that begin and end your call center's week.

01/30/93 00:30 AM Call Management System Window 1 of 4 ^

System Setup: Storage Intervals acd1

Intrahour interval (Select one):

< > 15 minutes

<x> 30 minutes

< > 60 minutes

Data Summarizing time: 12:35 AM

Switch time zone offset (-23 to +23):

Weekly start day Weekly stop day
(Select one): (Select one):

<x> Sunday < > Sunday

< > Monday < > Monday

< > Tuesday < > Tuesday

< > Wednesday < > Wednesday

< > Thursday < > Thursday

< > Friday < > Friday

< > Saturday <x> Saturday

Daily start time: 12:00 AM

Daily stop time: 11:50 PM

Figure 11-7: Storage Interval Window Example

**Field/Action List
Usage****Intrahour interval**

A change in the intrahour interval field does not take effect until the end of the current intrahour interval, and existing historical data is automatically migrated. If the new intrahour report interval is 15-minutes, the existing 30- or 60-minute data is divided by 2 or 4 respectively, with any remainder falling in the last 15-minute interval. If the new intrahour report interval is 60 minutes, two 30-minute intervals or four 15-minute intervals are combined.

Weekly Start Day/Weekly Stop Day

When you change the start or stop day for the week, the archiver archives data from the old start day through the new stop day for the week in which the change was made.

For example, if the current week is defined as Monday-Friday and you want to change it to be Sunday-Saturday, if you make the change between Monday and Friday, the week of the change is Monday-Saturday [in other words, the old start day (Monday) through the new stop day (Saturday)]. If you make the change on Saturday, however, the old week is archived for Monday-Friday, then the new week is Sunday-Saturday.

If it is possible, it is a good idea to make the change after the weekly archive, preferably on a day on which data is not normally collected. This of course is not possible if you collect data for a 7-day week.

The week of the change has the data item `INCOMPLETE` set to indicate that this week's data will be peculiar (since the definition of what constitutes a week was changed.)

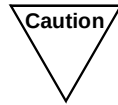
If the start and stop day are the same day of the week, only one day's worth of data is stored per week.

When the weekly start or stop day is changed, the current week can be 1 to 13 days long. You do not need to migrate the data because of this change. For example, if the current start day is Sunday, and the stop day is Saturday, and you change the stop day on Saturday morning to Friday, the current week will have 13 days in it; or if the start day is Sunday, and the stop day is Saturday, and you change the stop day to Sunday on Sunday, then the current week will have only 1 day.

Daily start time/Daily stop time

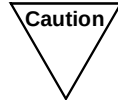
If the start or stop time is extended, there will be no records in the historical database for the added hours prior to the time of the change.

Modify



If you are currently doing a **Modify**, **do not** open another Storage Intervals window and start an additional **Modify** action. You could lose data tables doing multiple modifies. **Do not** start another modify until the initial modify finishes.

Field Descriptions



After your changes are made successfully, the status line reads "Successful." At that time you should **turn data collection back on and restore the CMS to the multi-user state**.

Intrahour interval (Select one):

You can specify the length of your intrahour intervals by entering an **x** next to one of the following intervals:

< > 15 minutes

< > 30 minutes (Default value)

< > 60 minutes

Data Summarizing time:

Enter the time in **hh:mm AM/PM** or in the 24-hour clock (for example, 17:00) format. If AM/PM is not specified, the 24-hour clock (military time) is used.

This field displays the time when the daily/weekly/monthly summaries are done. The time is displayed in the **hh:mm AM/PM** format.

The default daily summary time is 12:35 AM on the day following the selected stop time. Weekly summaries are started on the day following the selected stop day. Monthly summaries are started on the first day of the next month. For example, January's monthly summary is done on the first day of February.



If you want data summarizing to start on the current day, set the summarizing time to less than 15 minutes after the daily stop time and before midnight. CMS uses the daily stop time plus 15 minutes (the last interval needs to complete archiving). The weekly summaries are then started 2 hours later, and the monthly summaries 4 hours after that.

Switch time zone offset (-23 to +23):

If the CMS that is collecting the ACD data from the switch is in a different time zone than your ACD (switch), you need to enter that difference in this window because CMS uses and displays the switch time adjusted by the time zone offset. For example, if your switch is one time zone to the *west* of your CMS, enter **-1**. If your switch is one time zone to the *east* of your CMS, enter **+1**.

Weekly start day (Select one):

Enter an **x** next to the day of the week that begins your call center's week. When you request a weekly report, the start date must correspond to the day specified in this field. You may only select **one** day of the week. **Sunday** is the default.

Weekly stop day (Select one)

Enter an **x** next to the day of the week that ends your call center's week. You may only select **one** day of the week. **Saturday** is the default. Data through the end of the stop day is included in the weekly summary.

Daily start time:

Enter the time that the data collection starts each day. The time is entered in the hh:mm AM/PM or in the 24-hour clock (for example, 17:00) format. The default for this field is 12:00 AM (midnight).

Daily stop time:

Enter the time that the data collection stops each day. The time is entered in the hh:mm AM/PM or in the 24-hour clock (for example, 17:00) format. The default for this field is 11:59 PM.

Data is collected through the end of the minute specified here (that is, data from 11:59 PM to 12:00 AM is included).

Agent Trace Record Contents

Purpose

From the Agent Trace Record Contents window, you will specify the agent data to be stored for later use in the Agent Trace historical report.

Things to Know Before You Start

- As you increase the contents of the agent records stored, you may need to reallocate free space. The Free Space Allocation window displays the amount of free space still available on your CMS, the approximate space required for agent trace records, and the file system name for agent trace. See "Free Space Allocation" earlier in this chapter.
 - Not all optional records are available with all switches. These are noted in the field descriptions of the records.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- Data collection must be off for all *real ACDs* (see "Data Collection" later in this chapter). After your changes are made successfully, the status line reads "Successful." You can turn data collection back on at that time.
- CMS must be in single-user mode (see "CMS State" later in this chapter). (If you log out of CMS while in the single-user mode, you must wait at least 10 seconds before logging in again.)

After the status line reads "Successful" you can restore CMS to the multiuser state.
- To view the contents included in an agent trace, you need **read** permission for the System Setup subsystem. See Chapter 10, "User Permissions" for more information.
- To modify the contents of any agent trace records, you must have **write** permission for the System Setup subsystem. See Chapter 10, "User Permissions" for more information.

Relationships to Other Subsystems

ACD Administration

To activate or stop an agent trace, use the Activate Agent Trace window in the ACD Administration subsystem. A maximum of 25 agents may be traced at any one time. See Chapter 9, "ACD Administration"—Activate Agent Trace."

Historical Reports

The Agent Trace report is a log-like report that lists each agent activity (including state changes) and the time it occurred. You can use this information to evaluate how well agents are using their time. See the Historical Reports subsystem Agent Trace window to obtain an agent trace report. See Chapter 5, "Historical Reports"—Trace Report," for more information.

Timetable

This window **cannot** be put on a timetable.

Agent Trace Record Contents Window

You must fill out this window to specify what and how much agent data to store for later use in the Agent Trace historical report.

03/30/93 00:30 AM

Call Management System

Window 1 of 4 ^

System Setup: Agent Trace Record Contents

All ACDs

Note: Modify requires CMS single-user mode
and data collection off

10000

Modify

Agent record always contains:

x Agent ID

x Duration of event

x Work mode

x Direction

x Split/Skill

x Time event started

x Reconnect

Select any you wish:

☐ Assist activated

☐ Calling Party

☐ Call Work Codes

☐ Caller on Hold

☐ Digits Dialed

☐ External Call Originated

☐ Keyboard Dialed

☐ Malicious Call Trace

☐ On Conference

☐ Transfer Completed

Figure 11-8: Agent Trace Record Contents Window Example

Field/Action List
Usage

Select any you wish:

If you change any selection from this list, data is removed from existing agent trace records for the fields which are being removed. Also, agent trace records which have already been created will not have information in the new fields.

Modify

Caution

If you are currently doing a Modify, **do not** open another Agent Trace Record Contents window and start an additional Modify action. You could lose data tables doing multiple modifies. **Do not** start another modify until the initial modify finishes

Field Descriptions

Caution

After your changes are made successfully, the status line reads "Successful." At that time you should **turn data collection back on and restore the CMS to the multiuser state.**

Agent record always contains:

All of the agent trace records contain information for the following fields:

Agent ID	Displays the agent's login ID.
Duration of event	Displays the amount of time the agent spent in the particular work mode.
Work mode	Displays the agent's work state (for example, AUX) for the specified time.
Direction	Displays the direction (inbound or outbound) of the call the agent was handling (if any).
Split	Displays the split/skill that the agent logged in to.
Time event started	Displays the time in which the action/work mode started for the agent.
Reconnect	Displays when the agent reconnects to a call after putting the call on hold.

Select any you wish:



If you select any of the following **optional** items, they do *not* appear in the standard Agent Trace report. To see these items, you must create a custom report.

Enter an **x** next to any of the data items you would like to store. These are all optional and some may have **yes** or **no** answers.

Assist activated	Has the agent activated supervisor assist?
Calling party	Identification of calling party.
Call Work Codes	Agent has entered codes of up to 16 digits. Call Work Codes are only available on the DEFINITY Generic 2.2 switch or the DEFINITY Generic 3 switches.
Caller on Hold	Has the agent put a call on hold?
Digits Dialed	The number dialed on outbound calls.
External Call Originated	Did the agent initiate an external call?
Keyboard Dialed	Did the agent initiate a call using ASAI Gateway for Generic 2 and ASAI for Generic 3?
Malicious Call Trace	Did the agent initiate a malicious call trace? Malicious Call Trace is not available on Generic 3i.
On Conference	Was the agent active on a conference?
Transfer completed	Did the agent successfully transfer the call?

Main Menu Addition

Purpose

Use this window to add up to eight additional items to the Main Menu. These new menu items must be executable programs or shell scripts.

Things to Know Before You Start

- The new menu item name must be different from the standard R3 CMS Main Menu names or other new menu item names.
 - The additional menu item must be associated with the full path name of an executable program or shell script. CMS checks to see if the full path name to the program/script exists and is executable. If it cannot find or execute the program/script, a warning indicates that CMS cannot find the file.
 - You must log out and log back in to see the new menu item.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- To view your Main Menu additions, you need **read** permission for the System Setup subsystem. See Chapter 10, "User Permissions", for more information.
 - To modify any Main Menu additions, you must have **write** permission for the System Setup subsystem. See Chapter 10, "User Permissions", for more information.
-

Relationships to Other Subsystems

Maintenance

A CMS backup does **not** back up programs accessed via Main Menu Additions. You have to use a UNIX system backup instead (see Chapter 13, "wUNIX/Solaris 2.2 System").

User Permissions

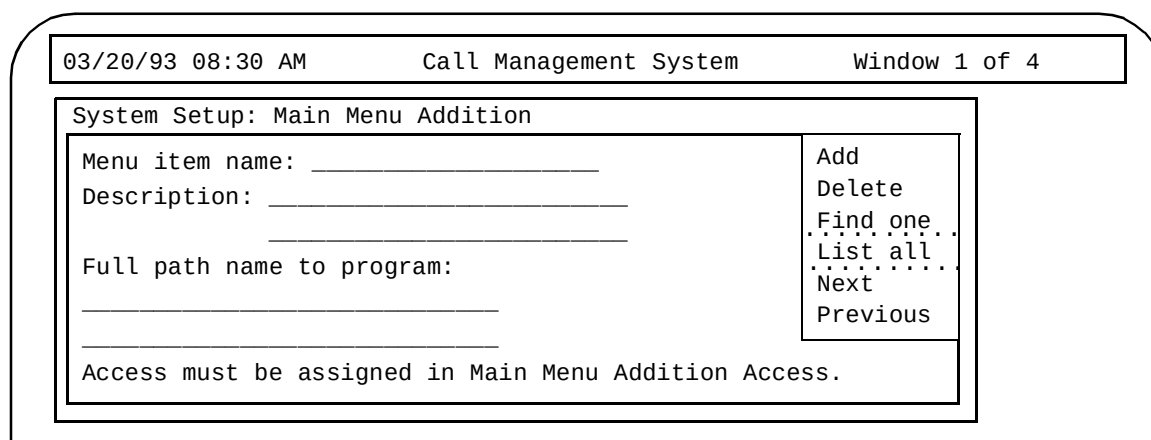
The default permissions for any Main Menu addition is "no." You need to change the permissions for affected users. See Chapter 10, "User Permissions"—Main Menu Addition Access" for more information.

Timetable

The window can be placed on a timetable. See Chapter 6, "Timetables and Shortcuts", for more information and the procedures.

Main Menu Addition Window

You must fill out this window if you want to add additional items to the Main Menu.



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System Setup: Main Menu Addition

Menu item name: _____

Description: _____

Full path name to program: _____

Access must be assigned in Main Menu Addition Access.

Add
Delete
Find one
List all
Next
Previous

Figure 11-9: Main Menu Addition Window Example

Field Descriptions

Menu item name:

Enter the name of the new menu item. This name must be different from other Main Menu selections.

Description: (Optional)

Enter a short description of this new menu item.

Full path name to program:

Enter the full path name to the executable program/shell script.

CMS State

Purpose

The CMS State window allows you to bring CMS down to single-user mode and back to multiuser. You will also select your master ACD for clock synchronization in this window.

Note Changing the CMS State does not bring the UNIX system down to the single-user mode. If you log out of CMS while in the single-user mode, you must wait at least 10 seconds before logging in again.

Things to Know Before You Start

- Single-user mode means only one person can log into CMS. Data continues to be collected for those ACDs for which data collection is “on”.
 - The following tasks require CMS to be in the single-user mode. You may want to do some or all of these tasks during off-peak hours.
 - Data Storage Allocation
 - Storage Intervals
 - Free Space Allocation
 - Agent Trace Record Contents
 - Restore Data.
 - See Chapter 2, “User Basics”, for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- To change the master ACD, data collection must be off for all ACDs. You turn data collection on and off in the Data Collection window (see Data Collection later in this chapter).
- To view the current CMS state, you need **read** permission for the System Setup subsystem. See Chapter 10, “User Permissions” for more information.
- To modify the CMS state, you must have **write** permission for the System Setup subsystem. See Chapter 10, “User Permissions” for more information.

CMS State Window

You must complete this window to change CMS mode (single-user or multiuser mode) and change the master ACD for clock synchronization.

03/20/93 08:30 AM Call Management System Window 1 of 4 ^

System Setup: CMS State All ACDs

CMS user mode (Select one): Modify

< > Single-user mode

<x> Multi-user mode

Master ACD for clock synchronization: 1

Figure 11-10: CMS State Window Example

Field Descriptions

CMS user mode (Select one):

< > Single-user mode

Enter an **x** to specify that CMS is being brought down to single-user mode.

Note

When CMS is brought down to the single-user mode, an Acknowledgment window displays to all CMS users indicating that CMS will be brought down in one minute. Users are automatically logged off after one minute. Also, if you log out of CMS while in the single-user mode, you must wait at least 10 seconds before logging in again.

< > Multiuser mode

Enter an **x** to specify that you are bringing CMS up to multiuser mode.

Master ACD for clock synchronization:

Enter the name or number of the ACD which you would like to have as the Master ACD. CMS uses the switch's time which is displayed on the title bar.

Note

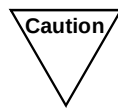
To change the master ACD, data collection must be off for all ACDs.

Data Collection

Purpose

The Data Collection window is used to turn data collection on or off for real ACDs.

Things to Know Before You Start



If you are doing a restore, **DO NOT** start Data Collection until all non-historical data have been restored. You can determine this by the Restore status.

- When you turn on data collection, you should monitor the connection status of the link and make sure data is being transferred.
 - When you turn off data collection, you lose data. If calls are being handled, they are not recorded in CMS.
 - This window does not apply to a *pseudo-ACD* because a pseudo-ACD is not collecting data.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- To view the status of data collection, you need **read** permission for the System Setup subsystem.
 - To modify data collection, you must have **write** permission for the System Setup subsystem.
-

Relationships to Other Subsystems

ACD Administration

Data collection must be on for the current ACD when you activate an agent trace or do any switch administration from CMS.

Maintenance—Archiving Status

You should check the archiving status before turning off data collection so you can wait until the interval archive completes.

Data Collection Window

You must complete this window to turn data collection on or off.

The screenshot shows a terminal window titled "Call Management System" with a status bar at the top displaying "03/20/93 08:30 AM" and "Window 1 of 4 ^". The main content area is titled "System Setup: Data Collection". It contains a prompt "ACD: " followed by a blank line. Below this is the prompt "Data collection (Select one):" with two options: "<x> On" and "< > Off". To the right of these options is a vertical menu with the following items: "Find one", "List all", "Modify", "Next", and "Previous".

Figure 11-11: Data Collection Window Example

Field Descriptions

ACD:

Enter the name or number of the ACD you want to view or modify.

Data collection (Select one):

<x> On (Default value)

Enter an **x** to turn on data collection. (Displays an **x** if data collection is currently turned on.)

< > Off

Enter an **x** to turn off data collection. (Displays an **x** if data collection is currently off.)

External Application Status

Purpose

Use the External Application Status window to turn on or turn off the External Application feature, to start or stop external applications, or to view the status of external applications. An external application sends CMS real-time data to an external device such as a wallboard or to an external program such as an employee scheduler.

Note

External Application is a separately purchased CMS feature.

Things to Know Before You Start

- External applications are designed and administered by the Technical Service Center. For more information about external applications, call the AT&T Call Center Helpline at 1-800-344-9670.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- To view the status of external applications, you need **read** permission for the System Setup subsystem.
- To turn on or turn off the External Application feature or to start or stop an external application, you must have **write** permission for the System Setup subsystem.

Relationships to Other Subsystems

Reports

A standard or custom real-time report collects the CMS data that is sent to the external application.

Timetable

The External Application Status window can be put on a timetable. See Chapter 6, "Timetables and Shortcuts" for more information.

External Application Status Window

Use this window to turn on or turn off the External Application feature, to start or stop external applications, or to view the status of external applications.

03/20/93 08:30 AM Call Management System Window 1 of 10 ^

System Setup: External Application Status All ACDS

External applications (Select one):

<x> Application name: _____

< > External application feature (turns on/off all applications)

Application status (Select one):

<x> Start

< > Stop

List all
Modify

Figure 11-12: External Application Status Window Example

Field/Action List Usage

List all

To list the status of a particular external application, complete the Application name: field and select List all.

To list the status of all currently administered external applications, complete the External application feature field and select List all.

The status of an external application may be:

- Starting — A request to start the external application has been made.
- Running — The external application has started and is still running after 10 seconds.
- Stopping — A request to stop the external application has been made.
- Stopped — All processes associated with the external application have stopped.
- Failed — The external application has failed repeatedly and is no longer being restarted.

Modify

To start or stop a particular external application, complete the Application name: field and the Start or Stop field and select Modify.

To turn on all currently administered external applications or to turn off all currently running external applications, complete the External application feature field and the Start or Stop field and select Modify.

Field Descriptions

External applications (Select one):

< > Application name:

Enter an **x** to start, stop, or view the status of **a particular** external application. Then enter the name of the external application you want to start, stop, or view the status of.



An external application can not be started unless the External Application feature has been turned on.

< > External application feature (turns on/off all applications)

Enter an **x** to turn on or turn off the External Application feature or to view the status of **all** external applications.

Application status (Select one):

< > Start

Enter an **x** to start the specified external application or to turn on the External Application feature.

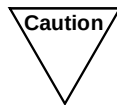
< > Stop

Enter an **x** to stop the specified external application or to turn off the External Application feature.

Data Summarizing

Purpose

The Data Summarizing window allows you to archive data into the historical database *on demand* for daily, weekly, and monthly summaries.



Your data is automatically archived by CMS based on your entries in the Storage Intervals window. Therefore, it is recommended that you do not use this window unless an archival did not occur.

Things to Know Before You Start

- CMS automatically archives your data based on your storage intervals.
- Data summarizing is done on demand from this window which means it happens immediately.
- An Acknowledgment is sent before you start a manual archive which warns you that archiving data can take a long time and cannot be canceled. From this message, you can back out before you start the archive.
- Multiple data summarizing requests are queued and are run in the order requested.
- `Archiver started` appears on the status line for the first request, and `Archiver request submitted` appears if there is already a data summarization in progress.
- Scheduled daily, weekly, and monthly data summaries are queued along with manual requests so only one kind of data summarizing runs at one time.
- A manual archiving request requires existing data for the day, week, or month being summarized. You cannot request a manual archive without existing data. You must have allocated space in the Data Storage Allocation window before you can archive.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
- The results of daily, weekly, and monthly data summaries are written to the error log. You can use the Error Log report to see when the summaries ran and whether or not they were successful. The archiving status window also shows this information.

Prerequisite System Administration

- To view data summarizing, you need **read** permission for the System Setup subsystem.
 - To run data summarizing, you need **write** permission for the System Setup subsystem.
-

Relationships to Other Subsystems

Maintenance—Archiving Status

The Archiving Status window displays the status, date, and time of the last archive for interval, daily, weekly, and/or monthly summarizing.

If CMS is down when a Data Summarizing timetable is scheduled to run, an error message is logged which directs you to do a manual archive from the Data Summarizing window.

Timetable

This window is automatically placed on a timetable to run at the designated *data summarizing time* that you entered on the Storage Intervals window. This timetable cannot be viewed or modified through the **Keep** SLK. See the Storage Intervals window description earlier in this chapter for more information.

Data Summarizing Window

Complete this window **only** if a previous archive did *not* occur.

The screenshot shows a window titled "03/20/93 08:30 AM Call Management System Window 1 of 4 ^". Inside the window is a sub-window titled "System Setup: Data Summarizing". This sub-window contains a "Run" button, a text field for "ACD:", a label "Data type (Select one):", a list box with three options: "<x> Daily", "< > Weekly", and "< > Monthly", and a text field for "Date:".

Figure 11-13: Data Summarizing Window Example

Field Descriptions

ACD:

Enter the name or number of the ACD for which you want to summarize data.

Data type (Select one):

<x> Daily (Default value)

Enter an **x** to summarize intrahour data into daily data immediately.

< > Weekly

Enter an **x** to summarize daily data into weekly data immediately.

< > Monthly

Enter an **x** to summarize daily data into monthly data immediately.

Date:

Enter the date for which you would like the data archived.

- A daily summary will archive a partial day.
- Daily summaries must be complete for each day of the week before CMS archives the data for that week.
- For weekly summaries, you must enter a date that falls within your predefined week (Storage Intervals window) or any date after that week but before the next week's start date. If you do not, CMS does not summarize weekly data.
- If the date entered does not fall within your predefined week, then the previous week is summarized (as long as each day of the previous week has been archived successfully). If your designated week is Monday through Friday and you enter a date which falls on Saturday, the data is archived for the previous week.



If the date specifies a week or month for which a daily summary is not complete, summarizing does not occur for the week or month.

Migrating Data

R3 Migrate Data

The R3 Migrate window is used to migrate data from R3 CMS to R3V2 CMS. For a complete explanation and all the procedures, see the AT&T 585-215-113, *Call Management System Migration*, document.

R2 Migrate Data

The Migrate Data window is used to migrate data from R2 3B CMS to R3 CMS. Items that can be migrated include:

Purpose

- Administration data (i.e., User Permissions)
- Dictionary
- Custom Reports
- Historical data
- Forecast Administration Data.

For a complete explanation and all the procedures, see the AT&T 585-215-113, *Call Management System Migration*, document.

General Information

From the Maintenance subsystem (Figure 12-1), you can:

- Back up CMS data. A backup strategy is also included.
- Restore CMS data.
- Assign a name and description to a full path name for a device. This device name is used for data backups, data migration, data restores and to load pseudo-ACD data.
- Assign printer names and options.
- Monitor the data link between the CMS processor and the switch.
- View the measurement status of a particular ACD.
- View the Error Log report.

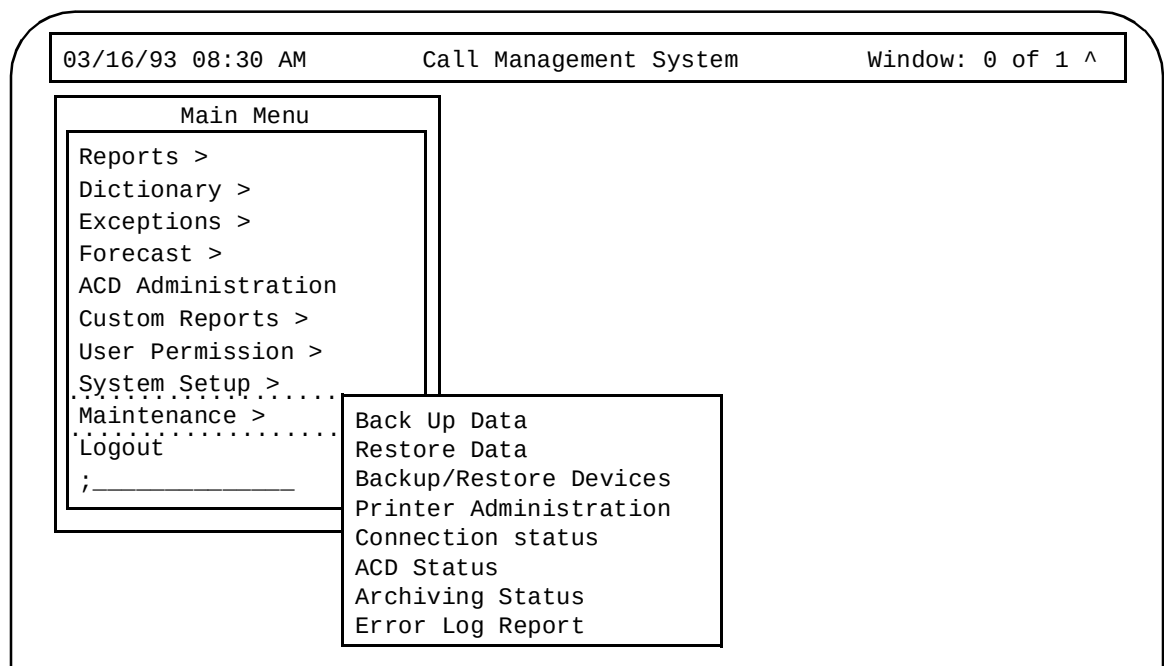


Figure 12-1: Maintenance Menu

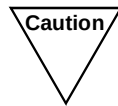
Backup Strategy

What Is a Backup

A backup copies the data stored on the R3 CMS machine to a removable volume (tape, etc.).

Reasons for Backups

A backup protects your data and minimizes the loss of data caused by failures or errors. Regular backups provide a way to recover data that would otherwise be lost.



If backups are not done and are not available and data is lost, you cannot recover it. The frequency of your backups is determined by how much data your call center is willing to lose in the case of a catastrophic failure.

Different Types of Backups

CMS provides the following three different types of backups.

- cmsadm File System Backup
- CMS Full Maintenance Backup
- CMS Incremental Maintenance Backup.

CMSADM File System Backup

The cmsadm File System Backup backs up the following:

- UNIX system files and programs
- CMS programs and data
- Non-CMS data you placed on the computer in addition to the CMS data.

The following table tells who should do the backup, when the backup should be done, and why you should do the backup.

Table 12-1: cmsadm File System Backups

Who Does the Backups?	When?	Why?
From the <i>root</i> login via the <code>cmsadm</code> command. See Chapter 13, "wUNIX/Solaris 2.2 System" for the backup procedures.	Prior to upgrading the CMS to a new software load. As soon as possible after an upgrade Monthly	As a precautionary measure, should a failure occur during an upgrade. Because restoring the system is faster if a failure occurs. Regular backups reduce the time it takes to restore the system to an operating state and provide more up-to-date information

cmsadm File System Backups for New CMS Installations

Because backups are so important, AT&T now completes two `cmsadm` file system backups. The *first* backup is done at the factory and is shipped with your CMS. This backup is precautionary and is used during installation if necessary.

The *second* backup is done when your CMS is provisioned. This backup contains all the UNIX system files and programs and the CMS configuration data that was done by provisioning.

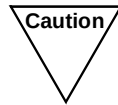
Note

Labels for the `cmsadm` File System Backup tapes are shipped with your CMS. Label the tapes appropriately and then store these tapes in a secure area.

CMS Maintenance Backup—Full and Incremental

Full and incremental backups save only the **CMS** data (historical data, dictionary, etc.), and you run these backups from the CMS Maintenance: Back Up Data window. Either of these backups can be scheduled to run automatically on a timetable at your convenience.

You may choose to run full backups or a combination of full and incremental backups, depending on your call center needs.



The CMS maintenance backups (full or incremental) are used to restore your CMS data (that is, historical data, dictionary, etc.). If you do not have the backups to restore your data, the data is lost and cannot be recovered. Again, the frequency of your CMS maintenance backups is determined by how much data your call center is willing to lose.

CMS Full Maintenance Backup

A CMS full maintenance backup includes all the data in the CMS database table (that is, historical data, dictionary, permissions, etc.). If the backup does not fit on one tape, you are prompted when another tape is needed.



It is strongly recommended that you do a **full backup weekly**.

CMS Incremental Maintenance Backup

A CMS incremental maintenance backup includes new CMS historical data since the previous full or incremental CMS maintenance backup. Incremental backups may be a more efficient and less time-consuming way to back up your CMS data when a CMS full maintenance backup needs more than one tape.

You should use **two sets** of backup tapes to rotate when running a combination of full and incremental backups.

Simple Backup Tape Strategy

There are many backup combinations you could use to preserve your data. Two simple examples have been included for you.

Full Backup Combination Example:

In the following example, the call center is doing a full backup twice a week.

Backup Type	Day	Tapes Required	Extra Tapes
Full	Wednesday	2 (Set 1)	2 (Set 1)
Full	Saturday	2 (Set 2)	2 (Set 2)

First Week	Mon	Tues	Wed F (Use tapes from Set 1*)	Thurs	Fri	Sat F (Use tapes from Set 2*)	Sun
Second Week	Mon	Tues	Wed F (Use extra tapes from Set 1*)	Thurs	Fri	Sat F (Use extra tapes from Set 2*)	Sun
F = Full Backup * Do not use the same tapes all the time. Rotate the tapes with the extra tapes every other week.							

Combination Full and Incremental Backup Example:

In the following example, time constraints and personnel prevent the call center from doing a full backup more than once a week, but the call center wants to preserve the data in between full backups with incremental backups during the week.

Backup Type	Day	Tapes Required	Extra Tapes
Full	Saturday The full backup contains all the CMS data	2	2
Incremental	Tuesday The Tuesday incremental backup contains all the new data since the Saturday backup.	1 (Set 1)	1 (Set 1)
Incremental	Thursday The Thursday incremental backup contains all the new data since the Tuesday backup	1 (Set 2)	1 (Set 2)

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
First Week		I Use tape 1 Set 1*		I Use tape 2 Set 1*		F Use tape Set 2* (2 tapes)	
Second Week		I Use tape 1 Set 2*		I Use tape 2 Set 2*		F Use tape Set 2* (2 tapes)	
I = Incremental F = Full Backup * Do not use the same tapes all the time. Rotate the tapes with the extra tapes every other week.							

Note

It is strongly recommended that you have an appropriate number of extra tapes to rotate your tapes each week. With this example, you need two sets of four tapes so you can rotate the set of tapes between the full backup and the incremental backups.

Complex Backup Tape Strategy

You may need a different combination of incremental and full backups to meet the needs of your call center (see the following example).

Complex Backup Tape Example:

In the following example, the call center only does a **full** backup every 2 weeks on a Saturday with **incremental** backups done Monday through Friday.

Backup Type	Day	Tapes Required	Tapes Required	Extra Tapes
Full	Saturday The full backup contains all CMS data.	3*		3*
Incremental	Monday The Monday incremental backup contains all new data since the Saturday backup, including Sunday's and Monday's data (backup ran at 1AM Tuesday morning).	1 (Set 1)	1 (Set 2)	2 (Set 2)
Incremental	Tuesday The Tuesday incremental backup contains all new data since the Monday backup.	1	1	2
Incremental	Wednesday The Wednesday incremental backup contains all new data since the Tuesday backup.	1	1	2
Incremental	Thursday The Thursday incremental backup contains all new data since the Wednesday backup.	1	1	2
Incremental	Friday The Friday incremental backup contains all new data since the Thursday backup.	1	1	2
* A full backup could require more than three tapes.				

Backup Strategy

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
First Week	I Use tape 1 Set 1*	I Use tape 2 Set 1*	I Use tape 3 Set 1*	I Use tape 4 Set 1*	I Use tape 5 Set 1*		
Second Week	I Use tape 1 Set 2*	I Use tape 2 Set 2*	I Use tape 3 Set 2*	I Use tape 4 Set 2*	I Use tape 5 Set 21*	F Use 3 tapes from Set 3*	
I = Incremental F = Full Backup * Do not use the same tapes all the time. Rotate the tapes with the extra tapes every other week.							



If at any time an incremental tape is damaged, run a full backup immediately.

If an incremental backup fails, fix the failure and do another incremental backup (e.g., tape was write protected).

Recovery Kit

The *Recovery Kit* is comprised of the backup media Services needs to restore service to your system when problems occur.

Note

Store this kit in a secure location to minimize the time your system is out of service.

The Recovery Kit contains the following:

- Latest `cmsadm` File System Backup tapes (before and after an upgrade or the routinely run `cmsadm backup`)
- Latest Full CMS Maintenance Backup tape(s) plus **all** Incremental Backup tapes since the latest full backup
- CMS Load Tape (used for the last upgrade and any CMS update tapes used at the same time).

CMS Software

Occasionally, the following software (which is shipped with your CMS) is needed by Services.

Note

It is recommended that you store this software with the Recovery Kit.

- WGS SCSI Boot Floppy Version 2.0
- UNIX System V/386 Release 3.2 Version 2.3 - Tape
- SCSI Support Package
- Foundation Set - Remote Terminal Package
- IPC-1600 - UNIX - Device Drivers - Version 1.X (do NOT use Version 2.X)
- 2 to 16 User License Package
- 16 to Unlimited User Package
- Remote Maintenance Circuit Version 2.0 [or Remote Maintenance Package (UNIX)]
- Off-Line Administration and Maintenance Version 2.0 - DOS [or Remote Maintenance Package (DOS)]
- 6386/XX WGS Remote Systems Diagnostics
- IPC-1600 - MS-DOS Device Drivers and Diagnostics
- SCSI Diagnostics
- RMP Fix
- GPSC-AT/E Diagnostics and Installation Diskette
- INFORMIX SQL 2.10.

Back Up Data

Purpose

By backing up data, you protect your CMS data against accidental losses due to system failure, disk crashes, power outages, and so forth. You can back up the data separately for each ACD in your system.

Since new data is written each day, it should be backed up each day. Management of the tapes used, storage, security, labeling the tape (see "Labeling the Backup Volume" in this section), etc., are key elements in assuring that, if a restore is needed, it can be done quickly and accurately. A sufficient supply of tapes should be kept on hand to rotate the tapes. This allows several backup tapes to be available at all times. One common scheme is to keep seven tapes in stock and recycle them weekly. That is, in an environment where backups are performed daily, a new tape is mounted each day of the week, and each weekly sequence is repeated.

From this window, you can select the type of backup (Full or Incremental), which ACDs to back up (All or Current), and also the CMS subsystems to back up. The Back Up Data window does not back up the software which supports the CMS product. (Your tape used to install CMS serves as your software backup.)

Things to Know Before You Start

- Backups run in the background. You can exit this window without affecting the background backup. You should, however, periodically check for any errors or the prompt to mount a new volume.

Note

If you using the CMS console terminal when backing up data and a UNIX system error occurs, the UNIX software displays the error message(s) on the console screen. To clear this message from the console screen, select the Redraw screen menu item from the **Window** SLK.

- The CMS historical data for each ACD should be backed up after the CMS software has been initially installed and tested.
- You must do a full backup before doing the first incremental backup.
- A full backup once a week will probably require more than one tape, and an incremental backup daily will probably take one tape.
- It is recommended that you back up system data when it has changed or on a weekly basis.

You should periodically back up the CMS historical data. The frequency of the CMS backups will depend on how current you want to keep the backup copy of the CMS historical data, and how much data your call center could afford to lose in the event of a catastrophic failure.

- You should have the appropriate number of tapes or floppy disks to be used for the backup. A manual CMS backup (not run from timetable) does an estimate of the number of tapes required for a *full* backup. The Back Up Data window displays an Acknowledgment for the number of volumes needed. (Incremental backups should fit on one tape, therefore no estimate is made.)
 - After the proper Acknowledgment (in the Acknowledgment window), a backup can write to any tape except tapes used in the most recent backup.
 - Floppy disks must be UNIX system formatted first. (Many floppy disks now come preformatted from the factory. Check first before formatting.)
- You **cannot** back up application software (CMS, UNIX System, INFORMIX, and X.25) using this window. Also, the table definitions for non-CMS INFORMIX tables and programs accessed via Main Menu Additions are **not** backed up. A UNIX system backup should be used instead (see Chapter 13, "wUNIX/Solaris 2.2 System" — Backing Up the File Systems").
- When you do a backup that completes successfully (without any errors), the following message may display on the system console:

Message:
WARNING: ST01:HA 0 TC 3 U 0: ERR 60503005 CMD
00000008 Sense Key 00000003 Ext Sense 00000000.

This message means that a brand new volume (tape, disk, etc.) was used for the backup. Ignore this warning and use **Ctrl** **L** to refresh the screen.
- You can do a full backup over the most recent full backup volume. You can also do a full backup over an old incremental backup volume. You **cannot** do an incremental backup over your current incremental backup volume, and you **cannot** do an incremental backup over a current full backup volume.
- If you back up the agent login/logout table while agents are logged in, only the login portion will have an entry for the backup. The logout portion of the table will be blank (since the agents have not logged out).

Agent	Login date/time	Logout date/time
Smith, M	2/13/93	8:05AM

When the login/logout records are restored at some later date, the logout entry is eventually filled in when the agents in question log in again and then log out. The next restore records have the old entry for the login time and the old logout time will be filled in with the same time as the first login/logout entry for the agent after the data was restored.

Agent	Login date/time	Logout date/time
Smith, M	2/13/93 8:05AM	2/17/93 4:30PM
Smith, M	2/17/93 8:00AM	2/17/93 4:30PM

- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- You need **write** permission for the Maintenance subsystem to Run a backup or complete any of the maintenance procedures. See Chapter 10, "User Permissions" — Feature Access.
- The storage device used for a backup can be a tape or floppy disk. Names for the individual devices are administered in the Backup/Restore Devices window. These names must be specified before you can do a backup. The default device is the backup device specified during the installation of CMS (unless you have changed it).
- If you are backing up data using floppy disks, the disks must first be formatted. See the computer/disk documentation for the procedures on how to format your particular disks.

Relationships to Other Subsystems

Timetable

A timetable for an *incremental* and *full* backup has already been created for you, but you have to schedule the incremental or full backup to run. If you use a timetable for a full backup, the entire backup may not fit on a single tape. If the backup needs more than one tape to finish, load another tape and the backup continues when the tape is loaded. Otherwise, you need to use the Back Up Data window to do the full backup.

Note

If you do a full backup using timetable, the backup program assumes the tape is already loaded in the drive. You do not receive a message if the tape contains data other than the most recent backup. You should always check the error log (e.g., in the morning) for the volume label (when the backup is finished) or the error message if the backup fails.

System Setup

When doing a backup, pseudo ACD data is not backed up.

Maintenance

To restore data accurately and precisely (using the Restore Data window) because of a disk crash or system failure, regular backups are essential.

Back Up Data Window

You must fill out this window to back up data. Make sure you have read all the information in this section prior to filling out this window.

03/10/93 00:30 AMCall Management SystemWindows: 1 of 4 ^

Maintenance: Back Up Data

Backups completed today: xx
Status:
Errors:

Cancel
List device
Run
Select tables

Device name: _____
Verify volume can be read after backup (y,n): n_

ACD to back up (Select one):
<x> All ACDs
< > Current ACD

Data to back up (Select any you wish):
[x] System administration data
[x] ACD specific administration data
[x] Historical data,
 Select one:
 <x> Full
 < > Incremental
[x] Non-CMS data
[x] Specific tables

Figure 12-2: Back Up Data Window Example

Field/Action List Usage

- Cancel

Stops the current backup in progress.
- List device

Displays a list of all the devices which have been specified in the Backup/Restore Devices window.
- Run

Starts the backup.
 - You could also receive a message telling you to mount another volume to complete the backup. You also get a message when the backup completes successfully telling you to remove the current volume and label it. See "Labeling the Backup Volume" later in this section.

- While running a normal backup, you could receive any of the following Acknowledgments:
 - CMS cannot access the specified device. Enter a new device name.
 - The volume mounted is bad (corrupt). Mount a new volume.
 - A volume (tape or floppy disk) is not mounted in the drive. Mount a volume.
 - The mounted volume contains CMS data that you might not want to overwrite. Mount a different volume if you do not want to overwrite the data on the volume in the drive.
 - The volume mounted is the last backup volume. You have to mount a different volume. CMS does not let you overwrite your last backup.
 - Errors on the volume. You are asked to mount another volume.
 - Cannot back up a particular table. You are asked if you want to skip the table and continue or cancel the backup.

Select tables

Displays a secondary window that allows you to select specific tables to be backed up. You can select as many tables as you wish, but you must exit this window and return to the Back Up Data window to run the backup.

Note Standard action list selections and procedures apply for all action list items. See Chapter 2, "User Basics".

Field Descriptions

Backups completed today: (Display only field)

Displays the number of backups which have been completed for the current day.

Status: (Display only field)

Displays the status of the current or most recent backup, and what is currently being backed up.

Errors: (Display only field)

Displays any errors found in the backup.

Device name:

Enter the device name.

This field may default to the device specified during the installation process. If this is the case, you can accept the default device name.

Verify volume can be read after backup (y,n):

Enter **y** (yes) to request that the data be reread to ensure that the data has been stored properly.

While the data is being reread, the message `Verifying` displays on the status line. If there is no data to be reread or if verification fails, you must restart the backup using a different volume from the one that failed. Error messages are displayed on the status or error lines.

ACD to back up (Select one):

Enter an **x** next to **All ACDs** or **Current ACD** to select the ACDs you want backed up.

- **All ACDs** — Complete a data backup for each ACD on the CMS system *except* pseudo-ACDs.
- **Current ACD** — Complete a data backup for the current ACD.

Data to back up (Select any you wish):**System administration data**

Enter an **x** if you want system administration data backed up.

System administration data includes user permissions and feature access permissions, Main Menu addition data, timetable and shortcut, printer administration, default values and color values, custom reports (not the data associated with custom reports).

ACD-specific administration data

Enter an **x** if you want ACD data backed up.

ACD-specific administration data includes forecasting data, call work code data, VDN and vector administration data, data storage allocation data, exception data, agent trace, and ACD-specific Dictionary names.

Historical data

Select one:

Enter an **x** next to **Full** or **Incremental** to select the type of backup.

Full — A Full Backup includes data for all of the time periods in the historical database. A Full Backup must be done prior to the first Incremental Backup. It is recommended that you periodically (e.g., once a week) do a Full Backup of your system.

Incremental — An Incremental Backup includes the CMS data recorded since the last backup (incremental or full) was completed. Only the historical data can be stored incrementally. A full backup must be done before the first incremental backup is done.

Note

R3V2 CMS keeps track of the last Full Backup and Incremental Backups.

Non-CMS data

Enter an **x** if you want non-CMS data backed up. Non-CMS data includes all data from INFORMIX tables with names that start with "c_." These are tables you might use for storing your own data and then backing up those tables. Also, the table definitions for non-CMS INFORMIX tables are **not** backed up. A UNIX system backup should be used instead (see Chapter 13, "wUNIX/Solaris 2.2 System" — Backing Up the File Systems").

Specific Tables

When this field is selected, choose the **Select tables** action. An additional window displays in which you can specify which selected tables should be backed up. If you select **Specific Tables** to back up, you cannot make any other selection (for example, **System data**) in the **Data to backup up** field. See "Back Up Data Specific Tables" section later in this chapter.

Back Up Data Specific Tables

The Back Up Data – Specific Tables field is used to back up selected tables. After you back up these tables, you could create a pseudo-ACD on another machine, load these tables to the pseudo-ACD, and then run a Multi-ACD or Multi-ACD by Split report to see data on different ACDs or different splits within several ACDs. You could also send monthly data to another location, then restore that data to a pseudo-ACD, and create specific reports for your upper management for example.

Note

The tables listed in this window are historical data tables along with some Dictionary tables.

03/10/93 00:30 AM Call Management System Windows: 1 of 4

Maintenance: Back Up Data

Backups completed today: xx
Status:
Errors:

Device name: _____
Verify volume can be read after backup (y,n): n_

ACD to back up (Select one):
<x> All ACDs
< > Current ACD

Data to back up (Select one):
[x] System administration
[x] ACD specific administration
[x] Historical data
Select one:
<x> Full
< > Incremental
[x] Non-CMS data
[x] Specific tables

Maintenance: Back Up Data: Select Tables

Tables to back up (Select any you wish):

Table name	Description
[] ag_actv	Agent Trace Data
[] agroups	Dictionary Agent Groups
[] dagent	Daily Agent Data
[] dsplit	Daily Split Data
[] dtkgrp	Daily Trunk Group Data
[] dtrunk	Daily Trunk Data
[] dvdn	Daily VDN Data
[] dvector	Daily Vector Data
[] hagent	Interval Agent Data
[] haglog	Agent Login/Logout Data

Figure 12-3: Back Up Data Specific Tables Example

**Field/Action List
Usage**

Modify

After selecting **Modify** to select the specific tables to back up, you must return to the Back Up Data window to run the backup.

Field Descriptions

Tables to back up (Select any you wish):

Enter an **x** to select any of the listed INFORMIX tables whose data you want to back up.

Table name

The field displays the designated name of the INFORMIX table.

Table description

This field displays the type of data included in the INFORMIX table.

Labeling the Backup Volume

After a successful backup, you need to label your backup volume (s) (tape or floppy disks). CMS provides the tape label information in the final Acknowledgment window or if the backup was scheduled on a timetable, in the error log.

CMS-920323-NN-LLL-NN-L-NN
 1 2 3 4 5 6 7
L=Letter
N=Number

1. CMS — System name.
2. 930323 — Year, month, and day of the backup.
3. NN — Number of backups for this day.
4. LLL — The type of data backed up:
 - **A** for both ACD-specific administration data *and* Historical data
 - **C** for Custom data
 - **H** for Historical data
 - **M** for ACD-specific administration data
 - **S** for System data.

You could see XAX which means that only ACD-specific data was backed up.
5. NN — The number of the ACD (00 means All ACDs was selected on the Back Up window).
6. L — Backup mode (**F** for Full, **I** for Incremental).
7. NN — The tape number in the backup series (for this backup only).

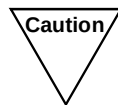
Restore Data

Purpose

The Restore Data window allows you to restore CMS data that has been lost due to system failure, disk crashes, power outages, and so forth. You can restore all CMS data files that you have previously backed up.

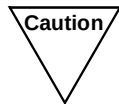
From this window, you can select which ACDs to restore (All or Current) and also the CMS subsystems from which to restore data.

Things to Know Before You Start



DO NOT start Data Collection until all nonhistorical data have been restored. You can determine this by the Restore status.

- To start restoring data, CMS must be in the single-user mode. As a result, all users except you are logged off of CMS. CMS warns all other users before going into the single-user state. Also, if you log out of CMS while in the single-user mode, you must wait at least 10 seconds before logging in again. Restore is run as a background task. The `Status` field on the Restore Data window allows you to monitor the status of the restore.



CMS must remain in single user mode until system data is restored. System data restoration is complete when the `Restoring Historical data` appears on the status line.

- When restoring data using the CMS console terminal and a UNIX system error occurs, the UNIX software displays the error message(s) on the CMS console. To clear this message from the console screen, select the `Redraw screen` menu item from the `Window` SLK.
- Restore operates in two different ways:
 - **Automatic restore**
An automatic restore is the normal way to restore.

An automatic restore tells you which tapes to mount to restore all the requested data in this window (that is, All ACDs or Current ACD, or System data, etc.). The tapes include any *full*

or *incremental* restore needed. If Restore asks for a particular tape and you cannot provide it, you must cancel the restore and do a **manual** restore.

— **Manual** restore

A manual restore is used for problem situations or cases in which you know exactly what needs to be restored.

A manual restore accepts any tape you mount as long as the data on the tape corresponds to the data requested in this window (that is, All ACDs, System data, etc.). With this restore, an incremental backup can be omitted or tapes can be skipped. An Acknowledgment message prompts you to mount the next volume or to stop the restore.

For system data and non-CMS data, the last copy is the most recent backup for the data. For ACD-specific data, as long as the backups are together logically, the restore order of *full* or *incremental* should not matter.

You have full control over what you restore doing a *manual* restore. You should do a **full** restore before doing any incremental.

The manual restore stops when severe errors occur or when you tell it there are no more volumes to restore.

- You can restore any specific table (INFORMIX tables) from a full backup or from a specific table backup, but not from an incremental backup using a **manual** restore.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- The Backup/Restore Devices window defines the possible devices used by Restore Data.
If the `List devices` action list item is selected, it displays devices to which you have already assigned names and descriptions using the Backup/Restore Devices window.
- You must have backed up data before you can restore data. For this reason, it is suggested that you frequently complete backups of your system (see the "Back Up Data" section in this chapter).
- You need **write** permission for the Maintenance subsystem to complete any of the maintenance procedures. See Chapter 10, "User Permissions" — Feature Access.

Relationships to
Other
Subsystems

System Setup

You can restore system data (for example, Dictionary, User Permissions, Custom Reports), non-CMS data stored in the R3 CMS SQL database, and intrahour and summary data (see the System Setup subsystem, Data Storage Allocation window for the parameters).

If you have modified the storage interval size, data collection times, or data storage allocation parameters between the time the backup was done and the time of the restore, the restore may fail due to lack of space. The data restore reflects the values of those parameters **as they were at the time of the backup**. See Chapter 11, "System Setup" for more information.

Restore Data
Window

You must fill out this window to restore CMS data. Make sure you have read all the information in this section prior to filling out this window.

03/10/93 00:30 AM

Call Management System

Windows: 1 of 4 ^

Maintenance: Restore Data

Status:

Errors:

Device name: _____

Restore from last backup (y/n): n

Restore historical data from:

Start date: _____ Start time: _____

ACD to restore (Select one):

<x> All ACDs

< > Current ACD

Data to restore (Select any you wish):

[x] System administration data

[x] ACD specific administration data

[x] Historical data

[x] Non-CMS data

[] Specific tables

Cancel

List device

Run

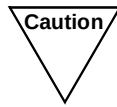
Select tables

Figure 12-4: Restore Data Window Example

Field/Action List Usage

Cancel

Cancel stops the *restore* currently in progress.



Cancelling a restore leaves the data already restored in the tables which may result in the database being in an abnormal state. An Acknowledgment window asks if you are sure you really want to cancel the restore.

List device

List device displays a list of all the devices which have been specified in the Backup/Restore Devices window.

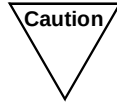
Run

Run starts the restore.

During a normal restore, you can receive an Acknowledgment for any of the following reasons:

- CMS cannot access the specified device.
- CMS cannot read the volume.
- The tape is not a CMS backup tape.
- The mounted volume is not compatible with the current database (for example, you receive new CMS software which is different than your previous CMS software).
- CMS has a problem reading the current volume. You are asked if you want to continue with another volume.
- CMS is having a problem restoring a table(s). You are asked if you want to skip this table(s) and continue or stop.
- At the end of every restored volume, you see how many tables have been restored (fully or partially) (for example, 100 of 100).
- With an **automatic restore** you are asked to mount a specific volume.
 - If the specific volume has not been loaded, you are asked to mount the requested volume.
 - If you want to stop the restore, use the **Current** SLK to return to the Restore Data window and select **Cancel** from the action list.

- With a **manual restore**
 - You are asked to mount any volume you want.
 - After restoring each volume, you are prompted for another volume.



If you do not have any more volumes to restore, select **Stop**. **Stop** tells the restore process that you are finished. **Do not select Cancel**. **Cancel means abort.**

- If the volumes are mounted out of order (for example, you have three backup tapes and you load tape 3 before tape 2), you are asked to mount the correct volume.

Select tables

Select tables brings up a secondary window that allows you to restore specific historical INFORMIX tables. You can select as many tables as you wish, but you must exit this window and return to the Restore window to run the restore.

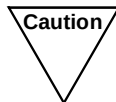


Standard action list selections and procedures apply for all action list items. See Chapter 2, "User Basics".

Field Descriptions

Status: (Display only)

Displays status of current or most recent restore. This field is automatically updated as the restore status changes.



You can bring CMS to the **multiuser** mode when the status line on the window displays Restoring Historical data.

Errors: (Display only)

Displays any errors found in the restore.

Device name:

Enter the device name.

This field may default to the device specified during the installation process. If this is the case, you can accept the default device name.

Restore from last backup (y,n):

If you select **y** for this field, the data is restored from the most current backup. This is called an **automatic** restore.

If you select **n** for this field, the data is restored from whatever tapes correspond to the restore selections indicated in this window. A no selection is called a **manual** restore.



Whenever Restore asks for a volume to be mounted, you can change the device name if the volume requires a different device (for example, if you have the full backup on tape and the incremental on floppies).

Restore historical data from:

Start date: _____ **Start time:** _____

Specify the date and time to limit the historical data to be restored. Enter a date as either mm/dd/yy or us a "+" or "-" offset based on today. Enter a time in the hh or hh:mm XM format. If AM or PM is not specified, military time is assumed. Multiple values are not allowed in the Start date and Start time fields.

ACD(s) to restore (Select one):

All ACDs

Restore data (from the specified backup tapes) for all ACDs on the CMS system.

Current ACD

Restore data (from the specified backup tapes) for the current ACD on the CMS system.

Data to restore (Select any you wish):

System administration data

Enter an **x** if you want system administration data restored.

System administration data consists of user permissions and feature access permissions, Main Menu addition data, exception data, timetable and shortcut, agent trace, printer administration, default values and color values, custom reports (not the data associated with custom reports).

ACD-specific administration data

Enter an **x** if you want to restore any of the following ACD-specific data: forecasting data, call work code data, VDN and vector administration data, data storage allocation data, and Dictionary names.

Historical data

A restore from a full backup includes data for all the time periods in the historical database. A restore from an incremental backup includes the CMS data recorded since the last backup (incremental or full) was completed.

Non-CMS data

Enter an **x** if you want non-CMS data restored.

Non-CMS data includes all INFORMIX tables with names that start with "c_". Also, the table definitions for non-CMS INFORMIX tables are **not** backed up and, therefore, are not restored. A UNIX system backup should be used first and then restored (see Chapter 13, "wUNIX/Solaris 2.2 System" — Backing Up the File Systems").

Specific Tables

This field is automatically selected when you select the action list item `Select tables` to specify which tables should be restored. If you select `Specific Tables` to be restored, you cannot make any other selection (for example, `System data`). In the case of a disk crash or something that completely corrupts the tables, you must first recreate the skeleton of any CMS tables you want to restore because the restore process does not recreate the tables. See the "Back Up Data Specific Tables" section in this chapter.

Restore Data
Specific Tables

The Restore Data – Specific Tables field is used to restore selected tables. Using specific tables allows you to restore only the data that you deem necessary for your call center.

03/10/93 00:30 AM

Call Management System

Windows: 1 of 4 ^

Maintenance: Restore Data

Status:
Errors:

Cancel
List device
Run
Select tables...

Device name:
Restore from last
Restore historical
Start date:

ACD to restore (S
<x> All ACDs
< > Current ACD

Maintenance: Restore Data: Select Tables

Tables to back up (Select any you wish):

	Table name	Description
☐	ag_actv	Agent Trace Data
☐	agroups	Dictionary Agent Groups
☐	dagent	Daily Agent Data
☐	dsplit	Daily Split Data
☐	dtkgrp	Daily Trunk Group Data
☐	dtrunk	Daily Trunk Data
☐	dvdn	Daily VDN Data
☐	dvector	Daily Vector Data
☐	hagent	Interval Agent Data
☐	haglog	Agent Login/Logout Data

Data to restore (
☒ System admini
☒ ACD specific
☒ Historical da
☒ Non-CMS data
☐ Specific tabl

Figure 12-5: Restore Data Specific Tables Window Example

Field Descriptions

Tables to restore (Select any you wish):

Enter an **x** to select any of the listed INFORMIX tables for which you want to restore data.

Table name

This field displays the designated name of the INFORMIX table.

Table description

This field displays the type of data included in the INFORMIX table.

Back Up/Restore Devices

Purpose

This window allows you to assign a name and description to a full path name for a device. The device name is used for data backup, data migration, data restore, and for loading a pseudo-ACD.

Things to Know Before You Start

- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- You need **write** permission for the Maintenance subsystem to complete any of the maintenance procedures. See Chapter 10, "User Permissions" — Feature Access.
-

Relationships to Other Subsystems

Maintenance — Back Up Data and Restore Data windows

If you want information to display in the Back Up Data and Restore Data windows when using the `List device` action list selection, you must administer the device names and device attributes in this window.

Backup/Restore
Devices Window

You must fill out this window to assign a name and description to a full path name for a device.

03/10/93 00:30 AM

Call Management System

Window 1 of 4 ^

Maintenance: Backup/Restore Devices

Device name: _____

Path: _____

Description: _____

Device type (Select one):
< > SCSI cartridge tape - 120 MB
< > SCSI cartridge tape - 320 MB
< > SCSI cartridge tape - 525 MB
< > Floppy disk

Add

Delete

Find one

List all

Modify

Next

Previous

Figure 12-6: Backup/Restore Devices Window Example

Field Descriptions**Device Name:**

Enter a name you will use to refer to the device. For example, if you would like to refer to your storage device as `ddrive1`, enter `ddrive1` as the device name.

Path:

Enter the full UNIX system path to access the specified storage device (for example, `/dev/scsi/qtape1`).

The UNIX system devices are described in your UNIX System Administrator's Guide.

Description:

Enter a description which will help to identify the location or use of the storage device. For example, `tape drive B in computer room 221`.

Device type (Select one):

Enter an `x` in the window next to one of the following appropriate device types.

`< >` SCSI cartridge tape - 120Mb

`< >` SCSI cartridge tape - 320 Mb

`< >` SCSI cartridge tape - 525 Mb

`< >` Floppy disk.

Note

Choose the correct capacity for your SCSI tape drive so that the approximation of the number of tapes needed for a full backup is accurate. Choosing the incorrect capacity does not affect the backup or restore operation or actual tape capacity.

Printer Administration

Purpose

You will assign a name, description, and some options to a printer. The printer then becomes known by CMS and can be used for printing any CMS report or window.

Things to Know Before You Start

- A printer that will be used as a CMS printer must be administered in the UNIX system **before** the CMS printer name can be added or modified. See the AT&T 585-215-122, *Call Management System Installation and Maintenance*, document for guidelines and procedures on printer installation.
 - The CMS printer name must be unique when a new printer is added. However, the same physical printer could have multiple names and options.
 - If print jobs are being sent to a printer that is no longer administered, the jobs print on the system default printer and an error is logged to the customer error log.
-

Prerequisite System Administration

- You need **read** permission for the Maintenance subsystem to view printer administration. See Chapter 10, "User Permissions" — Feature Access."
 - You need **write** permission for the Maintenance subsystem to add, delete, or modify printer administration. See Chapter 10, "User Permissions" — Feature Access."
-

Relationships to Other Subsystems

Reports

A CMS printer name can be used as the default printer in the `Report destination` field on any historical reports.

Printer Administration Window

You must fill out this window to assign a name, description, and some printer options to a printer. The printer can then be used by CMS for printing any report or window.

```

03/30/93 08:30 AM      Call Management System      Window 1 of 4 ^

Maintenance: Printer Administration

CMS printer name: printer1
LP printer name: printer1
Description: UNIX system printer1_____

IBM graphics characters (y/n): n

Page length (Select one):
< > 8.5 inches
<x> 11 inches
< > 14 inches
< > 17 inches
< > Other, inches ____

Print type (Select one):
<x> Normal
< > Other, _____

Banners (y/n): n

Add
Delete
Find one
List all
Modify
Next
Previous

```

Figure 12-7: Printer Administration Window Example

Field/Action List**Usage****Delete**

If you try to delete a printer name which is assigned to users, you receive an Acknowledgment asking if you still want to delete the printer. Print jobs are sent to the system default printer if you delete the printer.

Field Descriptions**CMS printer name:**

Enter a unique name for this printer.

Note

In you want to change the CMS printer name you must first *delete the printer name and add a new one*. You cannot change this field by selecting the modify action. If you attempt to use **Modify** you receive an error message stating "does not exist."

LP printer name:

Enter the LP (UNIX system printer) printer name that corresponds to the CMS printer name.

Note

This printer must be previously administered in the UNIX system before the CMS printer name can be added or modified. See the AT&T 585-215-122, *Call Management System Installation and Maintenance*, document for guidelines and procedures.

Description: (Optional field)

Enter a description for the printer. This could be the physical location of the printer.

IBM Graphics characters (y/n): (Default is no.)

Enter **y** (yes) if your printer has IBM graphics characters. Otherwise, leave this as "no."

Page length (Select one): (Default is 11 inches.)

Enter an **x** next to the desired length of paper or select **Other** and enter the length in inches.

CMS assumes 6 lines per inch and formats reports to correspond to the calculated number of lines per page. For an 11-inch page, this is 66 lines.

Print type (Select one): (Default is Normal.)

Enter an **x** next to **Normal** or **Other**. After **Other**, you can specify a print type like pica, elite, or compressed.

Banners (y/n) (Default is no.)

Enter a **y** (yes) if you want banners. A banner is a piece of paper that separates different printer jobs.

Connection Status

Purpose

You are be able to monitor the data link between the CMS processor and the switch from the Connection Status window. This window also displays the current status of the application, session, and connection layers of the link between the switch and CMS.

Things to Know Before You Start

- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
- When the link is down for several minutes (at least five), the Connection status may be waiting session accept. If this happens, you need to reboot the CMS by logging in as root and performing the **shutdown -i6 -g0 -y** command.

Prerequisite System Administration

- You need **read** permission for the Maintenance subsystem to view the Connection Status window. See Chapter 10, "User Permissions" — Feature Access."

Connection Status Window

You must fill out the ACD field to view and monitor the data link between the CMS processor and the switch.

03/16/93 08:30 AM

Call Management System

Windows 1 of 4 ^

Maintenance: Connection Status

ACD: ACD1_____

Application: data transfer

Session: data transfer

Connection: operational

Date/Time: 3/12/93 9:47 AM

Errors:

Find one

List all

Next

Previous

Figure 12-8: Connection Status Window Example

Field Descriptions

ACD:

Enter the number or name of the ACD for which you would like to check the connection status.

Application: (Display only)

The current status of the application layer of the link between the switch and CMS. Possible status messages for the `Application:` field are:

waiting session	indicates that the Application layer is inactive. This is the state of the Application layer when the system is first powered on.
translation pumpup	indicates that the CMS processor is receiving translations from the switch. Translations are needed for CMS to correctly track the ACD calls coming from switch.
data transfer	indicates that the Application layer can receive and transmit data successfully.
not collecting data	indicates that data collection has been turned off via the Data Collection window (see Chapter 11, "Data Collection"). This is done if the link needs to be taken down to alter CMS. To resume data collection, go to the Data Collection window in the System Setup subsystem and turn on data collection.
busied out (switch)	indicates that the data link between the CMS processor and the switch has been busied out from the switch side, usually to alter switch translations.

Session: (Display only)

The current status of the session layer of the link between the switch and the CMS. Possible status messages for the `Session:` field are:

quiescent	indicates that the Session layer is inactive. This is the state of the Session layer when the system is first powered on.
waiting acceptance	indicates that the Session layer is waiting for the Connection layer to become operational and the remote Session layer to accept the session.
data transfer	indicates that the Session layer is now able to transmit and receive data from the switch.

Connection: (Display only)

The current status of the connection layer of the link between the switch and the CMS. Possible status messages for the `Connection:` field are:

<code>quiescent</code>	indicates that the Connection is inactive. This is the state of the Connection when the system is first powered on.
<code>out of order</code>	indicates that there is something wrong with the connection to the switch. For example, the cable is not connected between the switch and the CMS processor.
<code>operational</code>	indicates that the Connection is able to transmit information physically between the switch and the CMS processor.

Date/Time: (Display only)

The `Date/Time:` field displays the current date/time for this ACD. This is the time on the master switch unless the link is down when CMS is brought up. If CMS is brought up and the link to the ACD is down, CMS uses the UNIX system time until the link is reestablished.

Errors: (Display only)

Displays any errors found.

ACD Status

Purpose

The ACD Status window displays information about the current ACD selected in the window. From this window, you can view the various items which CMS is measuring. Among these items are the number of splits, agents logged in, trunk groups, trunks, VDNs, vectors, and measured splits.

Two ACD Status windows are available. If your switch *does not* have EAS, the window shown in Figure 12-9 displays. If your switch *does* have EAS, the window shown in Figure 12-10 displays.

Things to Know Before You Start

- The **Measured splits:** field can only be modified if you have a Generic 2.1 or System 85 R2V4 switch, and you select the **Translations** action list item.
 - See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.
-

Prerequisite System Administration

- You need **write** permission for the Maintenance subsystem to complete any of the maintenance procedures. See Chapter 10, "User Permissions" — Feature Access.
 - You need **read** permission for the Maintenance subsystem to view the ACD Status window. See Chapter 10, "User Permissions" — Feature Access.
-

ACD Status Window, No EAS

If your switch does not have EAS, the window shown in Figure 12-9 displays. You must fill out the ACD field to view information about the current ACD.

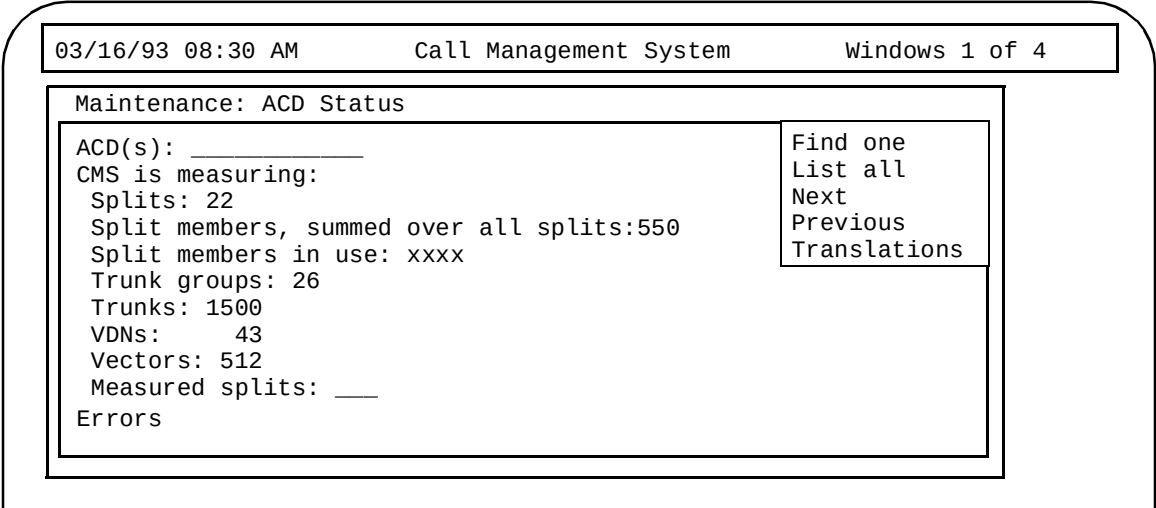


Figure 12-9: ACD Status Window (No EAS) Example

Field/Action List
Usage

Translations

When the Translations action list selection is made, CMS requests a full set of translations if the data collection for the ACD is on. An Acknowledgment window indicates that data will be lost during the translations pump up. The Acknowledgment window asks if you would like to proceed. If the link to the switch is not up when you request the translations, the status line shows Failed and the actual error message is listed in the Errors field in the window.

Note

The Translations action list item cannot be used for a pseudo-ACD since it has no connection to a switch.

Find one/List all

If either the Find one or List all action list item is selected and the ACD's link to the switch is down, the Errors field displays the link status.

Field Descriptions**ACD(s) :**

Enter the ACD name or number whose status you would like to check.

CMS is measuring: (Display only)**Splits:** (Display only)

The number of splits currently being measured by CMS.

Split members, summed over all splits: (Display only)

The number of agents that can be logged in on this ACD.

Split members in use:

The number of agent/skill pairs currently logged in (at the time the ACD Status window was opened).

Trunk groups: (Display only)

The number of trunk groups currently being measured by CMS.

Trunks: (Display only)

The number of trunks currently being measured by CMS.
Unmeasured trunks are not included.

VDNs: (Display only)

The number of VDNs currently being measured on this ACD.

Vectors: (Display only)

The number of vectors currently being used in the selected ACD.

Measured splits:

Enter the number of measured splits.

This field is used to change the number of measured splits in the selected ACD and to determine which splits are being measured if the switch is a System 85 R2V4 or Generic 2.1 System. If these switches are being used, then you can infer that the measured splits are the number that is displayed; and to change the number of measured splits for these switches, you must enter the new number and select the `Translations` action list item.

Errors: (Display only)

Displays any errors found.

ACD Status
Window, with
EAS

If your switch has EAS, the window shown in Figure 12-10 displays. You must fill out the ACD field to view information about the current ACD.

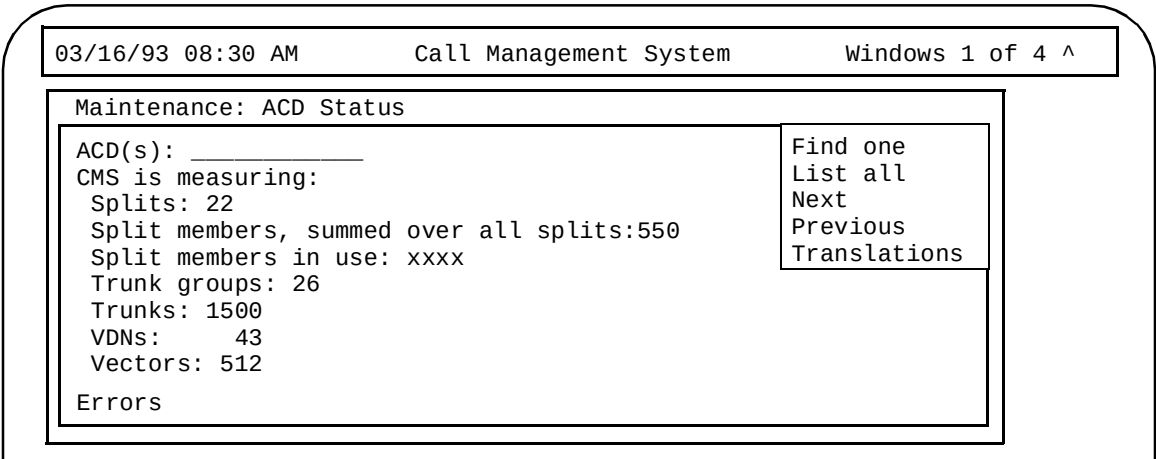


Figure 12-10: ACD Status Window (With EAS) Example

Field Descriptions**ACD(s) :**

Enter the ACD name or number whose status you would like to check.

CMS is measuring: (Display only)**Skills:** (Display only)

The number of skills currently being measured by CMS.

Maximum skill members: (Display only)

The number of agents that can be logged in on this ACD.

Skill members in use:

The number of agent/skill pairs currently logged in (at the time the ACD Status window was opened).

Trunk groups: (Display only)

The number of trunk groups currently being measured by CMS.

Trunks: (Display only)

The number of trunks currently being measured by CMS.

VDNs: (Display only)

The number of VDNs currently being measured on this ACD.

Vectors: (Display only)

The number of vectors currently being used in the selected ACD.

Errors: (Display only)

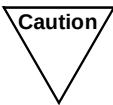
Displays any errors found.

Archiving Status

Purpose

Use the Archiving Status window to display the status, date, and time of the last archive for interval, daily, weekly, and/or monthly data.

Things to Know Before You Start



Before running a *weekly* archive, **be sure** a *daily* archive has been run. (This includes ensuring that timetable allows daily archiving to complete before running weekly and monthly archiving.)

- This information can help you decide when to turn off data collection or change your archiving times without losing data.
- You can have any one of the following archiving status indications:
 - **Success:** The last archive ran successfully.
 - **Failure:** The last archive failed to run.
 - **Not run:** An archive of this type (interval, daily, weekly, or monthly) has never run for this ACD.
 - **Running:** The archive is currently running.
- Archive means the CMS is storing your interval, daily, weekly, and monthly data in the appropriate CMS database tables.

Prerequisite System Administration

- You need **read** permission for the Maintenance subsystem to view the Archiving Status window. See Chapter 10, "User Permissions"
 - Feature Access.

Archiving Status Window

You must select the `List all` action item to view the last archiving status for interval daily, weekly, and/or monthly data.

03/17/93 12:30 PM Call Management System Windows 1 of 4 ^

Maintenance: Archiving Status

ACD(s): 1 List all

Archiving type (Select any you wish):

- ☒ Interval
- ☒ Daily
- ☒ Weekly
- ☒ Monthly

Figure 12-11: Archiving Status Example

Field Descriptions

ACD(s):

Enter the ACD name or number for which you want to view archiving status.

Archiving type (Select any you wish):

Enter an **x** next to any archiving type you want to view.

You have to blank out an **x** if you do not want to see the status on all archiving types.

Archiving Status
List All Window

The List all window displays the ACD name or number, archiving type, status, date, and time for the last archive. The date and the time fields show the date and time that the next archive is scheduled for daily, weekly, and monthly archives. The next scheduled time for interval archives is shown as a blank, but interval archiving always occurs at the beginning of the next interval.

03/17/93 12:30 PM

Call Management System

Windows 1 of 4 ^

Maintenance: Archiving Status

ACD(s): 1

List all

Archiving type (Select any you wish):
☒ Interval
☒ Daily
☒ Weekly
☒ Monthly

Maintenance: Archiving Status: List all

ACD	Archiving type	Status	Date	Time
Denver	Interval	Success	/ /	3:30
Denver	Daily	Failure	01/ 6/93	12:35
Denver	Weekly	Not run	03/ 3/93	2:35
Denver	Monthly	Running	03/ 1/93	4:35

Figure 12-12: Archiving Status — List All Example

Error Log

Purpose

The Error Log Report displays a chronological list of warnings, information, and errors detected by CMS. The main purpose of the error log is to aid you in working on system problems and to aid AT&T Services personnel in clearing problems in your system.

The errors stored in the error log are classified as follows:

- **ALARM** — An error which could cause the system to crash or fail. This type of error requires you to work with AT&T Services to avoid the possibility of system failure.
- **ERROR** — An error which requires immediate attention. For example, this type of error could result from a backup not working properly and you would need to begin the backup process again.
- **INFO** — Information which does not require immediate action but is listed to let you know that some aspect of the system is not operating correctly.

Things to Know Before You Start

- The Error Log can contain 500 records. When the Error Log reaches 500 records, the log rolls over. The oldest record is overwritten by the newest record.
- The Error Log report displays the entries in a reverse time order. In other words, the most recent entry is displayed first. You are able to search on an error code or severity.
- See Chapter 2, "User Basics", for the action list procedures, common rules for field entry items, and field editing information.

Prerequisite System Administration

- You need **read** permission for the Maintenance subsystem to complete any of the maintenance procedures. See Chapter 10, "User Permissions" — Feature Access.

Relationships to Other Subsystems

System Setup

If CMS is down when a Data Summarizing timetable is scheduled to run, an error message is logged which directs you to do a manual archive from the Data Summarizing window.

The results of daily, weekly, and monthly data summaries are written to the error log. You can use the error log report to see when the summaries ran and whether or not they were successful.

Error Log Input Window

You must fill out this window to view the Error Log Report.

The screenshot shows a window titled "Call Management System" with a status bar at the top displaying "03/10/93 08:30 AM" and "Windows 1 of 4 ^". The main content area is titled "Maint: Error Log Report: Input" and "All ACDs". It contains several input fields: "ACD:" with a text box, "Error codes:" with a text box, "Severity:" with a dropdown menu, "Dates:" with a text box, and "Report destination (Select one):" with a dropdown menu. Below the dropdown menu are two radio buttons: "<x> Terminal" and "< > Printer, Printer name" with a text box. Below the radio buttons are two radio buttons: "< > File," and "File name:" with a text box. A "Run" button is located in the top right corner of the input area.

Figure 12-13: Error Log Input Window Example

Field Descriptions**ACD:**

Enter the name or number of the ACD for which you would like to view the error log.

Error codes: (Optional)

Enter unique identifiers which are associated with each error. This allows you to refer to a specific error when dealing with AT&T Services personnel or your own departmental hierarchy. This field is used to filter the output so you can create a report with only those errors you are interested in. If the field is left blank, you get all errors.

Severity: (Optional)

Enter the severity of the error *in all capital letters* (ALARM, ERROR, or INFO). Again, this allows you to create a report with only those errors with a given severity.

Dates:

Enter the dates for which you would like the error log to display logged errors. The dates may be entered in the same format(s) as for other reports.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Error Log Report

The error log report displays a chronological list of unusual conditions, warnings, information, and errors detected by CMS. The entries in the chronological output are displayed in a “reverse time” order, with the most recent entry displayed first.

Following the specific fields is a short description of the error to help you identify (more specifically) where the error occurred. The error codes and messages are listed at the end of this section.

Error Log Report					
					Printed: 11/ 7/92 10:56 AM
Error Code	Date Occurred	Time Occurred	# Times Occur	ACD	Severity
2000	11/ 7/92	10:03 AM	1	1	INFO
Could not run timetable -- 1Daily should have ran --Thu Nov 7 00:35:00 1991 user id - cms					
1350	10/31/92	12:06 PM	1	1	ERROR
GENERAL error internal to process: Internal failure in command: /bin/sh					
1350	10/28/92	11:49 AM	1	1	ERROR
GENERAL error internal to process: Internal failure in command: passwd cms					
1407	10/25/92	8:41 AM	1	1	ERROR
SPI timer expired error: there is no response from the switch					

Figure 12-14: Error Log Report Example

Table 12-2: Error Log Report Description

Report Heading	Description
Error Code	Displays the unique identifier which associates the recorded error with a particular instance. This unique identifier allows you to identify each instance of the error when discussing the error with AT&T Services personnel or other CMS administrators.
Date Occurred	Displays the date that the error occurred. The date is displayed in the MM/DD/YY format.
Time Occurred	Displays the time that the error last occurred. The time is displayed in the xx:xx xM format.
# Times Occur	Displays the number of times that this error has occurred on this day.
ACD	Displays the ACD number for which the error occurred. If you are not using a multi-ACD environment, this field always displays the same ACD number.
Severity	Displays the registered severity of the error code in capital letters (ALARM, ERROR, or INFO).

Error Log Messages

The error log messages are listed numerically by error code. Each error is in bold type and represents the error code portion of the message with specific information (if any) following in constant width type. In most cases, the action to fix the error is listed with the error message; if it isn't, see *What to Do?* under the error message.



If you see a reference to a **task number** in the error log, mention this number to services when you call. The number is internal to CMS.

Table 12-3: Error Codes and Messages

Error Code	Message/Reason/Action
500	UNIX error on OPEN, file: <i>Reason for Error</i> —This error is logged when a <save> has been done on a timetable and the timetable is unable to write the changes. <i>What to Do?</i> —Call services.
505	UNIX error on WRITE, file: <filename>. File system may be out of space. <i>Reason for Error</i> —This error is logged when using the Set dest action list item is sent to a file.
555	You could receive any of the following error messages with error code 555. • UNIX error on EXEC Couldn't execute the following command: <command> <i>Reason for Error</i>—The file doesn't exist or is not executable. • UNIX error on EXEC CMS couldn't run because crt_io_man wouldn't execute <i>What to Do?</i>—Call services.
556	You could receive any of the following error messages with error code 556. • UNIX error on FORK CMS couldn't run because the system was too busy. <i>What to Do?</i>—Try again. If second attempt fails, reduce CMS activity and call services. • UNIX error on FORK UNIX process limit exceeded, system is too busy. <i>What to Do?</i>—Call services. • UNIX error on FORK CMS couldn't run <information> because the system was too busy <i>What to Do?</i>—Call services.

Table 12-3: Error Codes and Messages (Contd)

Error Code	Message/Reason/Action
557	You could receive any of the following error messages with error code 557. UNIX call error: UNIX process limit exceeded. System is too busy. <i>Reason for Error</i>—This error message is logged when you delete a user or you are adding a user. <i>What to Do?</i>—Call services. UNIX call error: <i>Reason for Error</i>—This error is logged when a user is removed via the User Data screen.
1001	UNIX error on NEW: VDN numbering sequence has changed. Clean up VDN exceptions. <i>Reasons for Error</i>—This error is logged when the switch configuration for VDNs has drastically changed. The VDN exceptions administered must be removed.
1050	INFORMIX SQL syntax error: syntax error near ' <text information> <i>Reason for Error</i>—This error should only occur when a custom report is run and there is a syntax error in the INFORMIX query.
1053	INFORMIX insert error: Agent Trace data not being stored. Call Services.
1100	IPC error on messages: message queue <x> is <%y full <i>What to do?</i>—Call services.
1302	PROCESS COMMUNICATIONS (PO) library error, function: Dumping exception messages on the floor. <i>What to do?</i>—Call services.

Table 12-3: Error Codes and Messages (Contd)

Error Code	Message/Reason/Action
1350	You could receive any of the following error messages with error code 1350. • GENERAL error internal to process: Internal failure in command: <command> (command exited non-zero) <i>Reason for Error</i>—UNIX system command exited nonzero for example, Main Menu Addition, UNIX system, Password. <i>What to Do?</i>—Call services. • GENERAL error internal to process: Update failure for <window_title>. Too much data. Try again with a more restrictive search. (INFO) • GENERAL error internal to process: disk may be full. (INFO) <i>What to do?</i>—Call services. • GENERAL error internal to process: CMS task limit exceeded, system is too busy. <i>What to Do?</i>—Call services.
1351	You could receive any of the following error messages with error code 1351. • GENERAL error in process interface: Received message from AAR, Activate Agent Trace screen timed-out before it received response. Timeout may be too short. Activate Agent Trace request failed. Try again. (INFO) • GENERAL error in process interface: stopping task <task_id> (pid <pid>) to free up message queue <i>What to Do?</i>—Call Services. If it keeps occurring, reduce CMS activity (for example, real-time reports, agent traces, etc.).
1400	SPI session error: data collection session is down <i>What to Do?</i>—Call services.
1407	SPI timer expired error: there is no response from the switch <i>What to Do?</i>—Call services.

Table 12-3: Error Codes and Messages (Contd)

Error Code	Message/Reason/Action
1409	You could receive any of the following error messages with error code 1409. • SPI ACD administration error: split profile admin may have been lost (INFO) • SPI ACD administration error: vdn profile admin may have been lost (INFO) <i>What to Do?</i>—Check your call profile administration. If incorrect, readminister.
1501	SCREEN MANAGER error: system may be overloaded by real-time reports behind by: <XXX> seconds (INFO) <i>What to Do?</i>—Reduce the number of real-time reports currently running.
1600	FORECAST status: Forecast Manager failed for <date> <i>What to Do?</i>—Contact Services
1700	BACKUP Process out of sync. <i>What to Do?</i>—Contact Services
1701	BACKUP Process out of memory. <i>What to Do?</i>—Contact Services.
1702	BACKUP Process startup failed. <i>What to Do?</i>—Contact Services.
1703	BACKUP Volume access failed. <i>What to Do?</i>—Retry Backup.
1704	BACKUP Volume check failed. <i>What to Do?</i>—Retry Backup.
1705	BACKUP Volume verification failed. <i>What to Do?</i>—Retry Backup.
1706	BACKUP Table backup failed. Table=<table name> <i>What to Do?</i>—Retry Backup
1707	BACKUP Volume span failed. <i>What to Do?</i>—Retry Backup.
1708	BACKUP Error in process communication. <i>What to Do?</i>—Retry Backup.
1709	BACKUP Backup history update failed. <i>What to Do?</i>—Retry Backup.
1710	Backup Process in need of service. <i>What to Do?</i>—Check the Backup screen.

Table 12-3: Error Codes and Messages (Contd)

Error Code	Message/Reason/Action
1711	You could receive any of the following error messages with error code 1711: • BACKUP INFO: This backup requires approximately 2 (1.52) volumes. • BACKUP INFO: This backup has completed successfully. Please label the volume CMS-930524-01-SAC-01-F-01. <i>What to Do?</i>—Check the Backup screen.
1750	Backup Screen startup failed. <i>What to Do?</i>—Contact Services.
1751	Backup Screen execution failed. <i>What to Do?</i>—Retry Backup.
1800	RESTORE Process out of sync. <i>What to Do?</i>—Contact Services.
1801	RESTORE Process out of memory. <i>What to Do?</i>—Contact Services.
1802	RESTORE Process startup failed. <i>What to Do?</i>—Contact Services.
1803	RESTORE Volume access failed. <i>What to Do?</i>—Retry Restore.
1804	RESTORE Error in process communication. <i>What to Do?</i>—Retry Restore.
1805	RESTORE Table restore failed. Table=<table name> <i>What to Do?</i>—Retry Restore.
1806	RESTORE INFO: Volume contains no data for ACD=1
1850	RESTORE Screen startup failed. <i>What to Do?</i>—Contact Services.
1851	RESTORE Screen execution failed. <i>What to Do?</i>—Retry Restore.
1900	SYSTEM MESSAGE OVERLOAD: Agent Trace (AAR) is overloaded, some agent trace data lost. <i>What to Do?</i>—Turn off traces for some agents to prevent possible further overloading.

Table 12-3: Error Codes and Messages (Contd)

Error Code	Message/Reason/Action
1901	You could receive any of the following error messages with error code 1901. FULL DISK ERROR: <i>What to Do?</i>—Call Services. FULL DISK ERROR: can not create R2-R3 Migration temporary tables. <i>What to Do?</i>—Call Services. FULL DISK ERROR: Out of disk space. Data Collection failed (Archiver). <i>What to Do?</i>—Call Services. FULL DISK ERROR: Out of disk space. Data Collection failed (Harchiver). <i>What to Do?</i>—Call Services. FULL DISK ERROR: Agent Trace data not being stored. <i>What to Do?</i>—Call Services. FULL DISK ERROR: Call records not being stored. <i>What to Do?</i>—Call Services. FULL DISK ERROR: cannot write to <path> <i>Reason for Error</i>—When changing the Master ACD in the CMS state fails. <i>What to Do?</i>—Call Services. FULL DISK ERROR: Not enough room for interval archive on file system: <file_system> <i>What to Do?</i>—Call Services.

Table 12-3: Error Codes and Messages (Contd)

Error Code	Message/Reason/Action
1902	You could receive any of the following error messages with error code 1902. • CALL RECORD ERROR: Call records not being stored. <i>What to Do?</i>—Call Services. • CALL RECORD ERROR: Initialization of current call record data file failed, call records not accessible via report. <i>What to Do?</i>—Call Services. • CALL RECORD ERROR: Cannot update header information, call records not accessible via report. <i>What to Do?</i>—Call Services. • CALL RECORD ERROR: Cannot update last record data, call records not accessible via report. <i>What to Do?</i>—Call Services.

Table 12-3: Error Codes and Messages (Contd)

Error Code	Message/Reason/Action
2000	You could receive any of the following error messages with error code 2000. • Could not run timetable <timetable name> should have ran -- <date> user id - <login name> • Could not run timetable: don't run time table, in single user timetable = <timetable name> <login name> • Could not run timetable: failed to execute timetable = <timetable name> <login name> • Could not run timetable Your timetable <timetable name> failed on task <x> of <y> with taskid <task_id> because: The Set dest action required to bring up the window needed for this task failed. (INFO) <i>What to Do?</i>—Change the Set Dest window for the task on the timetable. • Could not run timetable Your timetable <timetable name> failed on task <x> of <y> with taskid <task_id> because: User doesn't have permission for a given task on the timetable. (INFO) <i>Reason for Error</i>—This error is logged when a <save> has been done on a timetable and the timetable is unable to write the changes. <i>What to Do?</i>—Change permissions. • Could not run timetable: This application is already running and only one can run at a time. (INFO) • Could not run timetable: <Information why time table couldn't run>. Aborting Timetable...(INFO)

Table 12-3: Error Codes and Messages (Contd)

Error Code	Message/Reason/Action
2100	You could receive any of the following error messages with error code 2100. • Unable to execute switch protocol interpreter. Data collection down. <i>What to Do?</i>—Call Services. • Unable to execute agent activity recorder. Agent trace data is not being recorded. <i>What to Do?</i>—Call Services. • Unable to execute data archiver. Interval data is not being recorded. <i>What to Do?</i>—Call Services. • Unable to execute call history recorder. Call history records are not being recorded. <i>What to Do?</i>—Call Services. • Unable to execute timer manager. Timetables and exceptions are not being processed. <i>What to Do?</i>—Call Services. • Unable to execute timetable manager. Timetables are not being run. <i>What to Do?</i>—Call Services. • Unable to execute real-time database manager. Real-time reports cannot run. <i>What to Do?</i>—Call Services. • Unable to execute exception distributor. Exceptions are not being processed. <i>What to Do?</i>—Call Services. • Unable to execute INFORMIX database manager. <i>What to Do?</i>—Call Services. • Unable to execute real-time report manager. Real-time reports cannot run. <i>What to Do?</i>—Call Services.
2200	• R2 Migration failed. Table = N/A <i>What to Do?</i>—Consult Migration log. Call Services. • R2 Migration failed. Table = <tablename> <i>What to Do?</i>—Consult Migration log. Call Services.

Table 12-3: Error Codes and Messages (Contd)

Error Code	Message/Reason/Action
2300	INTERVAL MIGRATION: Interval migration was cancelled before it completed. Restart it from the Storage Intervals screen to complete the migration. (INFO) <i>Reason for Error</i>—This error is logged when the storage interval has been modified and the interval migration has started, but was stopped before it was finished. This happens if you bring the system into “Single-User Mode” before interval migration has completed.
2400	You could receive any of the following error messages with error code 2400. FREE SPACE ALLOCATION: attempt to move table <table_name> to file system <file_system> failed. The system will try to return the table to its original location. <i>What to Do?</i>—Call Services. FREE SPACE ALLOCATION: attempt to move table <table_name> to file system <file_system> failed. Archiving of historical data may fail. <i>What to Do?</i>—Call Services. FREE SPACE ALLOCATION: recovery from earlier failures was successful (INFO) <i>What to Do?</i>—Call Services. FREE SPACE ALLOCATION: failed to update INFORMIX filesys table. <i>What to Do?</i>—Call Services. FREE SPACE ALLOCATION: failed to update file used to locate database tables (systables). Archiving of historical data may fail. <i>What to Do?</i>—Call Services. FREE SPACE ALLOCATION: attempt to return table <table_name.dat> to file system <fileL_system> failed. Archiving of historical data may fail. (ALARM) <i>What to Do?</i>—Call Services.
2700	MIGRATE DATA Process out of sync. <i>What to Do?</i>—Contact Services.
2701	MIGRATE DATA Process out of memory. <i>What to Do?</i>—Contact Services.

Table 12-3: Error Codes and Messages (Contd)

Error Code	Message/Reason/Action
2702	MIGRATE DATA Process startup failed. <i>What to Do?</i> —Call Services.
2703	MIGRATE DATA Volume access failed. <i>What to Do?</i> —Retry Migrate.
2704	MIGRATE DATA Volume check failed. <i>What to Do?</i> —Retry Migrate.
2705	MIGRATE DATA Volume verification failed. <i>What to Do?</i> —Retry Migrate.
2706	MIGRATE DATA Table migration failed. Table=<table name> <i>What to Do?</i> —Retry Migrate.
2707	MIGRATE DATA Volume span failed. <i>What to Do?</i> —Retry Migrate.
2708	MIGRATE DATA Error in process communication. <i>What to Do?</i> —Retry Migrate.
2709	MIGRATE DATA Info: (not currently being used)
2750	MIGRATE DATA Screen startup failed. <i>What to Do?</i> —Call Services.
2751	MIGRATE DATA Screen execution failed. <i>What to Do?</i> —Retry Migrate.

Other Error Messages

Some messages may appear other than in the error log. Following are some of the messages you could see.

No Reply From SPI for ACD

No action is required for the following error message.

Message:

```
01340 Fri Jun 11 10:24:35 1993 SRC_ERR_NUM=0001
PROCESS=spi_mon PID=00 1976 main.c:00182 SEVERITY=ERROR
ACD=01 DUPS=00000 GENERAL error internal to process: no
reply from SPI for ACD=2
```

Attempt to Stop and Restart X.25

No action is required for the following error message.

Message:

```
00000 Fri Jun 11 10:27:35 1993 SRC_ERR_NUM=0000
PROCESS=spi_mon PID=00 1976 main.c:00532 SEVERITY=INFO
ACD=01 DUPS=00000 Attempt to stop and restart X.25 and DC
```

Successful Backup Using a New Volume

When you do a backup that completes successfully (without any errors), you could see the following message on the system console: (This message means that a new volume (tape, disk, etc.) was used for the backup. Ignore this warning and use **Ctrl** **L** to refresh the screen.)

Message:

```
WARNING: ST01:HA 0 TC 3 U 0: Err 60503005 CMD 00000008 Sense
Key 00000003 Ext Sense 00000000.
```

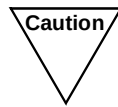
Lack of Unmeasured Trunk Facilities

If CMS runs out of unmeasured trunk facilities, the following message appears.

Message:

```
SPI configuration error: Insufficient unmeasured trunks
allocated. To avoid further data loss, go to Data Storage
Allocation and administer more unmeasured trunk facilities.
```

This message is logged only the first time it occurs during each data collection interval.



When this message appears, some call data has been lost. You should immediately allocate more unmeasured trunks to avoid further data loss.

CMS is Down When a Data Summarizing Timetable is Scheduled

If CMS is down when a Data Summarizing timetable is scheduled to run, an error message is logged which directs you to do a manual archive from the Data Summarizing window.

Results of Daily, Weekly, and Monthly Data Summaries

The results of daily, weekly, and monthly data summaries are written to the error log. You can use the error log report to see when the summaries ran and whether or not they were successful.

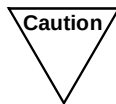
General Information

CMS is supported on two operating systems:

- *Solaris*^{*} 2.2 on the *Sun*[†] *SPARCserver*[‡] 10 computer (also known as the High-Performance Platform)
- UNIX^{**} SVR3 (System 5, Release 3) on all the remaining systems.

The term UNIX is used to refer to either the UNIX or the Solaris 2.2 operating systems. The specific differences are noted throughout this chapter.

You can access the UNIX or the Solaris 2.2 operating system by logging in as *root* at any terminal or by selecting the UNIX system option from the **Commands** SLK menu. If you login as *root*, your cursor is at the # prompt. If you access the UNIX or the Solaris 2.2 system from the UNIX system option on the **Commands** SLK menu, your cursor is at the \$ prompt.



Be careful when accessing the UNIX or Solaris 2.2 system to execute UNIX or Solaris 2.2 system commands. Damage can result to CCMS because of incorrect use of the UNIX system commands. Before you execute any UNIX system command, be sure you know what effect it will have.

Also, do not allow users to share the same login ID because this quickly consumes UNIX or Solaris 2.2 system processes.



To perform some of the procedures in the UNIX or Solaris 2.2 system section of this chapter, you will need to know the *root* password for your system.

^{*}Solaris is a registered trademark of Sun Microsystems, Inc.

[†]Sun is a registered trademark of Sun Microsystems, Inc.

[‡]SPARC and SPARCserver are trademarks of SPARC International, Inc.

^{**}UNIX is a registered trademark of UNIX System Laboratories, Inc.

Accessing the UNIX or Solaris 2.2 System

1. Press the **Commands** SLK. *The Commands menu displays.*
2. Select UNIX (r) system and press **Return**. *The screen clears and a \$ prompt displays.*
3. Do any desired work in the UNIX system.
4. To return to CMS, at the prompt, type the word **exit** and press **Return**. *You return to your current open window in CMS.*

| Viewing a UNIX or Solaris 2.2 System File

At times you may want to view certain UNIX system files. The following command displays data one terminal screen at a time.

Printer Errors |

From within CMS, printer errors can be found in Maintenance: Error Log on CMS.

Historical Reports

Enter the following command to view an historical report sent to a file. <filename> is the name you enter for the file in the Send To window. This command shows you the file one page (screen) at a time.

```
$ pg <filename>
```

Changing a User's Password

Use the following procedures if a user forgets his or her password:

1. Press the **Commands** SLK.
The Commands menu displays.
2. Select UNIX (r) system and press **Return**.
The screen clears and a \$ prompt displays.

```
$
```

3. Enter the following command to log in as *root*.

```
$ su root
```

4. Enter the correct *root* password when prompted.
5. Enter the following command to prompt for a new password.

```
# passwd <userid>
```

Note

<userid> is the ID of the user who forgot the password.

6. When prompted, enter a new password for the user.

7. Enter the following command, which requires the user to enter a different password (from the one you entered for the user) the next time the user logs into CMS.

```
# passwd -f userid
```

8. Inform the user of the new password and then have the user log in. At this time, the user is required to change the password from what you entered.
9. To return to CMS, at the prompt, type the word **exit** and press **Return**.

You return to your current open window in CMS.

Printer Commands

Printer Administration

Normally printer administration is done during CMS installation, but sometimes additional printers may be added later. See the AT&T 585-215-122, *Call Management System Installation and Maintenance*, document for all the procedures. At times, you may have to cancel a queued print job, move print jobs to a different printer, disable a printer from actively printing jobs, or enable a printer to continue printing queued jobs. The UNIX system commands follow for each of these.

Note

If for any reason a printer jams and the print requests are no longer in queue, you must resubmit any of the print requests that did not print.

If the print request is still in queue after fixing the printer jam, the job prints. The print request that was printing at the time of the jam may need to be resubmitted.

Checking Printer Status

The following command checks the status of the print spooler utility, checks to see if the printer is enabled, and lists the print request job IDs.

```
$ /usr/bin/lpstat -t
```

Cancelling a Queued Print Job

To cancel a queued print job, enter the following command.

```
$ /usr/lib/cancel <print job request ID>
```

Note

<print job request ID> is the job number of the print request you want to cancel.

Moving Print Job to a Different Printer

To move a print job to a different printer, enter the following command.

```
$ /usr/lib/move <numbers> <dist2>
```

Note

`numbers` are the print request numbers for the current printer; `dist2` is the name of the new printer.

Moving All Print Requests to a Different Printer

To move all print requests to a different printer, enter the following command.

```
$ /usr/lib/lpmove <dist1> <dist2>
```

Note

The printer, `dist1`, is disabled as the current printer, and printer `dist2` is enabled as new printer.

Disabling a Printer

To disable a printer from actively printing queued requests, type the following command.

```
$ /usr/bin/disable <printer name>
```

Enabling a Printer

To continue printing queued requests at a disabled printer, enter the following command.

```
$ /usr/bin/enable <printer name>
```

Note

If the printer runs out of paper during a print job, it must be enabled after adding paper and put back on-line.

| UNIX or Solaris 2.2 Printer Scheduler Utility

The scheduler utility stops or starts print jobs scheduled for a printer. If you ever have to stop or start the scheduler utility, enter one of the commands listed below.

Stopping the Scheduler Utility

To stop the scheduler utility, type the following command:

```
$ /usr/lib/lpshut
```

Starting the Scheduler Utility

To start the scheduler utility, type the following command:

```
$ /usr/lib/lpsched
```

Backing Up the File Systems

The file systems on the computer should be backed up in the following situations:

- After the R3 CMS software has been initially installed and tested

Note

The CMS historical data should also be backed up by using the Back Up Data window in the Maintenance subsystem.

- Before and after the CMS software has been upgraded to a new base load
- Before and after the CMS software has been field updated.

Using the UNIX System Environment

The number of cartridge tapes required to back up the CMS software varies depending how many file systems the CMS software resides on:

- */cms* is on disk drive 1.
- */cms* is on disk drive 2, if equipped.
- */cms* is on disk drive 3, if equipped.
- */cms* is on disk drive 4, if equipped.
- */cms* is on disk drive 5, if equipped.

Before starting the backup procedures in this section, log in as *root* and execute the following command:

```
# lp /etc/fstab
```


The output from the printer is necessary when doing a system restore later on.

Note

The file system information found in the **/etc/fstab** file should be bundled with the system backup tape(s) for future reference.

To back up the file systems from the UNIX system environment, do the following:

1. At the system console, log in as *root* and verify that the computer is in the multi-user state.
2. In the multi-user state, execute the following command to access the CMS Management menu:

```
# cmsadm
```

The CMS Administration menu displays:

```
# CALL MANAGEMENT SYSTEM ADMINISTRATION
1) acd_create   Define a new ACD
2) acd_remove  Remove all administration and data for an ACD
3) backup      Filesystem backup
4) diskmay     Estimate disk requirements
5) memory      Estimate memory requirements
6) realtime    Estimate real-time report refresh rate
7) pkg_install Install forecasting package
8) pkg_remove  Remove forecasting package
9) run_cms     Turn CMS On or Off Enter choice
Enter choice (1-9) or q to quit:
```

3. Enter **3** to select the backup option.

4. To complete a file system backup, follow the procedures in the “Performing a CMSADM Backup” section in Chapter 8. “Maintenance” of the *CMS R3V2 Installation and Maintenance* (AT&T 585-215-122) document.

Using the Solaris 2.2 System Environment

Before starting the backup procedures in this section, log in as *root* and execute the following command:

```
# lp /etc/vfstab
```

The output from the printer is necessary when doing a system restore later on.

Note

The file system information found in the **/etc/vfstab** file should be bundled with the system backup tape(s) for future reference.

To back up the file systems from the Solaris 2.2 system environment, do the following:

1. At the system console, log in as *root* and verify that the computer is in the multi-user state.
2. In the multi-user state, execute the following command to access the CMS Management menu:

```
# cmsadm
```

The CMS Administration menu displays:

```
# CALL MANAGEMENT SYSTEM ADMINISTRATION
1) acd_create   Define a new ACD
2) acd_remove  Remove all administration and data for an ACD
3) backup      Filesystem backup
4) diskmay     Estimate disk requirements
5) memory      Estimate memory requirements
6) realtime    Estimate real-time report refresh rate
7) pkg_install Install forecasting package
8) pkg_remove  Remove forecasting package
9) run_cms     Turn CMS On or Off Enter choice
Enter choice (1-9) or q to quit:
```

3. Enter **3** to select the backup option.

Note

The number of cartridge tapes required to back up the CMS software varies depending how many disks are present on the system.

4. To complete a file system backup, follow the procedures described in the “Performing Backups and Restores” section in Chapter 8, “Maintenance” of the *CMS R3V2 High-Performance Platform Installation and Maintenance* (AT&T 585-215-123) document.

Restoring the File Systems

The file systems on the computer can be restored when an accidental loss of data occurs.

Using the UNIX System Environment

To restore the file systems from the UNIX system environment, do the following:

1. Obtain the cartridge tape(s) that contain the system backups.
2. Obtain the printout of the **/etc/fstab** file that was stored with the backup tapes.
3. Contact the TSC for further instructions.

Using the Solaris 2.2 System Environment

To restore the file systems from the Solaris 2.2 system environment, do the following:

1. Obtain the cartridge tape(s) that contain the system backups.
2. Obtain the printout of the **/etc/vfstab** file that was stored with the backup tapes.
3. Contact the TSC for further instructions.

General Information

What Is Forecasting?

Forecasting is the method used to estimate, calculate, or predict, in advance, the staffing and capacity for specified time periods. With forecasting, you can predict the following:

- Number of calls you could receive during a specified time period
- Number of agents you will need to handle a specified volume of calls
- Number of required trunks you will need
- Trunk performance.

For example, with forecasting you can look at your call volume for the last four Mondays to predict your call volume next Monday. Then, using your assigned objectives, you can show the number of agents and trunks that are required during each intrahour interval next Monday.

Purpose of Forecast Subsystem

Use the Forecast subsystem to:

- Provide you with the estimated number of agents and number of trunks required for each intrahour interval.
- Set objectives for Automatic Call Distribution (ACD) activities involving agents, split(s)/skill(s), and trunk/trunk groups for which you want to get forecasting information about upcoming dates or time-periods. You do this using the Forecast Administration windows.
- Generate reports using historical data that predict call volume and agent requirements for current days, longterm, financial, intraday, and special days. Other reports also provide information about agent positions required, trunks required, and the trunk performance. You do this using the Forecast Report windows.
- Predict the staffing requirements of your call center in hypothetical situations.
- Increase profits by predicting when to reduce surplus labor.
- Generate reports that justify increased staffing based on objectives and predicted call volume.
- Aid you in performing careful scheduling and planning to optimize productivity.

- Allow you to estimate how many calls a given number of agents can handle per intrahour interval.
- Allow you to estimate how many calls can be carried by a given number of trunks per intrahour interval.
- Provide you with an estimated margin for predicting the difference between call revenue and call costs for each intrahour interval.
- Provide you with forecasting calls carried information for each intrahour interval in Special Day Reports.



Forecasting is a separately-purchased feature of CMS. If you have not purchased Forecasting, the Forecast Main Menu option does not appear. If you wish to purchase Forecasting, call your AT&T account executive.

Types of Forecasting

The Forecast subsystem allows you to set up the desired report prerequisites through Administration windows. After you complete the setup procedures, you can run various forecast reports. You can either generate reports based on historical data, or you can generate reports for hypothetical situations.

Forecast reports fall into three basic categories:

- Call Volume/Agent Forecast
- Requirement Forecast
- Trunk Performance Forecast.

Call Volume/Agents Forecast Reports

Most types of forecasts available in CMS are call volume/agent forecasts. A call volume/agent forecast predicts the number of calls a split/skill will receive (Forecast calls carried) and how many agents will be required to handle those calls (Number of agents required). The types of call volume/agent forecasts available are:

Current Day Forecast	A forecast for today — based on historical data.
Longterm Forecast	A forecast for today or a day up to 35 days in the future — based on historical data.
Special Day Forecast	A forecast for a day that has unique characteristics — based on historical data.
Intraday Forecast	A forecast for the remainder of today — based on historical data and on data from the beginning of today.
Financial Forecast	A Longterm Forecast that has an additional forecast of profit margins.
Hypothetical Forecast	A forecast for a day up to 35 days in the future — based on hypothetical data you define.
Hypothetical Financial Forecast	A Hypothetical Forecast that has an additional forecast of profit margins.

Note

The hypothetical forecasts do not require historical data. Therefore, you can set up and begin using these reports immediately.

**Requirement
Forecast Reports**

Two forecast reports can tell you, given specific call handling objectives, how many calls you can handle. These reports are as follows:

**Agent Positions
Required Report**

The Agent Positions Required Report provides a table showing how many calls a specified number of agents can handle given specified call handling objectives. This report forecasts the number of agents a split/skill will need as the number of calls increases.

**Trunks Required
Report**

The Trunks Required Report provides a table showing how many calls can be carried by a specified number of trunks given a specified trunk blocking objective. This report forecasts the number of trunks a trunk group will need as the number of calls increases.

Requirement forecast reports do not require set up and do not use historical data. Therefore, you can begin using these reports immediately.

Note

 These reports do not actually predict the number of calls.

**Trunk
Performance
Report**

The Trunk Performance Report tells you, based on the number of calls in a period of time in the past (usually a month), how many trunks in a trunk group will maximize call handling efficiency.

Note

 This report does not actually predict the number.

Data Used for Split/Skill Forecasts

To forecast calls carried to a split/skill, CMS uses historical intrahour interval data. Specifically, CMS uses, from each interval, the sum of ACD and abandoned calls that the split/skill received. This sum of ACD and abandoned calls is called the **Number of calls carried**.

Data Points

The number of calls carried normally comes from the intrahour intervals in four specific days in the past. These four days that supply input data are called **data points**. The data points may be either one day apart or one week apart:

- **One-day-apart** data points are always the four sequential days immediately preceding the current day. Look at the example in Figure 14-1. If the current day is Wednesday, May 31, the data points are May 27, 28, 29, and 30.

MAY 1993							JUNE 1993						
S	M	Tu	W	Th	F	S	S	M	Tu	W	Th	F	S
						1			1	2	3	4	5
2	3	4	5	6	7	8	6	7	8	9	10	11	12
9	10	11	12	13	14	15	13	14	15	16	17	18	19
16	17	18	19	20	21	22	20	21	22	23	24	25	26
23	24	25	26	27	28	29	27	28	29	30			
30	31												

 = today
 = data points
 = forecast day

Figure 14-1: Sample Data Points — One Day Apart

Note

One-day-apart data points should not be used if they include days that had no activity. For example, in Figure 14-1, two of the data points fall on Saturday and Sunday. If the call center is normally closed on weekends, a forecast with one-day-apart data points would be skewed.

- **One-week-apart** data points are days in each of the preceding four weeks and are the same day of the week as the forecasted day. Look at the example in Figure 14-2. If the forecasted day is Thursday, May 6, and today is Wednesday, April 28, the data points would be the Thursdays on April 1, 8, 15, and 22.

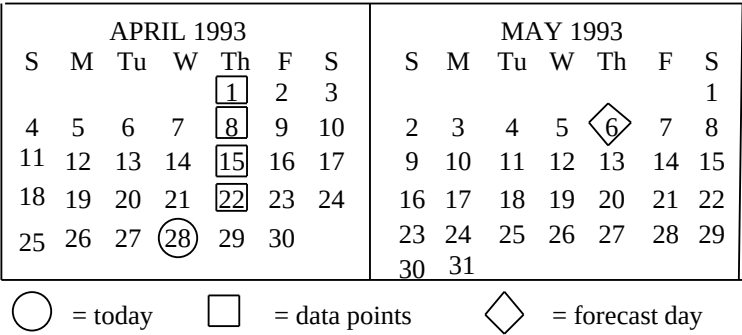


Figure 14-2: Sample Data Points — One Week Apart

For some types of split/skill forecasts, you specify at run time which type of data points CMS should use. For the Current Day and Intraday forecasts, CMS automatically uses one-week-apart data points that are one week apart.

Note

The Special Day Forecast uses data only from the last occurrence of a special day, not from data points.

Split/Skill Forecast Methods

CMS uses the data from the data points in different ways, depending on which of the four forecast methods you select. The four available forecast methods are:

No Trending

CMS finds the average number of calls, per interval, in the data points.

Current Trending

CMS finds the trend of the number of calls in the data points. Thus, if the number of calls in the most recent data points indicates that the number of calls is going down, the calls forecasted will be lower than would have been forecasted with the “no trending” method.

Expected Calls

You enter the number of calls you expect for the forecasted day. CMS checks the data points to find the percentage of historical calls that arrived in each intrahour interval. CMS then distributes your expected calls among the forecast day's intervals using those same percentages.

Seasonal Trending

CMS finds the average number of calls per interval in the current data points. Based on an earlier seasonal trend base date (a seasonal trend base date is a date in the past that you think is similar to the current day), CMS also finds the average number of calls per day in a parallel set of data points (these averages use the data weights). CMS then scales up or down the average found in the current data points according to the seasonal trend. Thus, with seasonal trending, CMS uses data for a seasonal set of data points to trend the data in the current set of data points.

Look at the example in Figure 14-3. Since data points for today, April 28, are one week apart, when you select a seasonal trend base date one year (52 weeks) ago, CMS automatically uses data points for last year from the base date that are also one week apart.

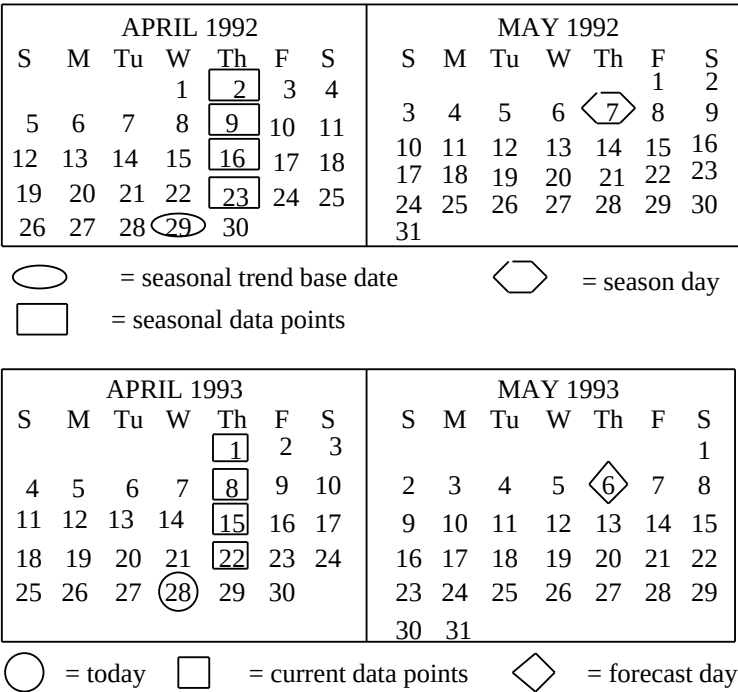


Figure 14-3: Sample Data Points — Seasonal Trending

For most split/skill forecasts, you must select the forecast method(s) at the time you run the report. However, for the Current Day and Intraday forecasts, you assign the forecast method in the Current Day Configuration window (see the section, “Define a Current Day Configuration”). The Special Day Forecast uses only Expected Calls and a variation of No Trending.

If you want a trend based on historical data, you must define adequate storage. See the section, “Data Storage Allocation Administration.”

Note

For a detailed explanation of these forecast methods, see the "How the Forecast System Works" section in this chapter.

Terminology

Before you begin using forecasting, you need to know the meaning of several terms.

Agent Occupancy	The average percentage of time that you are expecting or targeting for each split/skill agent to spend, while logged in, on ACD calls and in after-call-work.
Algorithm	A prescribed set of well-defined rules or instructions for the solution of a problem; for example, the performance of a calculation, in a finite number of steps. Expressing an algorithm in a formal notation is one of the main parts of a software program.
Average Agent Service Time	The average time you are expecting or targeting for each agent to spend on an ACD call, including talk time and after-call-work time.
Average Speed of Answer	The average time you are expecting or targeting for callers to wait in queue before connecting to an agent.
Call Handling Profile	A set of objectives describing how you want a split/skill to handle calls.
Call Volume/Agents Forecast	A type of forecast report which calculates the expected number of calls (forecast calls carried) and the number of agents required to handle those calls within the objectives you specified in the call handling profile.
Calls Carried	Uses historical data to determine the sum of the ACD and abandoned calls (see also Number of Calls Carried and Forecast Calls Carried).
Cost Profile	A set of objectives describing costs and revenues used in calculating financial forecasts.
Current Day Configuration	A set of input parameters that describe how Forecast Manager is to calculate a Current Day Forecast for a specified split/skill.

Current Day Forecast	A forecast for today calculated by the Forecast Manager (usually in the early morning on a timetable after Daily Summarizing.)
Current Trending	A forecast method in which the trend of recent historical data is used to predict the forecast calls carried.
Data Points	Dates of historical data. A data point should include data for each interval of the working day.
Data Weights	Data weights are used to reduce (de-emphasize) the relative importance of data in a data point used in a forecast. For example, you should leave the relative weight of each date at 10 unless you know the data stored for a particular date is highly unusual or incorrect.
Expected Calls	A forecast method in which you specify the number of calls to be carried for a day and the system distributes them into intervals based on the pattern in the historical data.
Financial Forecast	A Longterm Forecast which also includes financial information based on the Costs Profile you specify.
Forecast Calls Carried	The sum of future ACD and abandoned calls (see also Calls Carried and Number of Calls Carried).
Forecast Input Data	The split/skill and trunk group data collected from the historical data tables and stored in special forecast tables. (Also known as Forecast Data.)
Forecast Manager	The process which collects forecast input data from historical data, manages the forecast data, and calculates configured Current Day Forecasts.
Hypothetical Forecast	A Longterm-type Forecast which is calculated based on the Hypothetical Data which you have defined (and edited).
Intraday Forecast	A forecast for the remainder of today which adjusts the Current Day Forecast based on data collected so far today.

Longterm Forecast	A forecast for a day between today and 35 days in the future calculated on demand based on your inputs and saved forecast data.
Number of Calls Carried	Uses historical data to determine the sum of the ACD and abandoned calls (see also Calls Carried and Forecast Calls Carried).
Percent Within Service Level	The percentage of calls that you are expecting or targeting to be answered by an agent within a specific number of seconds.
Seasonal Trending	A forecast method which scales the average of calls in recent historical data with the trend present in the seasonal data to predict Forecast Calls Carried.
Special Day Forecast	A forecast for an unusual day (e.g., holiday) based on specially saved historical data.
Trending	The overall direction of change in call volume over time. Trending may be figured from seasonal data or current data.
Trunk Blocking Probability	The percent chance that a call coming in on a trunk group will be blocked at the central office because no trunks in the trunk group are available. This caller receives a busy signal.
Trunk Group Profile	An objective for a specified trunk group describing a percentage of trunk blocking that is acceptable.
Trunk Performance	A forecast calculating actual trunk blocking based on historical data. This is determined by projecting the number of trunks that should have been in the trunk group to handle that call volume given your objective for blocking in the trunk group profile.

Guidelines for Forecasts

To use forecasting, you must do the following:

4. Read *General Information* section in this chapter before you start.
5. Determine the type of forecasting you want to use.
6. Complete the set-up tasks for Administration.
7. Select the report from the menu options.
8. Determine which method (algorithm) you want to use.
9. Fill in the required report data entry fields.
10. Run the report.

Controlling Forecast Results

You can control the types of prediction results you receive in forecasting depending on how you entered information in the windows or which method of forecasting you select. You can usually expect to do some additional adjustments to your initial forecasts to get the results you desire.

The following variables can control the prediction results:

- Historical data the system retrieves
- Date(s) you enter
- Days (or Data Points) you select
- Trending patterns in the data the system retrieves
- Trending method of forecasting you use
- Interval time you select
- Objectives you can enter or vary.

Using Forecast Reports

To assist you in using forecast reports, the following guidelines provide you with some general information for producing reports:

- Call Volume/Agent Forecast Reports
- Requirement Reports
- Trunk Performance Report.

Using Call Volume/Agents Forecast Reports

The following guidelines provide you with some general rules for choosing input parameters on Call Volume/Agent Forecast reports:

- If the number of calls handled by a split/skill over the last month is representative of what you expect in the future, use the regular (Current Day, Longterm, or Financial) forecast reports with 100 percent in the `Change factor` field (indicating no difference).
- If the pattern of calls handled by a split/skill through the day over the last month is representative of what you expect in the future, but the total number of calls is expected to be some percentage higher or lower, use the regular (Current Day, Longterm, or Financial) forecast reports with the `Change factor` field set to 100+ the amount higher or 100- the amount lower.
- If the pattern of calls handled by a split/skill through the day over the last month is representative of what you expect in the future but the number of expected calls for the day is known, use the regular (Longterm, or Financial) forecast reports with `Expected calls` field. Note that `Change factor` is not used when the Forecast Method is `Expected calls`.
- If the pattern of calls handled by a split/skill through the day is not representative of what you expect in the future, create or edit Hypothetical Data matching the expected pattern and use the Hypothetical or Hypothetical Financial Forecast reports.
- If the number of calls handled by a split/skill shows a strong weekly pattern (for example, when the volume of calls is low every Monday and increasing to a peak on Saturday), then use 7-days-apart Data for your Call Volume/Agent Forecasts.
- If the number of calls handled by a split/skill does not show a weekly pattern, then you can effectively use 1-day-apart Data for your Call Volume/Agent forecasts. This is useful for short term projections and before you have accumulated at least 2 weeks of forecast data.
- If the number of calls handled by a split/skill shows a strong pattern across each month, Seasonal Trending may be an effective forecast Method for you to use. The `Seasonal trending, base date` field should be a month ago (for example, -28).
- If the number of calls handled by a split/skill shows a strong pattern across the year, Seasonal Trending may be an effective Forecast Method for you to use. The `Seasonal trending, base date` field should be a year ago (for example, -364).

- If the number of calls handled by a split/skill shows a strong trend that is unrelated to previous times, Current Trending may be an effective Forecast Method for you to use. Choose whether the Days between historical data points field is 1 or 7 based on the length of the current trend. If the trend so far is short, use 1 but if the trend is as long as a month, use 7.
- If a split/skill handles calls 7-days-a-week, then you can effectively use the Days between historical data points field (set to 1). If the split/skill only handles calls 5 days a week, then you must use Days Between Historical Data Points (set to 7).
- If you know a day of data to be used in a forecast is problematic or unreliable, lower the data weight associated with it. The value of this weight compared to the unchanged weights of 10 should reflect your assessment of that data. (For example, if the data is only 80% reliable, change the weight from 10 to 8.)
- If the day you are forecasting for has special characteristics unlike your normal daily call handling, use the Special Day Forecast. This forecast requires you to save special day data whenever you have an unusual day so that it can be used for Special Day Forecasts. When you are having (or know you will have) a special day, administer a Special Day for the split/skill before you run the Forecast Manager for that day so that the data will be stored. Example of special days are holidays and days affected by special advertising or promotions.

The following guidelines allow you to interpret some of the results you may get on some Call Volume/Agent reports:

- If an interval of time between the First interval start time field and the Last interval start time field is missing, it is because that interval is missing in the Call Handling Profile and/or the Costs Profile you specified.
- If a row on a Call Volume/Agent report contains zeros for Forecast calls carried, Num Agents Req'd, and under the Profile Results columns, it is because no historical data was found (as collected by Forecast Manager from the historical tables into the Forecast tables or in the Hypothetical Data) for the dates on which the forecast is based.

- Profile results are given on the Call Volume/Agent reports so that you can compare them directly with your objectives in the Call handling profile. The calculation of Num Agents Req'd field uses the objectives in the Call handling profile field for each interval of time as boundary conditions for the answer. It is normal for one or two of the Profile Results field(s) to be close to the corresponding objective. By comparing the Profile Results and objectives and selecting the item in which the Profile Result is closest to the objective, you can determine which objective to change in the Call handling profile field to alter the Num Agents Req'd field.

Note

See "Using Call Volume/Agents Forecast Reports" and "How the Forecast System Works" sections in this chapter for more details.

Using Requirement Reports

- Use the Agent Positions Required report to determine the number of calls that can be handled by a certain number of agents during an interval given your objectives.
- Use the Agent Positions Required report to explore the effects of changing your call handling objectives. The calculation of Calls Carried/Interval field uses the input objectives as boundary conditions for the answer. It is normal for one or two of the results (printed in the report columns) to be close to the corresponding objective. You can determine which input objective to change to alter the Calls Carried/Interval field by comparing the results and your input objectives (at the top of the report) and selecting the item in which the result is closest to the objective.
- Use the Trucks Required report to determine the number of calls that can be handled by a certain number of trunks during an interval given your objectives.
- Varying the Trunk holding time and/or Trunk blocking probability input fields on the Trucks Required report will vary the Number of Calls Carried /Interval field.
- Usage Rate, given in erlangs, may be thought of as the average number of trunks that are busy on a call at any instant of time. Therefore, this number is always lower than the total number of trunks. Usage Rate can approach the number of trunks only with a very high Trunk Blocking Probability resulting in more blocking calls.

Using Trunk Performance Report

- To make its calculations, the Trunk Performance Report requires trunk group data in which the number of trunks in the trunk group is the same for each day. The number of trunks uses data that is found in the Stop date (mm/dd/yy or -n): field. Therefore, you must have data (collected by the Forecast Manager from historical trunk group tables into forecast tables) for the Stop date (mm/dd/yy or -n): you specify. Only data for dates between your Start date (mm/dd/yy or -n): and your Stop date (mm/dd/yy or -n): which has the same number of trunks is used in the calculation.
 - If a row in the report contains all zeros except for Objective Blocking, then there was no data found in the forecast trunk group tables between the Start date (mm/dd/yy or -n): and the Stop date (mm/dd/yy or -n): fields to make a calculation on.
-

Start-up Tasks

Table 14-1 lists the start-up tasks you must do before you can get forecasts. In addition to the tasks listed, you must complete the appropriate forecast input window when you actually go to run a forecast.

Table 14-1: Summary of Forecast Start-Up Tasks

Task	Purpose	When to Do It
Define the Data Storage Allocation .	Tell CMS how long to store historical input data it uses for forecasts.	Soon after your CMS is up and running.
Define Call Handling Profiles for each split/skill.	Define call handling objectives, which CMS uses to forecast the number of agents required.	Before you run a split/skill forecast or define current day configurations (since current day configurations require you to specify a call handling profile).
Define a Current Day Configuration for each split/skill.	Define the forecast method and other forecast parameters for the current day forecast.	After you have defined call handling profiles and before you want the Forecast Manager to begin generating current day forecast data.
Define Costs Profiles for each split/skill.	Define the costs per call/agent and the revenue per call.	Before you run a Financial or Hypothetical Financial Forecast.
Define Trunk Group Profiles for each trunk group.	Define a targeted percentage chance that calls to a trunk group will be blocked. CMS uses this percentage to find the number of trunks required in a trunk group.	Before running a Trunk Performance Report.
Run the Forecast Manager every night.	Collect, on a daily basis, historical split/skill and trunk group data and put it in forecast input tables. Also, generate current day forecast data and store it in the Current Day Forecast table. You should run the Forecast Manager at night via Timetable.	Soon after your CMS is up and running. You should have at least 28 days of split/skill data for split/skill forecasts and 35 days of trunk group data for the Trunk Performance Report.
Define Special Days for each split/skill.	Define the days that have unique call traffic or staffing needs (for example, promotional days or holidays).	Before the Forecast Manager runs to collect data for that day.

Forecast Menus

To run or administer forecasts, you must select the Forecast Main Menu option and then select the appropriate submenu options. Figures 14-4 through 14-7 illustrate the menu options of the Forecast subsystem.

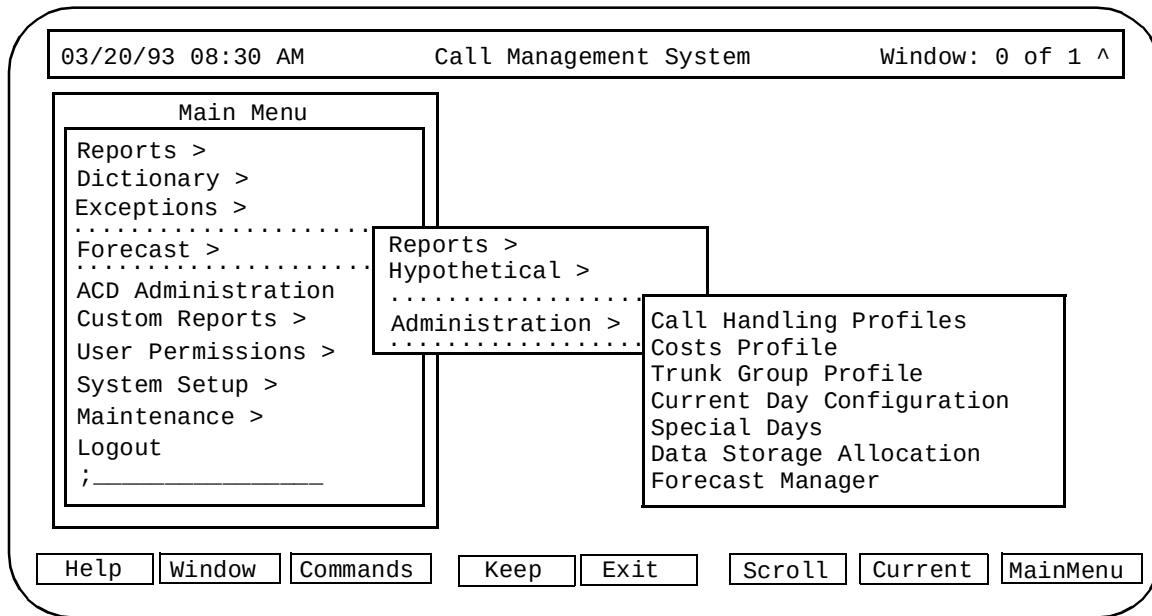


Figure 14-4: Administration Forecast Submenu

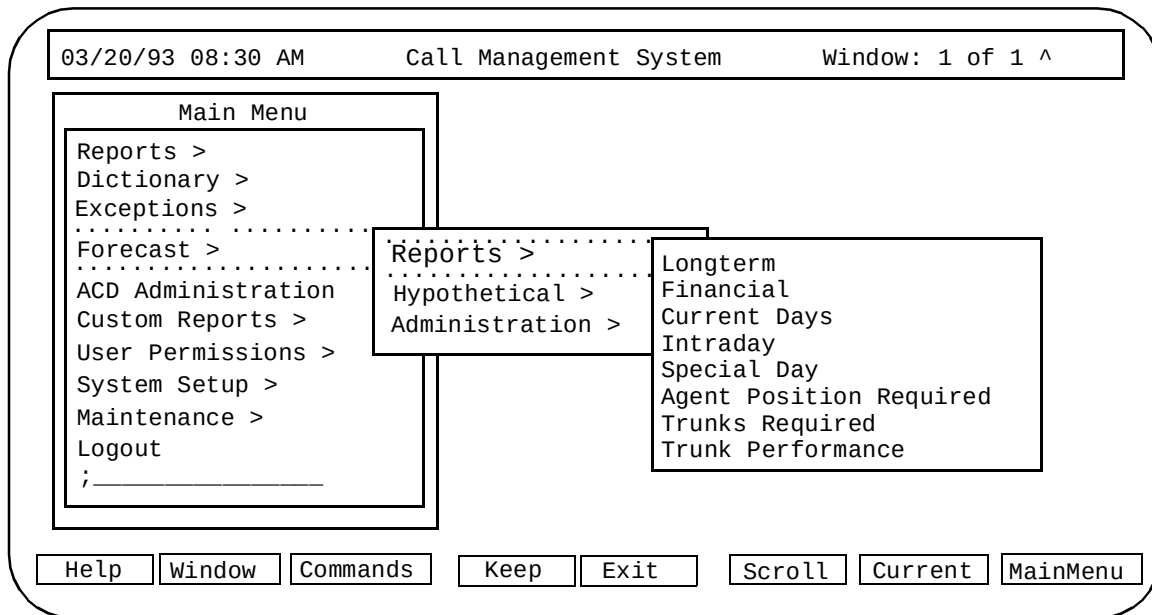


Figure 14-5: Report Forecast Submenu

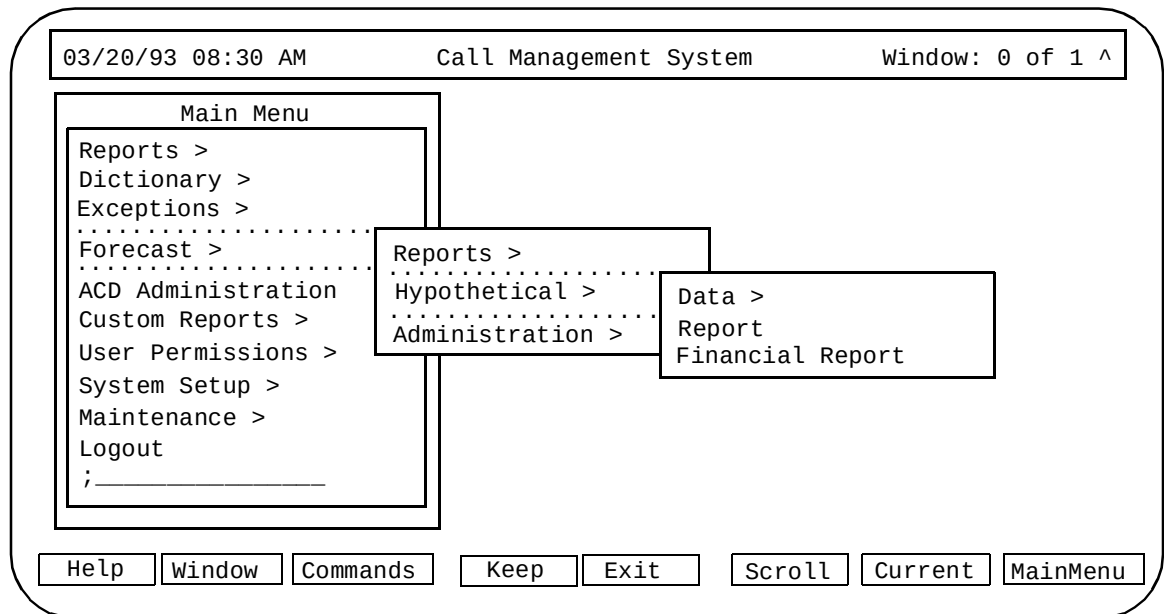


Figure 14-6: Hypothetical Forecast Submenu

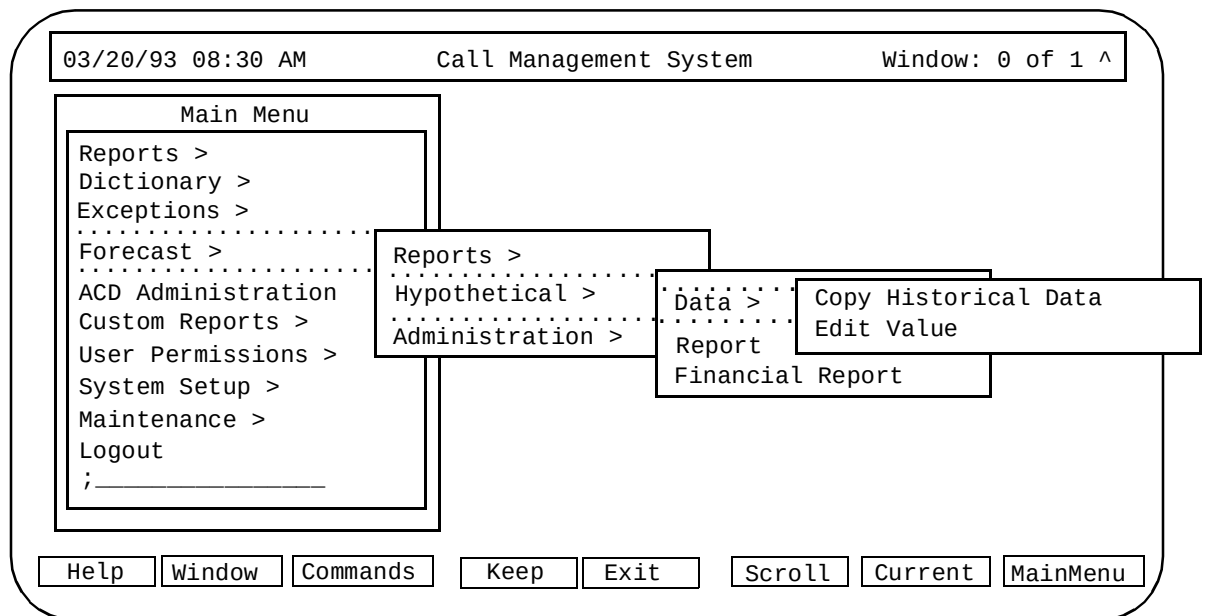


Figure 14-7: Hypothetical Data Forecast Submenu

Relationships to Other Subsystems

User Permissions

Permission for the Forecasting subsystem is assigned using the User Permissions: Feature Access window. (See Chapter 10, "User Permissions" for more information.)

Read Permission

You must have read permission for the Forecasting subsystem to run reports. If you have read permission for Forecasting, you can do the following:

- View Administration, Report, and Hypothetical windows
- Request reports for splits/skills and trunk groups.

Read and Write Permission

If you have read and write permissions for forecasting, you can do the following:

- View Administration, Report, and Hypothetical windows
- Set up Administration tasks in Administration windows
- Modify Administration
- Request reports for split(s)/skill(s and trunk groups.

Note

To request permissions, see your System Administrator.

To perform administrative tasks for a forecast, you must have both read and write permissions.

You must have read and write permissions for a particular split/skill or trunk group to be modified, added, or deleted. Permissions for specific split(s)/skill(s) or trunk groups are assigned in one of the following windows:

- User Permissions — Split/Skill/Access
- User Permissions — Trunk Group Access

If you have permission for the Forecast system, but you do not have permission for a particular split/skill or trunk group, CMS notifies you with an error message.

Dictionary

You can find all database items, split/skill, and trunk group names in the Dictionary Subsystem. Also see Chapter 7, "Dictionary" for more information and procedures.

**Timetables/
Shortcuts**

You can place any forecasting window on a timetable. Use shortcuts for any reports or windows you may view frequently. See Chapter 6, "Timetables and Shortcuts" for more information and procedures.

System Setup

After you modify your Forecast Data Storage Allocation window, you may need to adjust the disk usage with the System Setup: Free Space Allocation window.

Forecasting Chapter Organization

For your convenience, this chapter is organized in the sequence you would most typically use the forecasting system. You should set up your forecasting conditions in Administration windows prior to accessing reports or creating hypothetical scenarios.

Forecasting lists the Reports and Hypothetical menu options before Administration so that you can bypass the Administration windows after your initial setup — unless you decide to change your original setup conditions. Refer to Figure 14-8 for a diagram that provides you with an overview of the Forecast chapter's organization.

Note

Hypothetical is listed as a separate section because it does not require historical data but does require some additional information.

The Forecast chapter explains the Forecast user interface and provides you with the necessary information for completing any action using this user interface. See "How the Forecast System Works" section in this chapter.

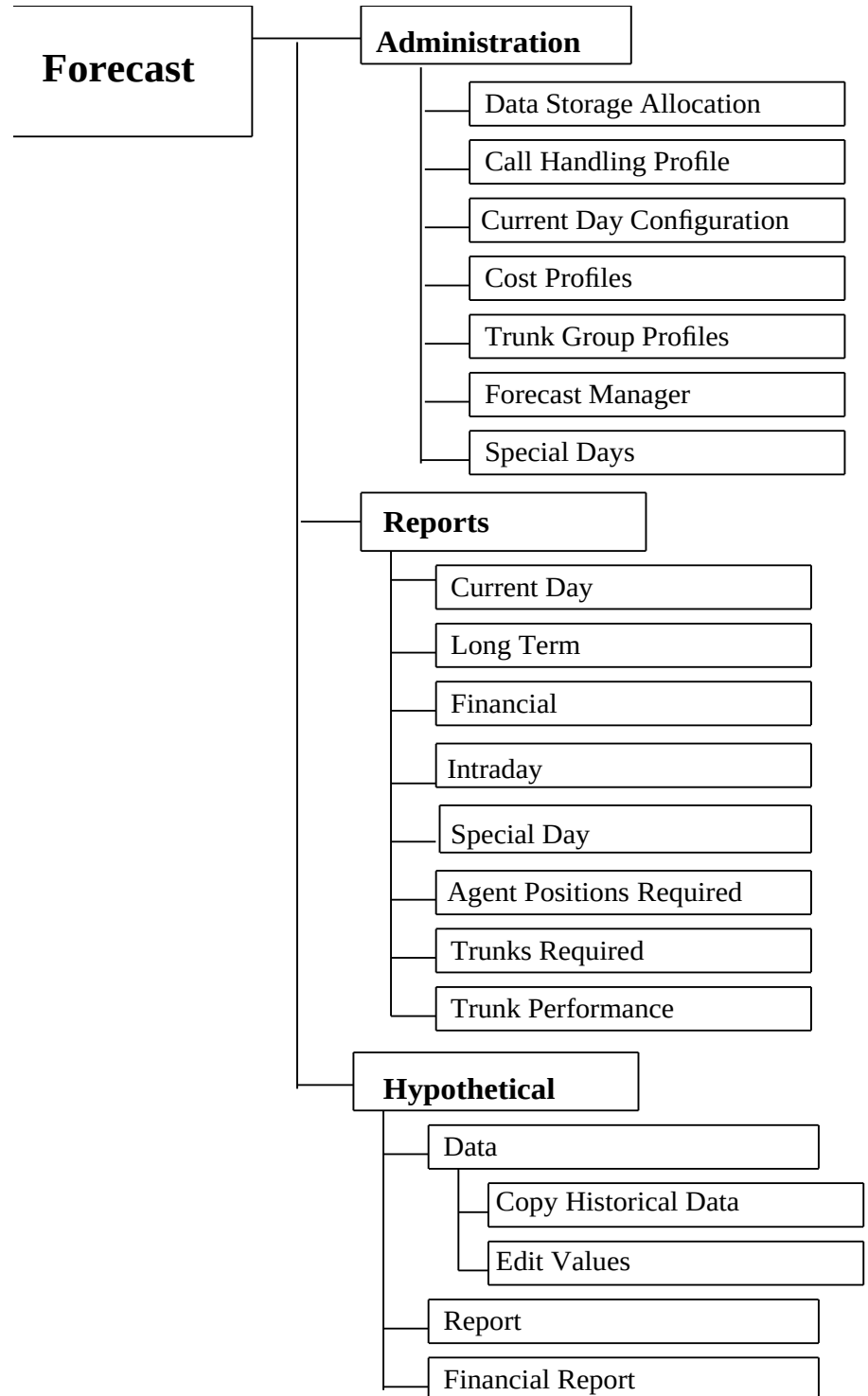


Figure 14-8: Forecast Chapter Organization

Data Storage Allocation Administration

Purpose

Use the Forecast Data Storage to specify how long CMS should store historical data in the forecast input tables. When you order a forecast, CMS uses, as input, the data from these tables, to calculate forecast calls carried.

Things to Know Before You Start

- CMS stores forecast input data separately because only a few database items are used in forecast calculations. Thus, forecast input data can be stored for very long periods, yet require a relatively small amount of disk space.
- The intrahour interval data you save for split(s)/skill(s) is the primary input data used for split/skill forecasts. Since current day forecasts always use one-week-apart data points, the minimum length of time you can store intrahour input data is 28 days (4 data points multiplied by 7 days). You can run forecasts before you have 28 days of intrahour data, but the forecasts may not be accurate.

The daily data you save for split/skill forecasts is used only if you use the seasonal trending forecast method. If you want to run forecasts for December and use trending from the previous December, you should save daily data for 392 days (52 weeks plus 4 extra weeks for the data points). The minimum length of time you can store daily data is 56 days (4 weeks, plus 4 extra weeks for the data points), since the earliest seasonal trend base date you could logically choose is a month ago.

- The length of time CMS should store input data for trunk groups depends on how far back you want to go to analyze trunk performance. If you will want to analyze performance in a month-long period one year ago, store data for 397 days (366 days — in case of leap year, plus 31 days for the month you want to analyze).
- The length of time you specify for split/skill data storage applies to all split(s)/skill(s) in the ACD. Likewise, the length of time for trunk group data storage applies to all trunk groups in the ACD.
- After modifying your Forecast Data Storage Allocation window, you may need to adjust disk usage with the System Setup: Free Space Allocation window.

Prerequisite
System
Administration

- You must have **write** permission for the Forecast subsystem.
- You must run the Forecast Manager to actually retrieve data from the historical data tables. You can run the Forecast Manager either manually or in a timetable. The recommended method is to run the Forecast Manager on a timetable that executes every night. Run the Forecast Manager manually if the timetable fails or you need to go back and recollect data.

Data Storage
Allocation
Window

Use the Forecast: Administration: Data Storage Allocation window (Figure 14-9) to specify the length of time CMS stores historical data in the forecast input tables.

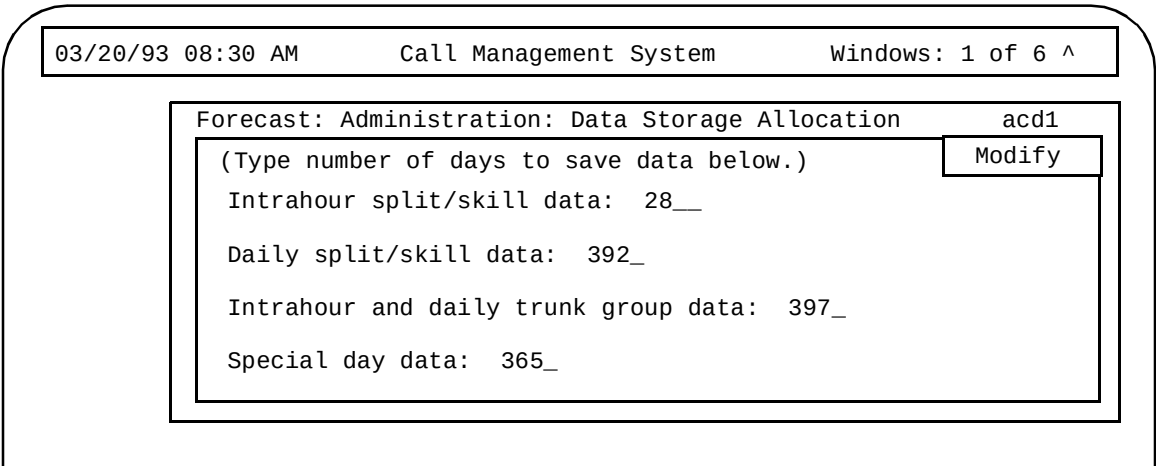


Figure 14-9: Data Storage Allocation Window

Field/Action List
Usage

Modify
To change the number of days archived, enter changes and select Modify.

Field Descriptions

Intrahour split/skill data:
Enter the number of days of intrahour split/skill data you want to store for use in split/skill forecasts.

- The minimum number of days you can enter is 28. The maximum is unlimited. However, you should store more than 28 days of data only if you anticipate the need to run current day forecasts for days that have already passed. Also, remember that you will be using

additional disk space on your computer for each day you choose to store.

- The intrahour split/skill data you store is the number of ACD calls and abandons.

Daily split/skill data:

Enter the number of days of daily split/skill data you want to store for use in split/skill forecasts.

- You will need daily split/skill data only if you want to use seasonal trending in your forecasts.
- The minimum number of days you can enter is 56. The maximum value is 999. However, remember that you will be using additional disk space on your computer for each day you choose to store.
- The daily split/skill data you store is the number of ACD calls and abandons.

Intrahour and daily trunk group data:

Enter the number of days of intrahour and daily data you want to store for use in trunk performance forecasts.

- The minimum number of days of both intrahour and daily data is 35. The maximum is unlimited. However, remember that you will be using additional disk space on your computer for each day you choose to store.
- The intrahour and daily data you store is:
 - The number of trunks in the trunk group
 - The number of calls carried
 - The number of seconds the trunks were in use.

Special day data:

Enter, as a number of days, the length of time you want CMS to store historical data for a special day. This is the data you will use to run a special day forecast when the next occurrence of the special day approaches.

- This number applies to all splits/skills in the ACD.
- Normally, you will want to store special day data for one year (365 days), since many special days, like holidays, only come once a year.

For example, if the day after Thanksgiving is a special day for your call center, you will want to save the historical data CMS collects on that day so you can use it to forecast the day after Thanksgiving next year.

Call Handling Profiles Administration

Purpose

You define a call handling profile to specify the following call handling objectives for a split/skill:

- **Average speed of answer.** The average time you are expecting or targeting for callers to wait in queue before connecting to an agent.
- **Average agent service time.** The average time you are expecting or targeting for each agent to spend on an ACD call, including talk time and after-call-work time.
- **Percent within service level.** The percentage of calls that you are expecting or targeting to be answered by a agents within a specific number of seconds.
- **Agent occupancy.** The average percentage of time that you are expecting or targeting for each split/skill agent to spend, while logged in, on ACD calls and in after-call-work.

For any split/skill forecast, CMS uses a profile's call handling objectives, along with forecast calls carried, to find the number of agents required to handle the calls. Therefore, you must define a call handling profile for a split/skill before you can run a forecast for that split/skill.

Things to Know Before You Start

- Since CMS forecasts the number of agents required for each intrahour interval, you must define objectives for each intrahour interval whose calls you are forecasting.
- Up to 100 call handling profiles may be created per ACD connected to CMS. As a result, you can define more than one profile for most or all splits/skills. You might do this if, for example, you want a profile for forecasts of normal days, and another profile for forecasts when your agents begin handling a new type of call.
- Normally, you will define a unique call handling profile for each split/skill you want forecasts for. However, you can use the same call handling profile, if appropriate, for multiple splits/skills in the ACD.

- In the Call Handling Profiles window itself, you only assign a profile ID number. To actually define the objectives of a profile, you must use the Get Contents window (Figure 14-12) that displays when you select the Get Contents action list option.
- You can also copy an existing profile's objectives to the new profile you are defining. You do this via the Copy window (Figure 14-11), which displays when you select the Copy action list option.
- In defining the agent occupancy objective, remember that the objective is the percentage of time you want the agents active on a call or in after-call-work. CMS uses the Erlang C algorithm, which assumes that each agent is available and waiting for a call if not on an ACD call or in ACW.

Therefore, do not include time agents are in AUX work in your agent occupancy objective. Instead, if you want to determine the total agents you need when some are in AUX work, you will have to forecast the agents required, and then factor in AUX work.

For example, if CMS forecasts that you need 30 agents to handle calls during a half-hour interval, and you want 8 agents to take a 15 minute break during that interval, you will actually need to schedule 34 agents for the interval to cover the staff time lost to breaks.

- CMS forecasts agents required so that call handling performance is equal to or better than your objectives. Therefore, CMS will forecast the number of agents required so that:
 - The average speed of answer for calls will be equal to or faster than your objective.
 - Agent occupancy is equal to or less than your objective.
 - The percentage of calls answered within service level is equal to or greater than your objective.

For example, if your target average speed of answer is 30 seconds, the forecasted number of agents might be able to handle calls with an average speed of answer of 28 seconds.

To account for the differences between objectives and forecasted performance, split/skill forecasts include "Profile results," which show the average speed of answer, agent occupancy, and percent within service level that the agents should actually achieve.

Prerequisite
System
Administration

You must have **write** permission for the Forecast subsystem if you want to create, change, or add a profile.

Call Handling
Profiles Window

Use the Call Handling Profiles window (Figure 14-10) to define a split/skill's call handling objectives.

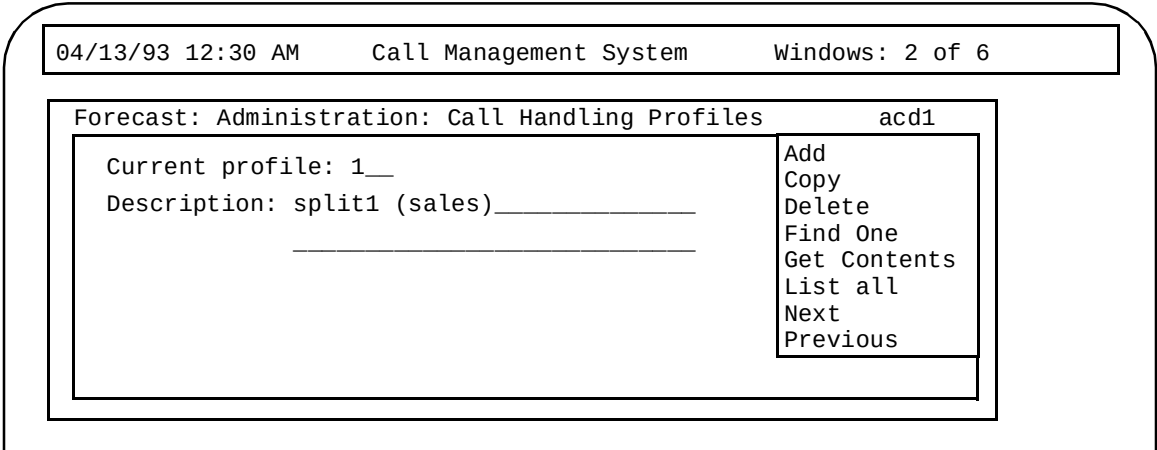


Figure 14-10: Call Handling Profiles Window

Field/Action List
Usage

Add
To add a call handling profile, complete the Current profile: field to assign the profile number and select Add.

Copy
To copy the contents of another profile, select Copy.

Delete
To delete a profile, complete the Current profile: field and select Delete.

Find one/List all

To display the split/skill name(s) and a description(s) of the split/skill, select Find one or List all.

Get contents

To define the call handling profile from scratch, select Get contents.
To modify a profile, complete the Current profile: field and select Get contents.

Field Descriptions

Current profile:

Enter the number, from 1 to 100, of the call handling profile you want to view, add, modify, or delete.

Description:

Enter a description of the profile.

Copy Window

When you select Copy on the Call Handling Profiles window, the following Copy window (Figure 14-11) displays.

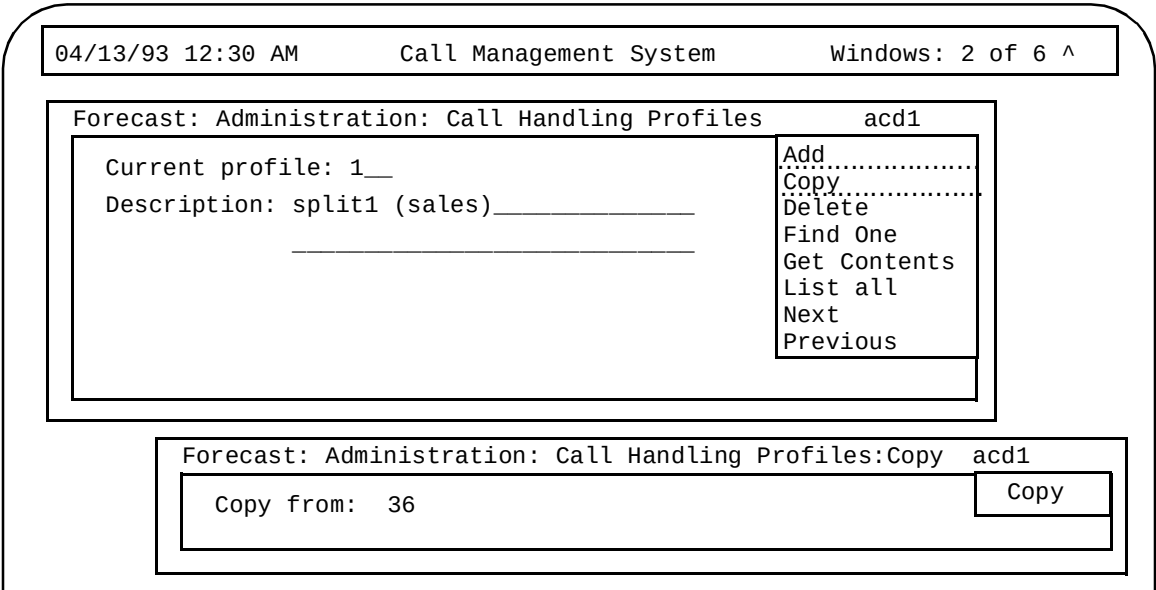


Figure 14-11: Copy Window

Field Descriptions

Copy from:

Enter the number, from 1 to 100, of the call handling profile whose contents you want to copy to the new profile number.

Get Contents Window

When you select **Get contents** on the Call Handling Profiles window, the following Get Contents window (Figure 14-12) displays.

Figure 14-12: Get Contents Window

Field/Action List Usage

Add

To add objectives for one or more intrahour intervals, complete all fields and select **Add**.

Delete

To delete objectives for one or more intrahour intervals, complete the **Interval start time:** field and select **Delete**.

List all

To view the objectives defined for each intrahour interval, enter the appropriate range of intervals (or leave the **Interval start time:** field blank for all intervals) and select **List all**.

Modify/Find one

To modify objectives, do a **Find one** for an interval, change data in the appropriate fields, and select **Modify**.

Field Descriptions

Interval start time:

Enter a time of day in hh:mm format, either as military time (for example, 13:30) or with am or pm appended (for example, 10:15 AM).

- When viewing, modifying, or deleting objectives, you may specify multiple intervals with:
 - A range (for example, 7:00am-12:00 PM)

- A series (for example, 7:00 AM;7:30 AM;4:30 PM;5:00 PM)
- A series of ranges (for example, 7:00 AM - 11:30 AM; 12:30 PM - 5:00 PM).
- This is the start time of the interval whose call handling objectives you want to view, add, modify, or delete.

Note You can add objectives one interval at a time only. If you enter multiple intervals and select **Add**, the action will fail.

Average speed of answer:

Enter a number of seconds to define the targeted or expected average wait time for calls arriving in the specified intrahour interval(s).

- CMS will forecast just enough agents so that the average time calls wait will be equal to or below this number of seconds.
- The number of seconds should not exceed the length of your administered intrahour interval.

Average agent service time:

Enter a number of seconds to define the targeted or expected average time for each agent to spend on an ACD call, including talk time and after-call-work time.

The number of seconds should not exceed the length of your administered intrahour interval.

Service level:

Enter a number, 1 to 99, to specify the percentage of calls that you are expecting or targeting to be answered by agents within the specified number of seconds.

- Enter the number of seconds you are targeting as an acceptable speed of answer for most calls.
- CMS will forecast just enough agents so that, within the specified number of seconds, they can answer a percentage of calls equal to or greater than your target percentage.
- The number of seconds should not exceed the length of your administered intrahour interval.

Agent occupancy:

Enter a number from 0 to 100 to specify the percentage of time agents should spend on ACD calls and in after-call-work.

CMS will forecast just enough agents so that the percentage of time they spend on ACD calls is equal to or less than your target percentage.

Current Day Configuration Administration

Purpose

You must define a current day configuration for a split/skill to define the forecast method and additional forecast parameters CMS uses to generate current day forecast data.

The kinds of parameters you specify in a current day configuration are the same as those you specify at run time for other types of split/skill forecasts. However, you must specify current day forecast parameters before run time. This condition exists so that, when the Forecast Manager runs, it can automatically generate current day forecast data and store it in the Current Day Forecast Table in the CMS database. This arrangement (see Figure 14-13) offers you two benefits:

- CMS can include current day forecast data alongside historical data in the standard Forecast Summary Report.
- You can include current day forecast data in a custom report.

Note

Current day forecast data is the only data stored in the CMS database. Therefore, current day forecast data is also the only forecast data you can access later in either standard or custom reports.

As a result of this arrangement, you must first define a split(s)/skill(s) current day configuration and then the Forecast Manager must run before you can actually run a current day forecast.

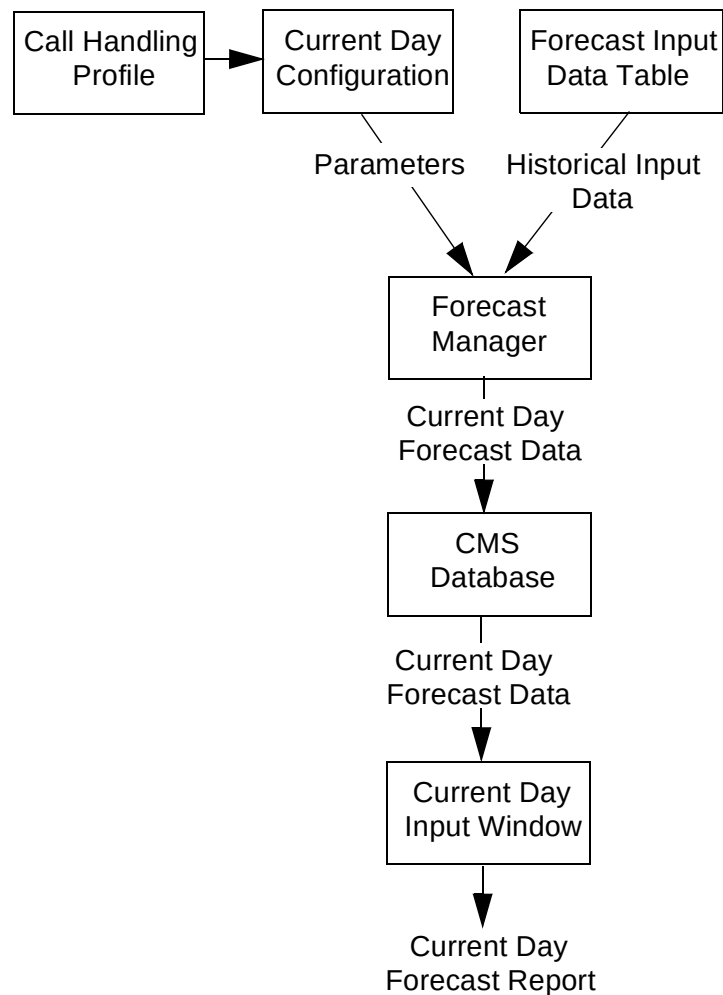


Figure 14-13: Generating Current Day Forecast Data

Things to Know Before You Start

- You must complete a Current Day Configuration window for each split/skill you want current day forecasts for.
- If you change a split(s)/skill(s) current day configuration, but the Forecast Manager has already generated the forecast data for the day you want, you can rerun the Forecast Manager for the day and CMS will overwrite the old forecast.
- Even though the Forecast Manager automatically generates current day forecast data for a split/skill (if you have defined a current day configuration for the split/skill), CMS does not automatically generate a current day forecast report. Instead, you have to run the

report via the Reports: Current Day Input window (Figure 14-23) or schedule it in a Timetable.

- If any historical data point had unusual call traffic, and a current day forecast will use data from that data point, you may want to de-emphasize that data point in the forecast.

Prerequisite System Administration

- You must have **write** permission for the Forecast subsystem and for the particular split/skill you identify in the forecast configuration.
- The call handling profile you specify for the current day configuration must already be defined.

Current Day Configuration Window

Use the Current Day Configuration window (Figure 14-14) to set up the current day forecast parameters.

06/16/93 4:00 PM		Call Management System		Windows: 1 of 6 ^	

Forecast: Administration: Current Day Configuration			acd1		
Split(s)/			Add Delete Find One List all Modify Next Previous		
Skill(s):silvercard_____					
Forecast time					
First interval start time: 06:00am_					
Last interval start time: 05:30pm_					
Call handling profile: 1__					
Forecast method (select one)					
<x> No trending					
< > Seasonal trending, base date (-n)____ or (mm/dd/yy) 01/09/93					
Change factor: 100%					
Number of days of current day forecasts to save: 45_					
To de-emphasize data, weight each data point (0-10) where					
10=most representative, 0=do not use this data					
<u>10</u> Date 1 (most recent)					
<u>10</u> Date 2					
<u>10</u> Date 3					
<u>10</u> Date 4 (least recent)					

Figure 14-14: Current Day Configuration Window

Field/Action List Usage

Add

To add a Current Day Configuration, complete all fields and select **Add**.

Delete

To delete a configuration, complete the **Split(s)/Skill(s):** field and select **Delete**.

Find one/List all

To display the split(s)/skill(s) name(s), select **Find one** or **List all**.

Modify

To modify a configuration, complete the **Split(s)/Skill(s)** field and any fields you want to change and select **Modify**.

Field Descriptions

Split(s)/Skill(s):

Enter the number or name of the split/skill for which you want current day forecast data.

First interval start time: [Forecast time]

Enter a time of day in hh:mm format, either as military time (for example, 13:30) or with am or 3pm appended (for example, 10:15 AM).

- This time tells CMS when each current day forecast should begin.
- The time must match the beginning of an intrahour interval, typically the first interval in your call center's work day. In addition, the selected call handling profile must include this interval and all intervals through the interval you enter in the **Last interval start time** field.

Last interval start time:

Enter a time of day in hh:mm format, either as military time (for example, 13:30) or with AM or PM appended (for example, 10:15 AM).

- The time must match the beginning of an intrahour interval, typically the last interval in your call center's work day. In addition, the selected call handling profile must include this interval and all previous intervals starting from the interval you entered in the **First interval start time** field. CMS will generate forecast data through the end of this intrahour interval.

- This time tells CMS which intrahour interval is the last interval it should include in each current day forecast.

Call handling profile:

Enter the number, 1 to 100, of the call handling profile CMS will use to generate forecast data.

Forecast method: (select one)

Enter an **x** to select one of the three trending options:

- **No trending**—CMS will use data from data points in the previous four weeks, but will not generate a forecast based on the trend of that data.
- **Seasonal trending**—CMS will use data from a specified base date and data points from the four weeks previous to that date. CMS will then generate a forecast that projects growth or shrinkage based on the trend of that data.

base date—If you select seasonal trending, enter a date as a negative number (-n) to represent how many days in the past the base date should be, or enter a past date in an mm/dd/yy format. Use -n if you plan to automatically run a current day forecast everyday via Timetable.

The base date should be a day when the call center activity was similar to that expected for the current day.

- **Current trending**—CMS will use data from data points in the previous four weeks, and will generate a forecast that projects growth or shrinkage based on the trend of that data.

Change factor:

Enter a number from 1 to 1000. This number tells CMS, as a percentage, how much it should increase or decrease the number of calls carried it finds in its initial forecast.

- 100% means that CMS will make no additional changes to the number of calls initially forecasted.
- If you are using trending, you should leave the change factor at 100 except for highly unusual circumstances.

Number of days of current day forecasts to save:

Enter a number from 1 to 999 to tell CMS how many current day forecasts to save for the split/skill.

- If you enter 365 and you run a forecast for the split/skill everyday, CMS will save each current day forecast for a year. This means you will be able to redisplay or reprint a current day forecast that is up to one year old. This also means you can run custom reports that include current day forecast data that is one year old.
- Current day forecasts use disk space. Therefore, you should save only the number of forecasts you really need.

To de-emphasize data, weight each data point (0-10) where 10=most representative, 0=do not use this data

Note

You should leave the relative weight of each date at 10 unless you know the data stored for a particular date is highly unusual or incorrect.

Dates 1 (most recent) to 4 (least recent)

Enter a number, 0 to 10, to change the relative weight of data on any or all data points.

Costs Profiles Administration

Purpose

You define costs profiles to specify the following objectives for a split/skill:

- Cost per call.
 - Cost per agent.
 - Revenue per call.
-

Things to Know Before You Start

- In the Financial and Hypothetical Financial Forecasts, CMS will use the costs profile, along with forecasted calls carried, to forecast the costs of a split(s)/skill(s) operation per intrahour interval.
- CMS will also calculate a split(s)/skill(s) revenue per intrahour interval.
- You must specify cost-per-agent, cost-per-call, and revenue-per-call for each intrahour interval you want to forecast.
- Up to 100 costs profiles may be created per ACD connected to CMS. As a result, you can define more than one profile for most or all splits/skills. You might do this if, for example, you want a profile for forecasts of weekdays (when calling rates are high), and another profile for forecasts of weekends (when rates are discounted).
- Normally, you will define a unique costs profile for each split/skill you want forecasts for. However, you can use the same costs profile, if appropriate, for any split/skill in the ACD.
- In the Costs Profiles window itself, you only assign a profile ID number. To actually define the costs/revenue objectives of a profile, you must use the Get Contents window (Figure 14-17), which displays when you select the Get Contents action list option.
- You can also copy an existing profile's objectives to the new profile you are defining. You do this via the Copy window (Figure 14-16), which displays when you select the Copy action list option.

Costs Profiles Window

Use the Costs Profiles window (Figure 14-15) to define a costs profile.

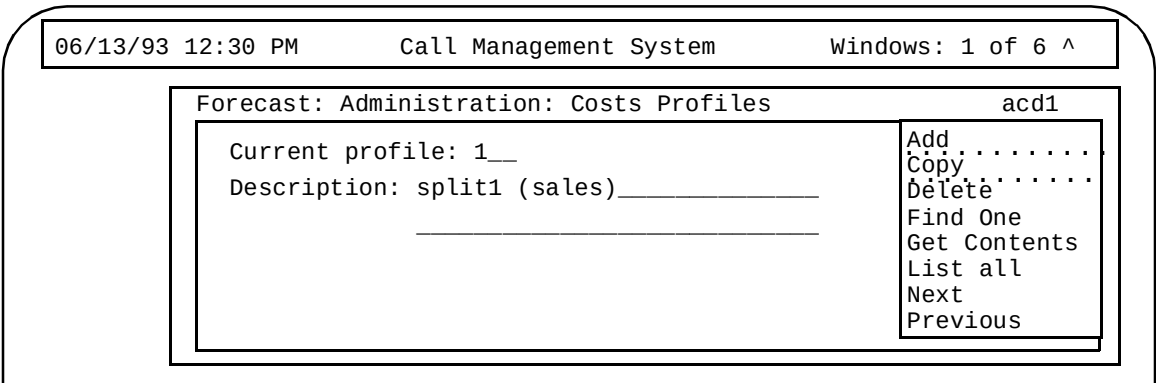


Figure 14-15: Costs Profiles Window

Field/Action List Usage

- Add**
To add a costs profile, complete the `Current profile:` field to assign the profile number and select `Add`.
- Copy**
To copy the contents of another profile, select `Copy`.
- Delete**
To delete a profile, complete the `Current profile:` field and select `Delete`.
- Get contents**
To define the costs profile from scratch, select `Get contents`.
To modify a profile, complete the `Current profile` field and select `Get Contents`.
- Find one/List all**
To display the split/skill name(s) and a description(s) of the split/skill, select `Find one` or `List all`.

Field Descriptions

Current profile:
Enter the number, 1 to 100, of the costs profile you want to view, add, modify, or delete.

Description:

Enter a description of the profile.

Copy Window

When you select Copy on the Costs Profiles window, the following Copy window displays.

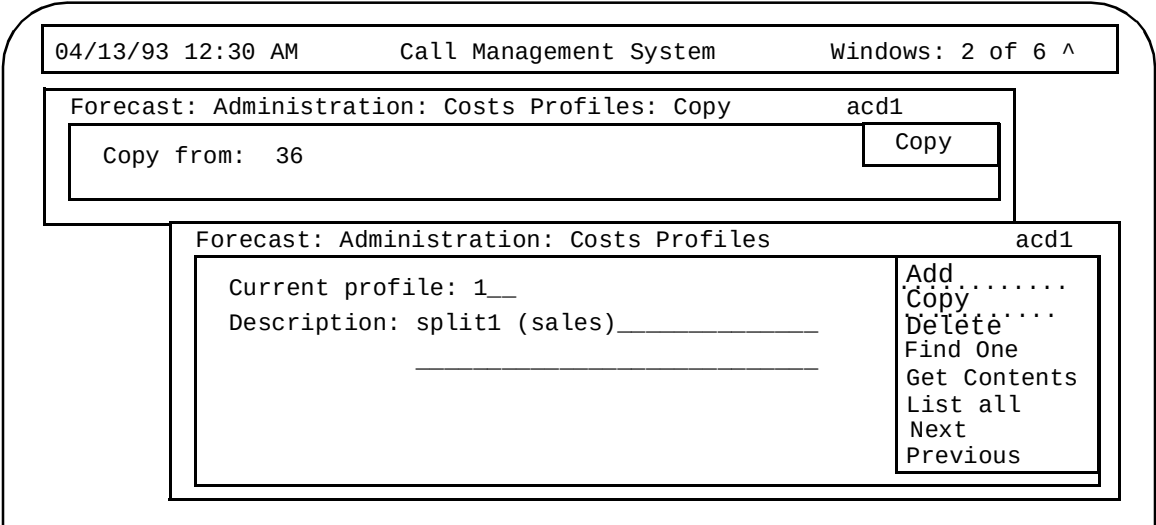


Figure 14-16: Copy Window

Field Descriptions

Copy from:

Enter the number, 1 to 100, of the costs profile whose contents you want to copy to the new profile number.

Get Contents Window

When you select `Get contents` on the Costs Profiles window, the following Get Contents window displays.

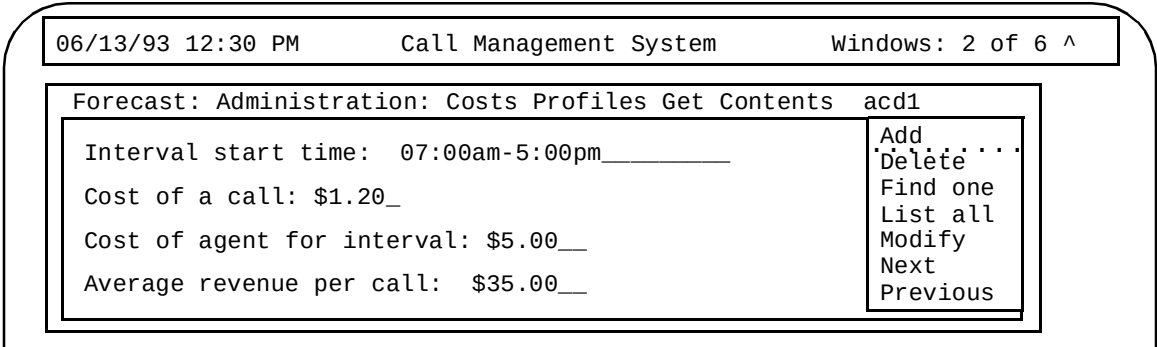


Figure 14-17: Get Contents Window

Field/Action List Usage

Add
To add costs/revenues for one or more intrahour intervals, complete all fields and select `Add`.

Delete
To delete costs/revenues for one or more intrahour intervals, complete the `Interval start time` field and select `Delete`.

Find one/Modify
To modify costs/revenues, do a `Find one` for an interval, change data in the appropriate fields, and select `Modify`.

List all
To view the costs defined for each intrahour interval, enter the appropriate range of intervals (or leave the `Interval start time` field blank for all intervals) and select `List all`.

Field Descriptions

Interval start time:
Enter a time of day in hh:mm format, either as military time (for example, 13:30) or with or appended (for example, 10:15 AM).

- This time is the start time of the interval whose costs/revenues you want to view, add, modify, or delete.

- When viewing, modifying, or deleting costs, you may specify multiple intervals with:
 - A range (for example, 7:00 AM-12:00 PM)
 - A series (for example, 7:00AM;7:30AM;4:30PM;5:00PM)
 - A series of ranges (for example, 7:00AM - 11:30AM; 12:30PM - 5:00PM).

Note

You can add costs/revenues one interval at a time only. If you enter multiple intervals and select **Add**, the action will fail.

Cost of a call:

Enter an average cost per call. You may enter a dollar figure from 0 to 1000. You may enter a decimal to specify cents.

In determining an average cost, you may want to consider access line charges, service charges, usage rates, and so on.

Cost of agent for interval:

Enter an average cost per agent for a single intrahour interval. You may enter a dollar figure from 0 to 1000. You may enter a decimal to specify cents.

- Remember that if your intrahour interval is 15 minutes, you must figure your cost per agent for each of the specified 15 minute period(s), not for an hour.
- In determining an average cost, you may want to include equipment and facilities costs, management overhead, benefits, and so on.

Average revenue per call:

Enter an average revenue per call. You may enter a dollar figure from 0 to 10000. You may enter a decimal to specify cents.

Do not enter a comma to specify thousands.

Trunk Group Profile Administration

Purpose

You define a trunk group profile to specify a targeted blocking percentage for the trunks in a trunk group.

Things to Know Before You Start

- A **blocking percentage** is the percentage of time that incoming calls to an ACD will fail to connect to the ACD because all trunks in a trunk group are busy. When a call is blocked, it typically receives a busy signal from the public network.
 - In a Trunk Performance report, CMS finds the number of trunks that, in a specified period in the past, would have been required to handle calls carried at your objective blocking percentage.
 - You must define a profile for a trunk group before you can run a Trunk Performance Report on that trunk group.
 - You can define a profile for each measured trunk group in the ACD.
 - For the Trunk Performance report, CMS finds the five busiest days in the report's time period, then finds the busiest intrahour interval in each of those days. CMS finally averages the traffic for those five intervals to determine the average busy interval. The blocking objective you set for a trunk group will apply to this average busy interval.
-

Prerequisite System Administration

- You must have **write** permission for the Forecast subsystem if you want to create, change, or add a profile.
- You must have **write** permission for the trunk group(s) whose profile(s) you are defining.

Trunk Group
Profile Window

Use the Trunk Group Profile window (Figure 14-18) to specify a blocking percentage objective for a trunk group.

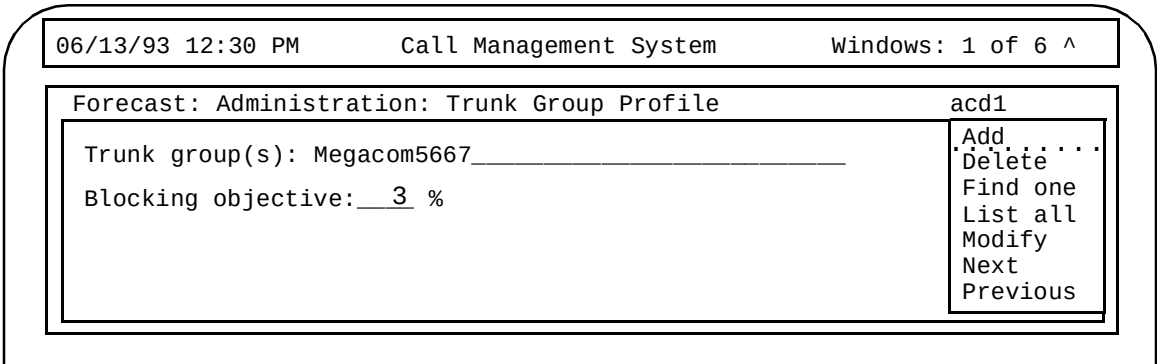


Figure 14-18: Trunk Group Profile Window

Field/Action List
Usage

- Add

To add trunk group blocking objectives for one or more trunk groups, complete all fields and select Add.
- Delete

To delete a blocking objective for one or more trunk groups, complete the Trunk group: field and select Delete.
- Find one/Modify

To modify a single trunk group's blocking objective, do a Find one for the trunk group, change data in the appropriate fields, and select Modify.
- List all

To view trunk group blocking objectives, enter the appropriate trunk group numbers or names, range of numbers, or leave the Trunk group(s): blank and select List all.

Field Descriptions**Trunk group(s):**

Enter the number(s) or name(s) of the trunk group(s) whose blocking objective you want to view, add, modify, or delete.

You can view and modify trunk group profiles only one trunk group at a time.

When adding or deleting profiles, you can enter:

- A range (for example, 18-24)
- A series (for example, 18;24;32)
- A series of ranges (for example, 18-24;32-40).

Blocking objective:

Enter a number from 0 to 100. This number tells CMS, as a percentage of time, how often you expect to have calls blocked from reaching the ACD because all trunks are busy. This number is typically small.

You may enter a decimal to specify percentages (for example, 1.25, which means 1¼ percent).

Forecast Manager Administration

Purpose

You run the Forecast Manager (Figure 14-19) to collect data from the CMS historical tables and put the data in the forecast input tables. CMS can then use the data to generate forecasts. Figure 14-19 illustrates the process of collecting input data for forecasts.

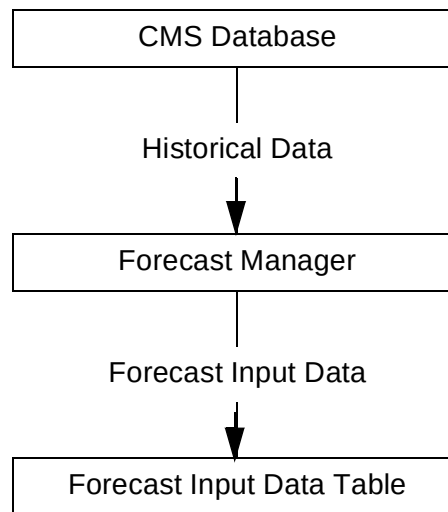


Figure 14-19: Collecting Forecast Input Data

Note

You must run the Forecast Manager to collect split/skill data for at least 28 days before you can get reliable split/skill forecasts. The Forecast Manager must collect trunk group data for at least 35 days before you can get reliable Trunk Performance reports.

You can also set the Forecast Manager to generate current day forecast data and store the data in the Current Day Forecast tables in the CMS database. This storage offers two benefits:

- CMS can include current day forecast data alongside historical data in the standard Split/Skill Forecast Summary report.
- You can include current day forecast data in a custom report.

Note

Use the Forecast Manager to collect historical data for Special Day forecasts and for Current Day Forecasts.

Things to Know Before You Start

- You should schedule the Forecast Manager in Timetable to run every night after the Data Summarizing window has compiled and saved daily historical data.

By running the Forecast Manager via Timetable, you ensure that the Forecast Manager collects input data every day. You also ensure that current day forecast data is put into the database every day.

Note

If you want current day forecasts, you must set the Forecast Manager to generate and store current day forecast data. However, the Forecast Manager does not actually display or print the forecast. To see the forecast, you will have to order the forecast via the Reports: Current Day Input window.

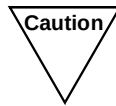
- The Forecast Manager collects and stores intrahour data for an ACD according to the interval length administered in the System Setup: Storage Intervals window.
- Using the `Get status` action in the Forecast Manager window, you may view the last three attempts to collect data and whether or not they were successful.
- You can, in addition to scheduling the Forecast Manager to run automatically, run the Forecast Manager on demand to collect input data for past days for if you forgot to collect data, lost data, or just purchased forecasting.

You may collect forecast input data with either of two options:

Daily data collection option — Use this option to collect data for a single day. This is the option to use when you schedule the Forecast Manager in Timetable.

Recollect data option — Use this option to collect data for a range of dates. You should do this only if any of the following conditions is true:

- You change your intrahour intervals and migrate your historical data into the new intervals.
- You have not run the Forecast Manager for a period of time (for example, after your CMS is installed, several weeks pass before you start running the Forecast Manager).
- You are migrating your historical data from an earlier version of the Call Management System and you want to use this data for forecasting.



If you use the Recollect option, CMS will delete all data previously stored in the forecast input tables. Therefore, if you recollect data, you should specify a range that includes all forecast input days you need, usually from some date in the past up to yesterday.

Also, if you use the Recollect option, the next backup of data for CMS must be a full backup. A full backup is required before any incremental backups because, during an incremental backup, CMS will look for unchanged data in the Forecast Input tables and will not find any.

Prerequisite System Administration

- You must create a current day configuration for each split/skill for which you want current day forecast data. Without a current day configuration for a split/skill, the Forecast Manager will not generate forecast data on that split/skill.
- You must have **write** permission for the Forecast subsystem.
- The Data Summarizing window must run to summarize a day's intrahour data into daily data before the Forecast Manager can collect the data for that day. Therefore, via Timetable, you should schedule the Data Summarizing window to finish running before the Forecast Manager begins.

Forecast Manager Window

For CMS to generate forecasts, you must run the Forecast Manager (Figure 14-20) to collect data from the CMS historical tables and put the data in the forecast input tables.

Time Manager	Ran	Status	Data Collected For
mm/dd/yy	hh:mmAM	Success	mm/dd/yy
mm/dd/yy	hh:mmPM	Failure	mm/dd/yy
mm/dd/yy	hh:mmAM	Success	mm/dd/yy-mm/dd/yy

Figure 14-20: Forecast Manager Window

Field/Action List Usage

Get status

To check the time, date, and status of the data (success or failure) for the last three times the forecast manager ran, select **Get status**. Data collected for a single date is for **Daily data collection**. Data collected for a range of dates is for **Recollect data for a range of dates**.

Run

To generate the Forecast Manager data, select **Run**.

If you want to schedule the Forecast Manager to run at a particular time to make a change, you should run the Forecast Manager in a timetable.

Field Descriptions

Daily data collection:

Enter an **x** to turn on daily data collection.

If you select this option, you must also complete the associated **Date (mm/dd/yy or -n):** and **Run current day report (y/n):** fields.

Date (mm/dd/yy or -n):

Enter a relative day as a negative number (for example, -1 for yesterday) or a date in mm/dd/yy format to specify the day from which the Forecast Manager should collect data.

If you are going to schedule the Forecast Manager in Timetable to run daily, use -1.

Run current day report (y/n):

- Enter **y** to generate current day forecast data and store it in the CMS database. You must enter **y** if you want current day forecasts.



The Forecast Manager does not actually display or print the forecast. You have to order the forecast via the Reports: Current Day Input window to display or print it.

- Enter **n** if you do not want current day forecasts.

With this option, the Forecast Manager generates current day forecast data for the day that follows the day from which it collects data.

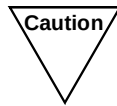
So, if you set the Forecast Manager to collect data from yesterday, the forecast data will be for today. If you set the Forecast Manager to collect input data from 06/11/93, the Forecast Manager will in turn generate current day forecast data for 06/12/93.

Recollect data for a range of dates:

Enter **x** to recollect data.



Do not forget to change the option back to **Daily data collection** when you finish recollecting data.



If you use this option of the Forecast Manager to recollect data, CMS will delete all data previously stored in the forecast input tables. Therefore, if you recollect data, you should specify a range that includes all forecast input days you need, from some date in the past (usually 397 days ago if you use seasonal trending) up to yesterday.

If the CMS database no longer contains historical data for the dates you want to recollect, the Forecast Manager cannot collect that data for the forecast input tables. For example, if the Data Storage Allocation stores 31 days of intrahour split/skill data and 365 days of daily split/skill data, the Forecast Manager can only collect 31 days and 365 days of input data, respectively.

Start date (mm/dd/yy or -n):

Enter a relative day as a negative number (for example, -397 for the day one year and one month ago) or a date in mm/dd/yy format to specify the day from which the Forecast Manager should begin to recollect data. This date must be farther in the past than the Stop date (mm/yy/dd or -n): field indicates.

Stop date (mm/dd/yy or -n):

Enter a relative day as a negative number (for example, -1 for yesterday) or a date in mm/dd/yy format to specify the day at which the Forecast Manager should stop recollecting data. This date must be more recent than the Start date (mm/yy/dd or -n): field indicates.

When you select `Get status`, the following fields are displayed in a table:

Time Manager Ran

Provides the day(s) and the time manager ran.

Status

Describes if the status of the data for the run was a success or failure.

Data Collected For

Displays what date(s) the data was collected for.

Special Days Administration

Purpose

You define special days for a split/skill so that CMS can store historical data for those days in a special day forecast input table. CMS can then generate special day forecasts on future occurrences of those days.

A special day is a day that has unusual call traffic, like the day after Thanksgiving. Another example of a special day might be a special television advertising campaign that occurs one day a quarter. If you want to find out how many agents you will need for the next campaign, you can define the date of the most recent campaign as a special day, collect data for that day in the special day table, and then run a special day forecast when the campaign approaches next quarter.

Things to Know Before You Start

- You can define as many special days as necessary for your system. However, remember that each special day uses additional disk space on your computer.
- If a special day you have defined has not yet occurred, the Forecast Manager will automatically collect and store special day input data when the day arrives (assuming the Forecast Manager has been placed on a timetable).
- If a special day you have defined has already occurred, you can rerun the Forecast Manager to collect that data.
- You can set the length of time that CMS will store special day input data. Do this using the Forecast Administration: Data Storage window.

Note

If you want to change the date for a special day like the day after Thanksgiving, whose date is different each year, you must add a new date. You may, in fact, have two dates with the same definition (for example, 11/27/92 and 11/26/93 could both have “Day after Thanksgiving” for the description).

Forecasting is always based on the most recent day.

Prerequisite
System
Administration

- You must run the Forecast Manager either on a timetable or manually to collect special day data. You cannot get a special day forecast unless the Forecast Manager has already collected and stored data for that special day.
- You must define the Forecast Data Storage to save special day data for the length of time that you will need it. Typically, you will want to save special day input data for a year.
- You must have **write** permission for the Forecast subsystem and for the split(s)/skill(s) for which you are defining special days.

Special Days
Window

Use the Special Days window (Figure 14-21) to define, for a split/skill, those days that have unusual call traffic.

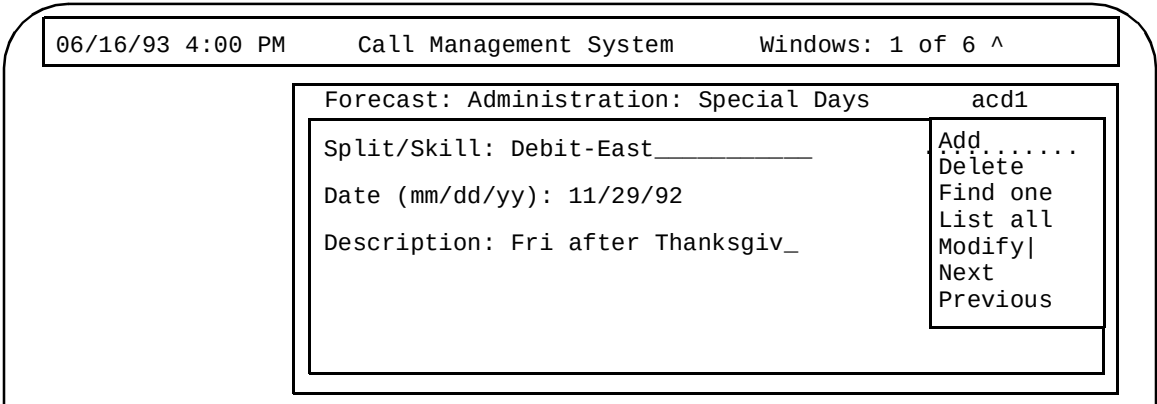


Figure 14-21: Special Days Window

Field/Action List
Usage

- Add**
To add a special day, complete all three fields and select **Add**.
- Delete**
To delete a special day, complete the Split/Skill: and Date fields, and select **Delete**.
- Find one**
To display the name of a split/skill, select **Find one**.

List all

To view special days for a split/skill, complete the Split/Skill: field, and select List all.

Modify

To modify a special day, complete the Split/Skill: and Date (mm/dd/yy): fields, and any other fields you want to change and select Modify.

Field Descriptions

Split/Skill:

Enter a split/skill name or number for which you want to add, change, delete, or view a special day.

Date (mm/dd/yy):

Enter the date of a special day you want to add, change, or delete. Use a mm/dd/yy format.

Description:

Enter a description of the special day. Your description should accurately describe the special day you are defining.

Current Day Report

Purpose

The Current Day Forecast tells you, for today, how many calls you can expect for a split/skill in each intrahour interval and how many agents you will need to handle those calls.

Since current day forecast data is saved for the number of days you specify on the Current Day Configuration window, you can retrieve current day forecasts for days past. You may want a current day forecast of a past day if you want to see how the forecasted calls and required agents compare with the day's actual calls and agent staffing.

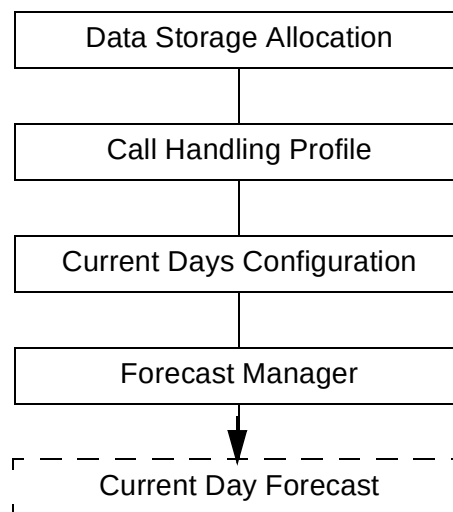


Figure 14-22: Current Day Report Administration Overview

Prerequisite System Administration

- You must have **read** permission for the Forecast subsystem and the split/skill for which you are running the report.
- You must have defined a current day configuration for the split/skill you are running a forecast for.
- The Forecast Manager must have run and generated the current day forecast data before you can actually display the forecast.
- For an accurate report, you should have at least 4 weeks of data stored in the forecast input tables.
- If you want to use seasonal trending, you must have at least 8 weeks of data in the forecast input tables.

Note

To understand how CMS generates forecast data, see the section, "How the Forecast System Works" at the end of this chapter.

Current Day Input Window

To run a current day forecast, you must fill in the Current Day Input window (Figure 14-23).

06/16/93 10:30 PM Call Management System Windows: 1 of 6 ^

Forecast: Reports: Current Day Input acd1

Split/Skill: custservlocal _____

Forecast date (mm/dd/yy or -n): 04/23/93

First interval start time: 07:30am_

Last interval start time: 05:30pm_

Report destination (Select one):

<x> Terminal

< > Printer, Printer name: _____

< > File,

File name: _____

Figure 14-23: Current Day Input Window

Field Descriptions

Split/Skill:

Enter the number or name of the split/skill for which you want a current day forecast.

Forecast date (mm/dd/yy or -n):

Enter a date as a relative day (for example, -2 means 2 days ago and 0 means today) or in mm/dd/yy format. This is the date for which you want a forecast of call traffic and required agents.

You can get a forecast for any date in the past, up to the number of current day forecasts you told CMS to save.

First interval start time:

Enter a time of day in hh:mm format, either as military time (for example, 13:30) or with AM or PM appended (for example, 10:15 AM).

- This time tells CMS what time the current day forecast should begin.
- The time should match the beginning of an intrahour interval. In addition, the call handling profile selected in the Current Day Configuration window must include this interval.

Last interval start time:

Enter a time of day in hh:mm format, either as military time or with am or pm1 appended (for example, 10:15 AM).

- This time tells CMS which intrahour interval is the last interval it should include in each current day forecast.
- The time should match the beginning of an intrahour interval. In addition, the call handling profile selected in the Current Day Configuration window must include this interval. CMS will generate forecast data through the end of this intrahour interval.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file will be overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Current Day
Forecast Report
Example

A description of each report item follows the report example in the Current Day Forecast Report Description table.

Current Day Forecast										
ACD: NASPS ACD1							Printed: 4/1/93 1:08 PM			
Split/Skill: Billing							Forecast for 4/1/93			
Historical data used (weight)							100% Change Factor			
3/4/93 (10) 3/11/93 (10) 3/18/93 (10) 3/25/93 (10)										
Forecast method: no trending							Base date: 1/1/93			
-Call Handling Profile - --Profile Results---										
	Forecast	Number	Avg	Service	Agent	Avg	Avg	Service	Agent	
	Calls	Agents	Speed	Level	Occ	Serv	Speed	Level	Occ	
Time	Carried	Req'd	Answer	%	sec	%	Time	Answer	%	%

Totals	947									

7:00 AM	37	3	10	80%	10	80	60	5	89	41
7:30 AM	44	3	10	80%	10	80	60	9	83	49
.										
.										
5:00 PM	11	2	10	80%	10	80	60	2	96	18

Figure 14-24: Current Day Forecast Report Example

Note

CMS stores current day forecast data in the CMS database so that the data can be included in the standard Split/Skill Forecast Summary Report and in custom reports. Data derived from the Current Day Configuration (the data appearing at the top of the forecast) is stored in the f_cday table. Current day forecast data is stored in the f_cdayrep table. Table 14-2 lists the database items that store the data, along with the tables that contain the items. You will need to know this information if you create custom reports that include forecast data.

Table 14-2: Current Day Forecast Report Description

Report Heading	What It Measures	Database Item	Table
ACD	The ACD of the forecasted split/skill.	ACD	f_cday f_cdayrep
Printed	The date and time the report was run.	No database item.	Not applicable.
Split/Skill	The split/skill the forecast is for.	SPLIT	f_cday f_cdayrep
Forecast for	The date the forecast is for.	ROW_DATE	f_cday f_cdayrep
Historical data used (weight)	The current data points used for the forecast, and their respective weights (0 to 10), as specified on the Current Day Configuration window.	HDATE1 WT1 HDATE2 WT2 HDATE3 WT3 HDATE4 WT4	f_cday
% Change Factor	The adjustment, expressed as a percentage, that CMS made to its initial forecasted calls carried. CMS makes changes, if any, based on the Change Factor you enter on the Current Day Configuration Input window.	CHANGE	f_cday
Forecast method	The method, as specified on the Current Day Configuration window, used to determine forecast data: • Seasonal trending • Current trending • No trending	FMETHOD	f_cday
Base date	A past date, as specified on the Current Day Configuration window, that is similar to the current date. This date is used only for seasonal trending.	TRENDBASE	f_cday
Time	The start time of each intrahour interval included in the forecast.	STARTTIME	f_cdayrep
Forecast Calls Carried	The number of calls forecasted to arrive at the split/skill for the associated intrahour interval.	FCALLS	f_cdayrep

Table 14-2: Current Day Forecast Report Description (Contd)

Report Heading	What It Measures	Database Item	Table
Number Agents Req'd	The number of agents that must be logged into the split/skill for the intrahour interval in order to handle the forecasted calls, given the call handling objectives.	NUMAGREQ	f_cdayrep
Avg Speed Answer [Call Handling Profile]	The targeted average time calls should wait before an agent answers. This objective is specified in the Call Handling Profile selected in the Current Day Configuration window.	AVGSPEEDANS	f_cdayrep
Service Level % [Call Handling Profile]	The targeted percentage of calls that the agents will answer within the time specified in the Service Level sec field.	SERVLEVELP	f_cdayrep
Service Level sec [Call Handling Profile]	The targeted number of seconds within which the Service Level % of calls should be answered. This objective is specified in the Call Handling Profile selected in the Current Day Configuration window.	SERVLEVELT	f_cdayrep
Agent Occ % [Call Handling Profile]	The targeted average percentage of time agents should spend on ACD calls while logged in. This objective is specified in the Call Handling Profile selected in the Current Day Configuration window.	AGOCC	f_cdayrep
Avg Serv Time [Call Handling Profile]	The targeted average number of seconds each agent should spend on an ACD call, including talk time and after-call-work time. This objective is specified in the Call Handling Profile selected in the Current Day Configuration window.	AVGAGSERV	f_cdayrep
Avg Speed Answer [Profile Results]	The forecasted average time calls will wait before an agent answers. CMS calculates this average after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted average will be slightly lower than the Average Speed of Answer objective.	RAVGSPEEDANS	f_cdayrep

Table 14-2: Current Day Forecast Report Description (Contd)

Report Heading	What It Measures	Database Item	Table
Service Level % [Profile Results]	The forecasted percentage of calls that the agents will answer within the time specified in the Service Level sec field. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly higher than the Service Level % objective.	RSERVLEVELP	f_cdayrep
Agent Occ % [Profile Results]	The forecasted average percentage of time agents will spend on ACD calls while logged in. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly lower than the Agent Occ % objective.	RAGOCC	f_cdayrep

Longterm Report

Purpose

The Longterm Forecast tells you, for any day up to 35 days in the future, how many calls you can expect for a split/skill in each intrahour interval and how many agents you will need to handle those calls.

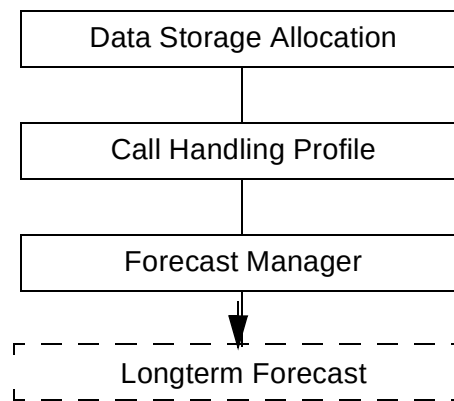


Figure 14-25: Longterm Report Administration Overview

Things to Know About Report Data

If you select one-day-apart data points and one or more of those data points had no activity (as, for example, on a weekend), CMS will still use those data points. Therefore, your forecast could be severely skewed.



For a detailed explanation of how CMS generates forecast data, see the section, "How the Forecast System Works" at the end of this chapter.

Prerequisite System Administration

- You must have **read** permission for the Forecast subsystem and the split/skill for which you are running the forecast.
- You must have defined a call handling profile for the split/skill you are running a forecast for.
- For you to get accurate forecasts, the Forecast Manager must have collected the forecast input data as follows:
 - For one-day-apart data points, 4 days of data.
 - For one-week apart data points, 4 weeks of data.
 - For seasonal trending, at least 8 weeks of data.

Longterm Report Input Window

To run a Longterm Forecast, you must complete the Longterm Input Window (Figure 14-26).

06/16/93 3:30 PM Call Management System Windows: 1 of 6 ^

Forecast: Reports: Current Day Input acd1

Split/Skill: warranties _____ Run

Forecast date (mm/dd/yy or +n): 14 _____

 First interval start time: 06:00am _____

 Last interval start time: 06:00pm _____

Call handling profile: 1 _____

Days between historical data points (1 or 7): 7 _____

Forecast method (select one):

 < > No trending

 < > Seasonal trending, base date (mm/dd/yy or -n): 07/01/93

 < > Current trending

 <x> Expected calls 0 _____

Change factor: 100_%

To de-emphasize data, weight each data point (0-10) where
 10=most representative, 0=do not use this data

 __ Date 1 (most recent)

 __ Date 2

 __ Date 3

 __ Date 4 (least recent)

Report destination (Select one):

 <x> Terminal

 < > Printer, Printer name: _____

 < > File,

 File name: _____

Figure 14-26: Longterm Input Window

Field Descriptions

Split/Skill:

Enter the number or name of the split/skill for which you want a longterm forecast.

Forecast date (mm/dd/yy or +n):

Enter a date as a relative day (for example, 12 means 12 days after today) or in mm/dd/yy format. This is the date for which you want to forecast call traffic and required agents.

First interval start time:

Enter a time of day in hh:mm format, either as military time (for example, 13:30) or with AM or PM appended (for example, 10:15AM).

- This time tells CMS what time the longterm forecast should begin.
- The time should match the beginning of an intrahour interval. In addition, the split(s)/skill(s) call handling profile must include this interval.

Last interval start time:

Enter a time of day in hh:mm format, either as military time or with am or pm appended (for example, 10:15AM).

- This time tells CMS which intrahour interval is the last interval it should include in each longterm forecast.
- The time should match the beginning of an intrahour interval. CMS will generate forecast data through the end of this intrahour interval.

Call handling profile:

Enter the number, 1 to 100, of the call handling profile CMS should use to generate forecast data. The selected call handling profile must include the intervals between the times you entered in the **First interval start time:** and **Last interval start time:** fields.

Days between historical data points (1 or 7):

Enter 1 or 7 to specify the number of days between data points.

- If you enter 1 to specify that data points will be 1 day apart, you can run the forecast for up to 7 days in the future.
- If you enter 7 to specify that data points will be 7 days apart, you can run the forecast for up to 35 days in the future.

Forecast method (select one):

The forecast method you select always finds the average of the previous four weeks. This average is adjusted based on the trending option you select. Enter an **x** to select one of the four trending options:

- **No trending**—CMS will average the data from data points in the previous four days or weeks. This option will not generate any trend of that data.

- **Seasonal trending**—CMS will use data from a specified **base date** and data points from the 4 days (or 4 weeks) previous to that date. CMS will then generate a forecast that projects growth or shrinkage based on the trend of that seasonal data.
- **base date**—If you select seasonal trending, enter a date as a negative number (-n) to represent how many days in the past the base date should be, or enter a past date in a mm/dd/yy format.

If you use the mm/dd/yy format, then put 0 in the input blank for -n so that CMS knows how to use the mm/dd/yy entry. If the -n entry is not 0, it will be used.

The base date should be a day when the call center activity was similar to that expected for the current day.

- **Current trending**—CMS will use data from data points in the previous 4 days or weeks, and will generate a forecast that projects growth or shrinkage based on the trend of that data.
- **Expected calls**—CMS will not forecast the number of calls to the split/skill. Instead, CMS will take the number of calls you enter and distribute them among the specified intervals in amounts that match the pattern in the historical data in your data points.

If you select Expected calls, you must enter the number of calls you expect will connect to the split/skill for the whole forecasted day.

Change factor:

Enter a number from 1 to 1000. This number tells CMS, as a percentage, how much it should increase or decrease the number of calls carried it finds in its initial forecast. 100 means no change. 1000 means the forecast calls carried should be multiplied by 10.

To de-emphasize data, weight each data point (0-10) where 10=most representative, 0=do not use this data



You should leave the relative weight of each date at 10 unless you know the data stored for a particular date is highly unusual or incorrect.

Dates 1 (most recent) to 4 (least recent):

Enter a number, 0 to 10, to change the relative weight of data on any or all data points.

Report destination (Select one):

Enter an x next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the x.
- If you selected File, enter a file name and then press Return. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Longterm
Forecast Report
Example

A description of each report item follows the report example in the Longterm Forecast Report Description table.

Longterm Forecast										
ACD: NASPS ACD1							Printed: 4/1/93 12:44 PM			
Split/Skill: Billing							Forecast for 4/2/93			
Historical data used (weight)							100% Change Factor			
3/5/93 (10) 3/12/93 (10) 3/19/93 (10) 3/26/93 (10)										
Forecast method: no trending							Base date: 1/1/93			
(User expected 0 calls)										
-Call Handling Profile 1 - --Profile Results--										
	Forecast	Number	Avg	Service	Agent	Avg	Avg	Service	Agent	
	Calls	Agents	Speed	Level	Occ	Serv	Speed	Level	Occ	
Time	Carried	Req'd	Answer	%	sec	%	Time	Answer	%	%

Totals	960									

7:00 AM	38	3	10	80%	10	80	60	6	88	42
7:30 AM	42	3	10	80%	10	80	60	8	85	47
.										
.										
5:00 PM	0	0	10	80%	10	80	60	0	100	0

Figure 14-27: Longterm Forecast Report Example

Table 14-3: Longterm Forecast Report Description

Report Heading	What It Means
ACD	The ACD of the forecasted split/skill.
Printed	The date and time the report was run.
Split/Skill	The split/skill the forecast is for.
Forecast for	The date the forecast is for.
Historical data used	The current data points used for the forecast, and their respective weights (0 to 10), as specified on the Longterm Input window.
% Change Factor	The adjustment, expressed as a percentage, that CMS made to its initial forecasted calls carried. CMS makes changes, if any, based on the Change Factor you enter on the Longterm Input window.
Forecast method	The method, as specified on the Longterm Input window, used to determine forecast data: • Seasonal trending • Current trending • No trending • Expected calls.
Base date	A past date, as specified on the Longterm Input window, that is similar to the current date. This date is used only for seasonal trending.
Time	The start time of each intrahour interval included in the forecast.
Forecast Calls Carried	The number of calls forecasted to arrive at the split/skill for the associated intrahour interval.
Number Agents Req'd	The number of agents that must be logged into the split/skill for the intrahour interval in order to handle the forecasted calls, given the call handling objectives.
Avg Speed Answer [Call Handling Profile]	The targeted average time calls should wait before an agent answers. This objective is specified in the Call Handling Profile selected in the Longterm Input window.
Service Level % [Call Handling Profile]	The targeted percentage of calls that the split(s)/skill(s) agents will answer within the time specified in the Service Level sec field. This objective is specified in the Call Handling Profile selected in the Longterm Input window.
Service Level sec [Call Handling Profile]	The targeted number of seconds within which the Service Level % of calls should be answered. This objective is specified in the Call Handling Profile selected in the Longterm Input window.

Table 14-3: Longterm Forecast Report Description (Contd)

Report Heading	What It Means
Agent Occ % [Call Handling Profile]	The targeted average percentage of time agents should spend on ACD calls while logged in. This objective is specified in the Call Handling Profile selected in the Longterm Input window.
Avg Serv Time [Call Handling Profile]	The targeted average number of seconds each agent should spend on an ACD call, including talk time and after-call-work time. This objective is specified in the Call Handling Profile selected in the Longterm Input window.
Avg Speed Answer [Profile Results]	The forecasted average time calls will wait before an agent answers. CMS calculates this average after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted average will be slightly lower than the Average Speed of Answer objective.
Service Level % [Profile Results]	The forecasted percentage of calls that the split(s)/skill(s) agents will answer within the time specified in the Service Level sec field. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly higher than the Service Level % objective.
Agent Occ % [Profile Results]	The forecasted average percentage of time agents will spend on ACD calls while logged in. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly lower than the Agent Occ % objective.

Financial Report

Purpose

The Financial Forecast tells you, for any day up to 35 days in the future, the following three things for each intrahour interval in the day:

- How many calls you can expect for a split/skill.
- How many agents you will need to handle those calls.
- How much your profit margin will be.

Note

For a detailed explanation of how CMS generates forecast data, see the section, "How the Forecast System Works" at the end of this chapter.

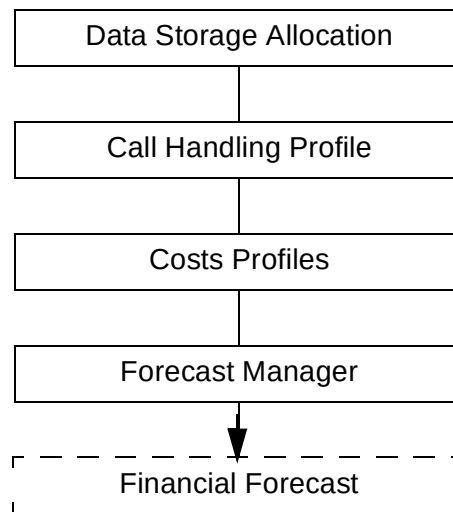


Figure 14-28: Financial Report Administration Overview

Prerequisite System Administration

-
- You must have **read** permission for the Forecast subsystem and the split/skill for which you are running the forecast.
 - You must have defined a call handling profile for the split/skill you are running a forecast for.
 - You must have defined a costs profile for the split/skill you are running a forecast for.
 - For you to get accurate forecasts, the Forecast Manager must have collected the forecast input data as follows:
 - For one-day-apart data points, 4 days of data.
 - For one-week apart data points, 4 weeks of data.
 - For seasonal trending, at least 8 weeks of data.

Financial Input Window

To run the Financial Forecast, you must complete the Financial Input window (Figure 14-29).

```

06/16/93 3:30 PM      Call Management System      Windows: 1 of 6 ^
Forecast: Reports: Current Day Input      acd1
Split/Skill: warranties_____
Forecast date (mm/dd/yy or +n): 14____
  First interval start time: 06:00am____
  Last interval start time:  06:00pm____
Call handling profile:  1____
Costs profile:36____
Days between historical data points (1 or 7): 7
Forecast method (select one):
  < > No trending
  < > Seasonal trending, base date (mm/dd/yy or -n): 07/01/93
  < > Current trending
  <x> Expected calls 2500
Change factor: 100_%
Do you want to de-emphasize any data (y/n)?  n

Report destination (Select one):
<x> Terminal
< > Printer, Printer name:_____
< > File,
    File name: _____
  
```

Figure 14-29: Financial Input Window

Field Descriptions

Split/Skill:

Enter the number or name of the split/skill for which you want a forecast.

Forecast date (mm/dd/yy or +n):

Enter a date as a relative day (for example, 12 means 12 days after today) or in mm/dd/yy format. This is the date for which you want to forecast call traffic and required agents. A maximum of 4 digits are allowed.

First interval start time:

Enter a time of day in hh:mm format, either as military time or with am or pm appended (for example, 10:15AM).

- This time tells CMS what time the longterm forecast should begin.
- The time must match the beginning of an intrahour interval. In addition, the split(s)/skill(s) call handling profile must include this interval.

Last interval start time:

Enter a time of day in hh:mm format, in military time or with am or pm appended (for example, 10:15AM).

- This time tells CMS which intrahour interval is the last interval it should include in each financial forecast.
- The time must match the beginning of an intrahour interval. CMS will generate forecast data through the end of this intrahour interval.

Call handling profile:

Enter the number, 1 to 100, of the call handling profile CMS should use to generate forecast data. The selected call handling profile must include the intervals between the times you entered in the First interval start time: and Last interval start time: fields.

Costs profile:

Enter the number, 1 to 100, of the costs profile you want to use for this financial forecast. CMS will use the costs profile to determine total costs of calls and agent labor per intrahour interval, as well as estimated revenue per intrahour interval.

The selected costs profile must include the intervals between the times you entered in the First interval start time: and Last interval start time: fields.

Days between historical data points (1 or 7):

Enter 1 or 7 to specify the number of days between data points.

- If you enter 1 to specify that data points will be 1 day apart, you can run the forecast for up to 7 days in the future.
- If you enter 7 to specify that data points will be 7 day apart, you can run the forecast for up to 35 days in the future.

Forecast method (select one):

Enter an **x** to select one of the four trending options:

- **No trending**—CMS will use data from data points in the previous 4 days or weeks, but will not generate a forecast based on the trend of that data.
- **Seasonal trending**—CMS will use data from the data points 4 days or 4 weeks preceding the specified base date. CMS will then generate a forecast that projects growth or shrinkage based on the trend of that seasonal data.
- **base date**—If you select seasonal trending, enter a date as a negative number (-n) to represent how many days in the past the base date should be, or enter a past date in an mm/dd/yy format. The base date should be a day when the call center activity was similar to that expected for the current day.
- **Current trending**—CMS will use data from data points in the previous 4 days or weeks, and will generate a forecast that projects growth or shrinkage based on the trend of that data.
- **Expected calls**—CMS will not forecast number of calls to the split/skill. Instead, CMS will take the number of calls you enter and distribute them among the specified intervals in amounts that match the pattern in the historical data in your data points.

If you select **Expected calls**, you must enter the number of calls you expect will connect to the split/skill for the whole forecasted day.

Change factor:

Enter a number from 1 to 1000. This number tells CMS, as a percentage, how much it should increase or decrease the number of calls carried it finds in its initial forecast. 100 means no change. 1000 means the forecast calls carried should be multiplied by 10.

**To de-emphasize data, weight each data point (0-10)
where 10=most representative, 0=do not use this data**

Note

You should leave the relative weight of each date at 10 unless you know the data stored for a particular date is highly unusual or incorrect.

Dates 1 (most recent) to 4 (least recent):

Enter a number, 0 to 10, to change the relative weight of data on any or all data points.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Financial Forecast Report Example

A description of each report item follows the report example in the table "Financial Forecast Report Description."

Financial Forecast														
ACD: NASPS ACD1										Printed: 4/1/93 1:04 PM				
Split/Skill: Billing										Forecast for 4/2/93				
Historical data used (weight)										100% Change Factor				
3/5/93 (10) 3/12/93 (10) 3/19/93 (10) 3/26/93 (10)														
Forecast method: no trending										Base date: 4/3/93				
(User expected 0 calls)														
-Call Handling Profile - --Profile Results--- --Costs Profile 1 --														
	Forecast	Number	Avg	Service	Agent	Avg	Avg	Service	Agent	Cost	Cost	Revenue		
Time	Calls	Agents	Speed	Level	Occ	Serv	Speed	Level	Occ	of	of	per	Est	
	Carried	Req'd	Answer	%	sec	%	Time	Answer	%	%	Call	Agent	Call	Margin

Totals	960													

7:00 AM	38	3	10	80%	10	80	60	6	88	42	1.87	9.00	15.00	471.94
7:30 AM	42	3	10	80%	10	80	60	8	85	47	1.87	9.00	15.00	524.46
.														
.														
5:00 PM	0	0	10	80%	10	80	60	0	100	0	1.87	9.00	15.00	0.00

Figure 14-30: Financial Forecast Report Example

Table 14-4: Financial Forecast Report Description

Report Heading	What It Means
ACD	The ACD of the forecasted split/skill.
Printed	The date and time the report was run.
Split/Skill	The split/skill the forecast is for.
Forecast for	The date the forecast is for.
Historical data used	The current data points used for the forecast, and their respective weights (0 to 10), as specified on the Financial Input window.
Change Factor	The adjustment, expressed as a percentage, that CMS made to its initial forecasted calls carried. CMS makes changes, if any, based on the Change Factor you enter on the Financial Input window.
Forecast method	The method, as specified on the Financial Input window, used to determine forecast data: • Seasonal trending • Current trending • No trending • Expected calls.
Base date	A past date, as specified on the Financial Input window, that is similar to the current date. This date is used only for seasonal trending.
Time	The start time of each intrahour interval included in the forecast.
Forecast Calls Carried	The number of calls forecasted to arrive at the split/skill for the associated intrahour interval.
Number Agents Req'd	The number of agents that must be logged into the split/skill for the intrahour interval in order to handle the forecasted calls, given the call handling objectives.
Avg Speed Answer [Call Handling Profile]	The targeted average time calls should wait before an agent answers. This objective is specified in the Call Handling Profile selected in the Financial Input window.
Service Level % [Call Handling Profile]	The targeted percentage of calls that the split/skill agents will answer within the time specified in the Service Level sec field. This objective is specified in the Call Handling Profile selected in the Financial Input window.
Service Level sec [Call Handling Profile]	The targeted number of seconds within which the Service Level % of calls should be answered. This objective is specified in the Call Handling Profile selected in the Financial Input window.

Table 14-4: Financial Forecast Report Description (Contd)

Report Heading	What It Means
Agent Occ % [Call Handling Profile]	The targeted average percentage of time agents should spend on ACD calls while logged in. This objective is specified in the Call Handling Profile selected in the Financial Input window.
Avg Serv Time [Call Handling Profile]	The targeted average number of seconds each agent should spend on an ACD call, including talk time and after-call-work time. This objective is specified in the Call Handling Profile selected in the Financial Input window.
Avg Speed Answer [Profile Results]	The forecasted average time calls will wait before an agent answers. CMS calculates this average after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted average will be slightly lower than the Average Speed of Answer objective.
Service Level % [Profile Results]	The forecasted percentage of calls that the split/skill agents will answer within the time specified in the Service Level sec field. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly higher than the Service Level % objective.
Agent Occ % [Profile Results]	The forecasted average percentage of time agents will spend on ACD calls while logged in. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly lower than the Agent Occ % objective.
Costs Profile [Costs Profile]	The number of the costs profile specified in the Financial Input window. The three objectives directly below this heading are specified in the Costs Profile.
Cost of Call [Costs Profile]	The expected average cost of a call to this split/skill, as specified in the Costs Profile window.
Cost of Agent [Costs Profile]	The expected average cost per agent for the intrahour interval, as specified in the Costs Profile window.
Revenue per Call [Costs Profile]	The expected average revenue per call, as specified in the Costs Profile window.
Est Margin	The estimated profit per interval, based the number of calls, their associated revenue and costs, and the cost of agents.

Intraday Report

Purpose

The Intraday report gives you a forecast for the number of agents you will need for the remaining part of the current day. The Intraday Forecast adjusts the normal current day forecast to account for actual call volume in the early part of the day.

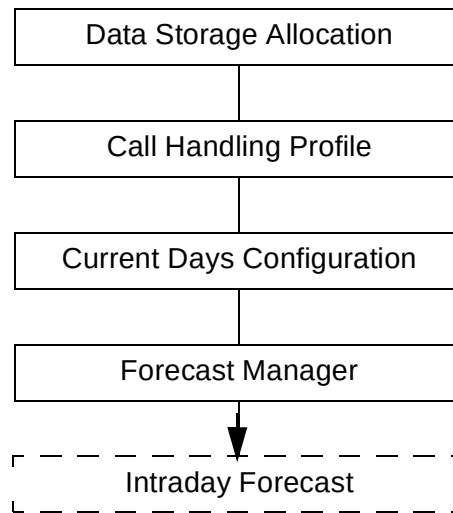
Things to Know About Report Data

- At least one intrahour interval of data must be collected for the current day before an Intraday Forecast can be run.
- Your forecast start time can be for the current interval or intervals that CMS has already archived. You cannot specify a forecast start time for a future interval.
- CMS automatically uses as input data all intervals of today's historical data, from the specified historical start time to the forecast start time. The interval you identify as the forecast start time will be forecasted, not used to supply input data.
- All intrahour intervals included in the Intraday Forecast must be within the time frame of the associated current day forecast. See the `First interval start time:` and `Last interval start time:` fields on the Current Day Input window in this chapter.
- To figure Intraday Forecast data, CMS finds the ratio of forecasted current day call volume to actual current day call volume and uses that ratio to adjust the forecasted call volume for the remaining intrahour intervals in the day.

In turn, CMS recalculates the number of agents required to handle the newly calculated call volume, taking into account the call handling profile used for the current day report.

Note

For a detailed explanation of how CMS generates forecast data, see the section, "How the Forecast System Works", at the end of this chapter.



*Historical Data must be collected prior to using the Intraday Forecast.

Figure 14-31: Intraday Report Administration Overview

Prerequisite System Administration

- You must have **read** permission for the Forecast subsystem and the split/skill for which you are running the report.
- You must have defined a call handling profile and a current day configuration for the split/skill you are running a forecast for.
- The Forecast Manager must have run and generated the current day forecast data.

Intraday Input Window

To run an Intraday Forecast, you must complete the Intraday Input Window (Figure 14-32).

06/16/93 3:30 PM Call Management System Windows: 1 of 6 ^

Forecast: Reports: Intraday Input acd1

Split/Skill: springsale

Historical time
First interval start time: 9:00am

Forecast time
First interval start time: 1:15pm
Last interval start time: 6:30pm

Report destination (Select one):
<x> Terminal
< > Printer, Printer name: _____
< > File,
File name: _____

Figure 14-32: Intraday Input Window

Field Descriptions

Split/Skill:

Enter the number or name of the split/skill for which you want an intraday forecast.

First interval start time: [Historical time]

Enter a time of day in hh:mm format, either as military time (for example, 13:30) or with am or pm appended (for example, 10:15am).

- This time tells CMS what time to begin comparing the forecast for today to today's actual data.
- CMS will compare forecast to actual current day data for each intrahour interval from this start time up to the intraday forecast start time.

First interval start time: [Forecast time]

Enter a time of day in hh:mm format, either as military time or with am or pm appended (for example, 10:15am).

- This time tells CMS what interval should be the first interval in the intraday forecast.
- The time must match the beginning of the current intrahour interval or an interval that has already passed.
- To generate the forecast, CMS will gather intrahour historical data starting at the equivalent time in each data point.

Last interval start time: [Forecast time]

Enter a time of day in hh:mm format, either as military time or with am or pm appended (for example, 10:15AM).

- This time tells CMS which intrahour interval is the last interval it should include in each intraday forecast.
- The time must match the beginning of an intrahour interval and must be within the time frame of the associated current day forecast data. The time frame cannot be after the Last interval start time: defined on the Current Day Configuration window. CMS will generate forecast data through the end of this intrahour interval.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Intraday Forecast Report Example

A description of each report item follows the report example in the table "Intraday Forecast Report Description."

```

                                Intraday Forecast

ACD: NASPS ACD1                                Printed: 4/1/93 1:10 PM
Split/Skill: Billing                            Forecast for 4/1/93
Forecast method: no trending                    Base date: 1/1/93
100 % Additional Change Factor
Activity today from 7:00 AM to 11:00 AM
  Number of Calls Carried:                    544
  Forecast Calls Carried:                     533
Percentage of Actual to Forecast: 102.06 %

                                -Call Handling Profile 1  - --Profile Results---
Time      Forecast  Number  Avg    Service  Agent  Avg  Avg  Service  Agent
          Calls    Agents  Speed  Level   Occ   Serv Speed Level  Occ
          Carried  Req'd  Answer %    sec %   Time Answer %    %
-----
Totals      622
-----
11:00 AM    48       4      10     80%   10    80    60    2      94     40
11:30 AM    50       4      10     80%   10    80    60    3      93     42
.
.
5:00 PM      0       0      10     80%   10    80    60    0     100     0

```

Figure 14-33: Intraday Forecast Report Example

Table 14-5: Intraday Forecast Report Description

Report Heading	What It Means
ACD	The ACD of the forecasted split/skill.
Printed	The date and time the report was run.
Split/Skill	The split/skill the forecast is for.
Forecast for	The date the forecast is for.
Forecast method	The method, as specified on the Current Day Configuration window, used to determine forecast data: • Seasonal trending • Current trending • No trending.
Base date	A past date, as specified on the Current Day Configuration window, that is similar to the current date. This date is used only for seasonal trending.
% Additional Change Factor	The adjustment, expressed as a percentage, that CMS made to its initial forecasted calls carried. CMS makes changes, if any, based on the Change Factor you enter on the Current Day Configuration window.
Activity today from	The start times of the first and last intervals whose current day forecast data and actual data are compared. The ratio of actual to forecasted call data is the basis for transforming the remainder of the current day forecast data into intraday data.
Number of Calls Carried	The total of actual calls carried for the time period specified by the Activity today from field.
Forecast Calls Carried	The total of forecast calls carried for the time period specified by the Activity today from field.
Percentage of Actual to Forecast	The percentage of forecast calls carried that actually were carried in the time period. This percentage is found by dividing the actual calls carried by the forecast calls carried.
Time	The start time of each intrahour interval included in the forecast.
Forecast Calls Carried	The number of calls forecasted to arrive at the split/skill for the associated intrahour interval.
Number Agents Req'd	The number of agents that must be logged into the split/skill for the intrahour interval in order to handle the forecasted calls, given the call handling objectives.

Table 14-5: Intraday Forecast Report Description (Contd)

Report Heading	What It Means
Avg Speed Answer [Call Handling Profile]	The targeted average time calls should wait before an agent answers. This objective is specified in the Call Handling Profile selected in the Current Day Configuration window.
Service Level % [Call Handling Profile]	The targeted percentage of calls that the split/skill's agents will answer within the time specified in the <code>Service Level sec</code> field.
Service Level sec [Call Handling Profile]	The targeted number of seconds within which the Service Level % of calls should be answered. This objective is specified in the Call Handling Profile selected in the Current Day Configuration window.
Agent Occ % [Call Handling Profile]	The targeted average percentage of time agents should spend on ACD calls while logged in. This objective is specified in the Call Handling Profile selected in the Current Day Configuration window.
Avg Serv Time [Call Handling Profile]	The targeted average number of seconds each agent should spend on an ACD call, including talk time and after-call-work time. This objective is specified in the Call Handling Profile selected in the Current Day Configuration window.
Avg Speed Answer [Profile Results]	The forecasted average time calls will wait before an agent answers. CMS calculates this average after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted average will be slightly lower than the Average Speed of Answer objective.
Service Level % [Profile Results]	The forecasted percentage of calls that the split/skill agents will answer within the time specified in the <code>Service Level sec</code> field. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly higher than the Service Level % objective.
Agent Occ % [Profile Results]	The forecasted average percentage of time agents will spend on ACD calls while logged in. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly lower than the Agent Occ % objective.

Special Day Report

Purpose

The Special Day Report tells you, for a special day, how many calls you can expect for a split/skill in each intrahour interval and how many agents you will need to handle those calls.

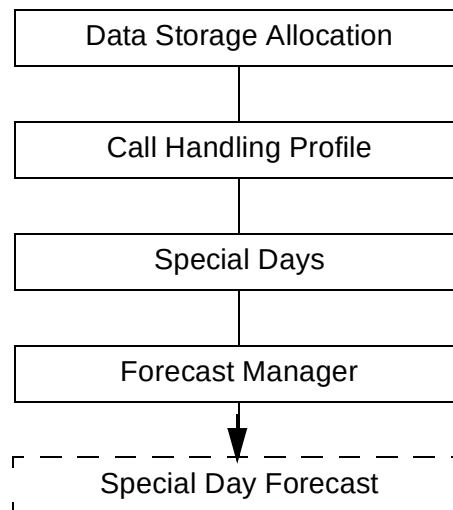


Figure 14-34: Special Day Report Administration Overview

Things to Know About Report Data

- A special day, like a holiday or a special promotion day, may have unique characteristics. As a result, you may want CMS to generate a forecast based only on the historical call volume on the last occurrence of the special day. Therefore, CMS does not use data points in forecasting special day call volume.
- You can adjust the special day forecast with the change factor.
- You can also base the forecast on expected calls, rather than use historical data.

Note

For a detailed explanation of how CMS generates forecast data, see the section, "How the Forecast System Works" at the end of this chapter.

Prerequisite System Administration

-
- You must have previously defined the special day on the Administration: Special Days window.
 - You must have defined a call handling profile for the split/skill you are running a forecast for.
 - The Forecast Manager must have collected data for a previous occurrence of that special day. If not, you may manually run the Forecast Manager to collect data for that day, providing that the data is still in the historical database.

Special Day Input Window

To run a Special Day Forecast, you must complete the Special Day Input Window (Figure 14-35).

06/16/93 3:30 PM Call Management System Windows: 1 of 6

Forecast: Reports: Special Day Input acd1

Split/Skill: warranties _____ Run

Forecast date (mm/dd/yy or +n): 14 _____

 First interval start time: 06:00am

 Last interval start time: 06:00pm

Call handling profile: 1

Saved special day (mm/dd/yy or -n): 11/29/92

Change factor: 100 %

(optional) Expected calls: 0 _____

Report destination (Select one):

<x> Terminal

< > Printer, Printer name: _____

< > File,

 File name: _____

Figure 14-35: Special Day Input Window

Field Descriptions

Split/Skill:

Enter the number or name of the split/skill for which you want a special day forecast.

Forecast date (mm/dd/yy or +n):

Enter a date as a relative day (for example, 12 means 12 days after today) or in mm/dd/yy format. This is the date for which you want to forecast call traffic and required agents.

First interval start time:

Enter a time of day in hh:mm format, either as military time (for example, 13:30) or with am or pm appended (for example, 10:15AM).

- This time tells CMS what time the special day forecast should begin.
- The time must match the beginning of an intrahour interval. In addition, the split/skill's call handling profile must include this interval.

Last interval start time:

Enter a time of day in hh:mm format, either as military time or with am or pm appended (for example, 10:15am).

- This time tells CMS which intrahour interval is the last interval it should include in each special day forecast.
- The time must match the beginning of an intrahour interval. CMS will generate forecast data through the end of this intrahour interval.

Call handling profile:

Enter the number, 1 to 100, of the call handling profile CMS should use to generate forecast data. The selected call handling profile must include the intervals between the times you entered in the `First interval start time:` and `Last interval start time:` fields.

Saved special day (mm/dd/yy on -n):

Enter the date, in mm/dd/yy format, of the special day whose data you want to use for the forecast.

Change factor:

Enter a number from 1 to 1000. This number tells CMS, as a percentage, how much it should increase or decrease the number of calls carried it finds in its initial forecast. 100 means no change. 1000 means the forecast calls carried should be multiplied by 10.

(optional) Expected calls:

CMS will not forecast number of calls to the split/skill. Instead, CMS will take the number of calls you enter and distribute them among the specified intervals in amounts that match the pattern in the historical data in your special day.

If you select `Expected calls`, you must enter the number of calls you expect will connect to the split/skill for the whole forecasted day.

Report destination (Select one):

Enter an **x** next to `Terminal`, `Printer`, or `File`.

- `Terminal` is the default destination.

- If you selected **Printer** and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected **File**, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Special Day Forecast Report Description

A description of each report item follows the report example in the Special Day Forecast Report Description table.

Special Day Forecast										
ACD: NASPS ACD1							Printed: 4/1/93 1:20 PM			
Split/Skill: Billing							Forecast for 4/2/93			
Forecast based on data from 3/31/93							Base date: 1/1/93			
(User expected 0 calls)							100 % Change Factor			
-Call Handling Profile 1 - --Profile Results---										
	Forecast	Number	Avg	Service	Agent	Avg	Avg	Service	Agent	
	Calls	Agents	Speed	Level	Occ	Serv	Speed	Level	Occ	
Time	Carried	Req'd	Answer	%	sec	%	Time	Answer	%	%

Totals	920									

11:00 AM	37	3	10	80%	10	80	60	5	89	41
11:30 AM	42	3	10	80%	10	80	60	8	85	47
.										
.										
5:00 PM	12	2	10	80%	10	80	60	3	95	20

Figure 14-36: Special Day Forecast Report Example

Table 14-6: Special Day Forecast Report Description

Report Heading	What It Means
ACD	The ACD of the forecasted split/skill.
Printed	The date and time the report was run.
Split/Skill	The split/skill the forecast is for.
Forecast for	The date the forecast is for.
Forecast based on data from	The date of the past special day supplying input data for this forecast.
% Change Factor	The adjustment, expressed as a percentage, that CMS made to its initial forecasted calls carried. CMS makes changes, if any, based on the Change Factor you enter on the Special Day Input window.
(User expected calls)	The total number of expected calls for the entire day. Expected calls are specified on the Special Day Input window. Expected calls are spread over the specified intrahour intervals in the day, in amounts equal to the relative amounts each interval had on the previous special day.
Time	The start time of each intrahour interval included in the forecast.
Forecast Calls Carried	The number of calls forecasted to arrive at the split/skill for the associated intrahour interval.
Number Agents Req'd	The number of agents that must be logged into the split/skill for the intrahour interval in order to handle the forecasted calls, given the call handling objectives.
Avg Speed Answer [Call Handling Profile]	The targeted average time calls should wait before an agent answers. This objective is specified in the Call Handling Profile selected in the Special Day Input window.
Service Level % [Call Handling Profile]	The targeted percentage of calls that the split/skill's agents will answer within the time specified in the <code>Service Level sec</code> field.
Service Level sec [Call Handling Profile]	The targeted number of seconds within which the Service Level % of calls should be answered. This objective is specified in the Call Handling Profile selected in the Special Day Input window.
Agent Occ % [Call Handling Profile]	The targeted average percentage of time agents should spend on ACD calls while logged in. This objective is specified in the Call Handling Profile selected in the Special Day Input window.

Table 14-6: Special Day Forecast Report Description (Contd)

Report Heading	What It Means
Avg Serv Time [Call Handling Profile]	The targeted average number of seconds each agent should spend on an ACD call, including talk time and after-call-work time. This objective is specified in the Call Handling Profile selected in the Special Day Input window.
Avg Speed Answer [Profile Results]	The forecasted average time calls will wait before an agent answers. CMS calculates this average after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted average will be slightly lower than the Average Speed of Answer objective.
Service Level % [Profile Results]	The forecasted percentage of calls that the agents will answer within the time specified in the Service Level sec field. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly higher than the Service Level % objective.
Agent Occ % [Profile Results]	The forecasted average percentage of time agents will spend on ACD calls while logged in. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly lower than the Agent Occ % objective.

Agent Positions Required Report

Purpose

The Agent Positions Required Forecast generates a table that tells you, given specific call handling objectives, how many calls per intrahour interval can be handled by variable numbers of agents.

The Agent Positions Required Forecast is really a quick calculator that lets you see how adjustments to call handling objectives can affect your agents' call handling efficiency.

Things to Know About Report Data

- The Agent Positions Required Forecast, in addition to calculating the number of calls handled for each number of agents, converts your call handling objectives into performance data for each level of staffing. Comparison of this data to your objectives will show which objective(s) have the most impact on performance.
- You can run a forecast for a single agent or a specific number of agents. You can also specify a range of agents.
- If you specify a range of agents (for example, **100-200**), you will get a table with 101 rows, one row for each increment of one agent. However, you can choose to have only gradations of agents listed. For example, instead of having 101 rows (100 to 200) in your report, selecting gradations will cause your performance data to be listed in increments of 10 agents (that is, at 100, 110, 120, and so on).

I

Note

For a detailed explanation of how CMS generates forecast data, see the section, "How the Forecast System Works" at the end of this chapter.

Agent Positions Required Input Window

To run an Agent Positions Required Forecast, use the Agent Positions Required Input Window (Figure 14-37).

06/16/93 3:30 PM Call Management System Windows: 1 of 6

Forecast: Reports: Agent Positions Required Input acd1

Average speed of answer: 10__sec

Average agent service time: 180__sec

Service level: 90_% calls within 20__ sec

Agent occupancy: 100%

Number of agents: 150

Gradations(y/n): y

Report destination (Select one):

<x> Terminal

< > Printer, Printer name: _____

< > File, File name: _____

Run

Figure 14-37: Agent Positions Required Input Window

Field Descriptions

Average speed of answer:

Enter a number of seconds to define the targeted or expected average wait time for calls to the split/skill.

Average agent service time:

Enter a number of seconds to define the targeted or expected average time for each agent to spend on an ACD call, including talk time and after-call-work time.

Service level:

Enter a number, 1 to 99, to specify the percentage of calls that you are expecting or targeting to be answered by split/skill agents within the specified number of seconds. Also, enter the number of seconds you are targeting as an acceptable speed of answer for most calls.

Agent occupancy:

Enter a number, 0 to 100, to specify the percentage of time agents should spend, while logged in, on ACD calls. This percentage should include after-call-work.

Number of agents:

Enter a number of agents or a range of agents for which you want to see the number of calls that can be handled.

Gradations (y/n):

Enter **y** if you specified a range of agents, but you want CMS to list agent numbers in reasonable increments, rather than listing every number in the range.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Agent Positions Required Report Example

A description of each report item follows the report example in the Agent Positions Required Report Description table.

Agent Positions Required				
Parameters Specified				
Average Speed of Answer: 10 sec				
Average Agent Service Time: 180 sec				
Service Level: 90 % calls within 20 sec				
Agent Occupancy: 100 %				
Agents Req'd	Avg Speed Answer	Service Level	Agent Occ (%)	Calls Carried/ Interval
10	7	90%	65	64
20	6	90%	76	151
30	6	90%	81	242

Figure 14-38: Agent Positions Required Report Example

Table 14-7: Agent Positions Required Report Description

Report Heading	What It Means
Average Speed of Answer	The targeted average time calls should wait before an agent answers. You define this parameter on the Agent Positions Required Input Window.
Average Agent Service Time	The targeted average time each agent should spend on an ACD call, including talk time and after-call-work time. You define this parameter on the Agent Positions Required Input Window.
Service Level %	The targeted percentage of calls that the agents will answer within the specified number of seconds. You define this parameter on the Agent Positions Required Input Window.
Service Level calls within ____ sec	The targeted number of seconds within which the specified percentage of calls should be answered. You define this parameter on the Agent Positions Required Input Window.
Agent Occupancy	The targeted average percentage of time agents should spend on ACD calls while logged in. You define this parameter on the Agent Positions Required Input Window.
Agents Req'd	The number of agents specified on the Agent Positions Required Input Window, or an increment of agents within the range specified on the Agent Positions Required Input Window.
Avg Speed Answer	The forecasted average time calls will wait before an agent answers. CMS calculates this average after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted average will be slightly lower than the Average Speed of Answer objective.
Service Level	The forecasted percentage of calls that the split/skill's agents will answer within the time specified in the Service Level within ____ sec field. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly higher than the Service Level % objective.
Agent Occ (%)	The forecasted average percentage of time agents will spend on ACD calls while logged in. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly lower than the Agent Occupancy objective.
Calls Carried/ Interval	The number of calls that the associated number of agents can handle during your intrahour interval.

Trunks Required Report

Purpose

The Trunk Required Forecast generates a table that tells you how many calls per intrahour interval can be handled by variable numbers of trunks. The trunk blocking probability and holding time per call that you specify also affect the number of calls that the trunks can handle.

The Trunks Required Forecast is a quick calculator that lets you see how adjusting the number of trunks can affect your center's call handling efficiency.

Things to Know About Report Data

- The Trunks Required Forecast, in addition to calculating the number of calls handled for each number of trunks, tells you what the usage rate of your trunks will be.
- The forecast presents the usage rate in **erlangs**. An erlang is 100% occupancy of one trunk in a given time frame — for this forecast, the length of your intrahour interval. If the forecast shows a usage rate of 7 erlangs and your intrahour interval is 30 minutes, this means the trunk occupancy of all trunks added together would equal 210 minutes (7 times 30 minutes). If your intrahour interval were 15 minutes, 7 erlangs would equal a total trunk occupancy of 95 minutes.

Therefore, you could think of 7 erlangs as equivalent to 7 trunks occupied for the whole intrahour interval. Or, from a different perspective, you could think of 7 erlangs as meaning that, on average, 7 trunks will be in use at any given time in the interval.

- You can run a forecast for a specific number of trunks or a range of trunks.
- If you specify a range of trunks (for example, **100 - 200**), you will get a table with 101 rows, one row for each increment of one trunk. However, you can choose to have only gradations of trunks listed. For example, instead of having 101 rows (100 to 200) in your report, selecting gradations will cause the forecast to list increments of trunks according to a fixed algorithm (perhaps, at 100, 110, 120, and so on).

Note

For more explanation of how CMS generates forecast data, see "How the Forecast System Works" at the end of this chapter.

Prerequisite System Administration

You must have **write** permission for the Forecast subsystem.

Trunks Required Input Window

To run the Trunks Required Forecast, you must complete the Trunks Required Input Window (Figure 14-39).

The screenshot shows a window titled "Call Management System" with a status bar at the top displaying "06/16/93 3:30 PM" and "Windows: 1 of 6 ^". The main window contains a form titled "Forecast: Reports: Trunks Required Input" with a "acd1" label in the top right corner. The form includes the following fields and options:

- Trunk blocking probability: 1.0%
- Average trunk holding time per call: 120_ sec
- Number of trunks: 20_
- Gradations(y/n): y
- Report destination (Select one):
 - <x> Terminal
 - < > Printer, Printer name: _____
 - < > File, File name: _____

A "Run" button is located in the top right corner of the form.

Figure 14-39: Trunks Required Input Window

Field Descriptions

Trunk blocking probability:

Enter a number from 1 to 100. This number tells CMS, as a percentage of time, how often calls will be blocked from reaching the ACD because all trunks are busy.

You may enter a decimal to specify percentages of less than one (for example, 1.25, which means 1¼ percent).

Average trunk holding time per call:

Enter the targeted or expected number of seconds each call, on average, should be connected to a trunk. This time would include time a call on a trunk waited in queue, as well as time connected to an agent.

Number of trunks:

Enter the maximum number of trunks for which you want CMS to calculate call volume.

You may also enter a range of trunks (for example, 20-45).

Gradations (y/n):

Enter a **y** if you want only gradations of trunk quantities listed in the report. Enter an **n** if you want to list every possible quantity of trunks, as specified in the **Number of trunks:** field.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Trunks Required Report Example

A description of each report item follows the report example in the Trunks Required Forecast Report Description table.

Trunks Required		
1.0 % Trunk Blocking Probability		
180 sec Trunk Holding Time / Call		
Trunks Req'd	Calls Carried/ Interval	Usage Rate (Erlangs)
10	44	4.46
15	80	8.10
20	119	12.01

Figure 14-40: Trunks Required Report Example

Table 14-8: Trunks Required Report Description

Report Heading	What It Means
% Trunk Blocking Probability	The percentage of time, specified on the Trunks Required Input Window, that calls will be blocked because all trunks are busy.
sec Trunk Holding Time/Call	The average number of seconds, specified on the Trunks Required Input Window, that each call will be connected to a trunk.
Trunks Req'd	The number of trunks specified on the Trunks Required Input Window, or an increment of trunks within the range of trunks specified on the Trunks Required Input Window.
Calls Carried/ Interval	The number of calls the associated number of trunks can handle during your intrahour interval.
Usage Rate (Erlangs)	Total trunk occupancy of the associated number of trunks, expressed in erlangs (see “Things to Know About Report Data”).

Trunk Performance Report

Purpose

The Trunk Performance report estimates, at the busiest intervals in a specified range of historical dates, what the usage rate and blocking percentages were for the selected trunk group(s).

The report also tells you, given the objective blocking percentage(s) specified in the Trunk Group Profile window, how many trunks the trunk group(s) would have needed during the busiest intervals to meet the objectives.

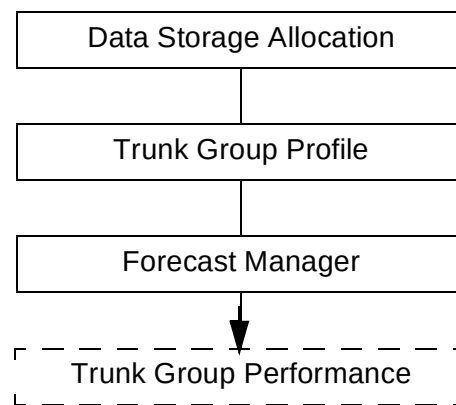


Figure 14-41: Trunk Performance Report Administration Overview

Things to Know About Report Data

- CMS finds the number of trunks each trunk group had on the stop date of the report time period. CMS then searches for the 5 busiest days in the report time period where the trunk group had that same number of trunks.
- The Trunks Performance Report, in addition to calculating the number of calls carried for each trunk group, tells you what the usage rate of the trunks in each trunk group will be.

The report presents the usage rate in **erlangs**. An erlang is 100 percent occupancy of one trunk in a given time frame — for this forecast, the length of your intrahour interval. If the report shows a usage rate of 7 erlangs and your intrahour interval is 30 minutes, this means the trunk occupancy of all trunks added together would equal 210 minutes (7 times 30 minutes). If your intrahour interval were 15 minutes, 7 erlangs would equal a total trunk occupancy of 95 minutes.

Therefore, you could think of 7 erlangs as equivalent to 7 trunks occupied for the whole intrahour interval. Or, from a different perspective, you could think of 7 erlangs as meaning that, on average, 7 trunks will be in use at any given time in the interval.



For a detailed explanation of how CMS generates forecast data, see the section, "How the Forecast System Works" at the end of this chapter.

Prerequisite System Administration

- You must have previously defined a Trunk Group Profile for each trunk group in the report.
- The Forecast Manager must have collected data for the days in the reporting period. If not, you may manually run the Forecast Manager to collect data for those days, providing that the data is still in the historical database.

Trunk Performance Input Window

To run a Trunk Performance Report, you must complete the Trunk Performance Input Window (Figure 14-42).

06/16/93 3:30 PM Call Management System Windows: 1 of 6

Forecast: Reports: Trunks Performance Input acd1

Start date (mm/dd/yy or -n): -30 Run

Stop date (mm/dd/yy or -n): -1

Trunk group(s): 22-42

Report destination (Select one):

<x> Terminal

< > Printer, Printer name: _____

< > File,

File name: _____

Figure 14-42: Trunk Performance Input Window

Field Descriptions

Start date (mm/dd/yy or -n):

Enter a past date as a relative day (for example, -2 means 2 days ago) or in mm/dd/yy format. This is the first date in the time period for which CMS will check call volume and trunk usage.

Stop date (mm/dd/yy or -n):

Enter a past date as a relative day or in mm/dd/yy format. This is the last date in the time period for which CMS will check call volume and trunk usage.

The stop date must be more recent than the start date.

Trunk groups(s):

Enter the number(s) or name(s) of the trunk groups for which you want trunk performance data.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
 - If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
 - If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.
-

Trunk Performance Report Example

A description of each report item follows the report example in the Trunk Performance Report Description table.

Trunk Performance										
ACD: NASPS ACD1							Printed: 4/1/93 1:30 PM			
3/2/93 to 3/31/93										
Trunk Group		Avg Use/Trunk	Busy Interval CCS	Usage Rate (Erlangs)	Estimated Blocking (%)	Objective Blocking (%)	Actual Number Trunks	Estimated Trunks Required	Days Used	Days Examined
No.	Name									
18	Billing_TG	0	0	0.00	0.00	1.00	0	0	0	0
19	Order_Inquir	1	4474	2.48	0.00	1.00	20	7	17	17
.										
.										
25	Veterinarian	1	13044	87.10	0.00	1.00	180	104	17	17

Figure 14-43: Trunk Performance Report Example

Table 14-9: Trunk Performance Report Description

Report Heading	What It Means
ACD	The ACD of the trunk group(s) in the report.
Printed	The date and time the report was run.
__ to __	The start and stop dates of the historical data CMS used in the report.
Trunk Group No. Name	The number and name of the trunk group(s) included in the report.
Avg/Use Trunk	The average number of seconds each trunk in the trunk group was in use during the average busy intrahour interval.
Busy Interval CCS	The Centum Call Seconds (CCS) for the trunk group during the average busy intrahour interval. Centum Call Seconds is the number of 100 second increments in which the trunk was busy during the intrahour interval.
Usage Rate (Erlangs)	The average number of trunks that were seized at any point in time during the busy interval.
Estimated Blocking (%)	The estimated percentage of incoming ACD calls, during the busy interval, that were blocked because all trunks in the trunk group were busy.
Objective Blocking (%)	The objective blocking percentage specified in the trunk group's profile.
Actual Number Trunks	The actual number of trunks in the trunk group on the last day in the specified time period.
Estimated Trunks Required	The number of trunks the trunk group should have had to make the Estimated Blocking % equal the Objective Blocking%.
Days Used	For each trunk group, the number of days in the specified time period where the number of trunks equaled the number of trunks on the last day of the time period.
Days Examined	The total number of days in the time period.

Hypothetical Data

Purpose

Prior to running a Hypothetical Report or a Financial Hypothetical Report, you must decide how you want to gather data for your reports.

To define hypothetical data, you may:

- Enter new data in the hypothetical table from scratch.

For example, if you anticipate a future day whose call volume will be different from any days in the past, you might want to enter all data in the hypothetical table from scratch.

- Copy historical data into the hypothetical table.

For example, if you anticipate a future day whose call volume will be the same as days in the past.

- Edit data you copied.

For example, if you anticipate a future day whose call volume is unique for only a part of the day, you might copy the historical data into the hypothetical table and then edit data for the intrahour intervals you know will be different.



Your choice of how you gather data for your Hypothetical Report and your Hypothetical Financial Report depends on the type of day you want to forecast.

When you choose to copy or edit data, CMS supplies uniform default data in the hypothetical table so that you can run hypothetical forecasts immediately. With this uniform default data, you can use a hypothetical forecast to experiment with and clearly study the effects of call profiles, forecast methods, and other forecast inputs.

To view this data, you must use the Edit Values window (Figure 14-45).

Copy Historical Data

- Use the Copy Historical Data window (Figure 14-44) to copy historical data for a split/skill from the forecast input table into the hypothetical data table.
- You can use this data, either immediately or after editing it, to run hypothetical forecasts.

Note

To actually see the data in the hypothetical data table, you must use the Edit Values window.

Things to Know Before You Start

- Although you can copy historical data from any split/skill in any ACD (real or pseudo-), data in the hypothetical table is not stored for any particular split/skill, or ACD. Instead, the hypothetical table is simply a collection of ACD calls data for the intervals in four data points.
- You must separately copy data for each of the data points, 1 through 4. When you copy the data, any data that previously had been stored for that data point is overwritten in the table.
- You cannot copy abandons from the forecast input data. However, you can manually include abandons with ACD calls by editing the hypothetical points. See the "Data Points" and "Edit and View Hypothetical Data" sections in this chapter.

Prerequisite System Administration

- You must have **read** and **write** permission for the Forecast subsystem.
- You must have read permission for the split/skill (and ACD, if applicable) from which you are copying data.
- Before you can copy data, you must have previously run the Forecast Manager to copy data from the historical data tables to the forecast input table. You can run the Forecast Manager either manually or in a timetable.

Copy Historical Data Window To copy historical data for a split/skill from the forecast input table into the hypothetical data table, use the Hypothetical Data: Copy Historical Data window.

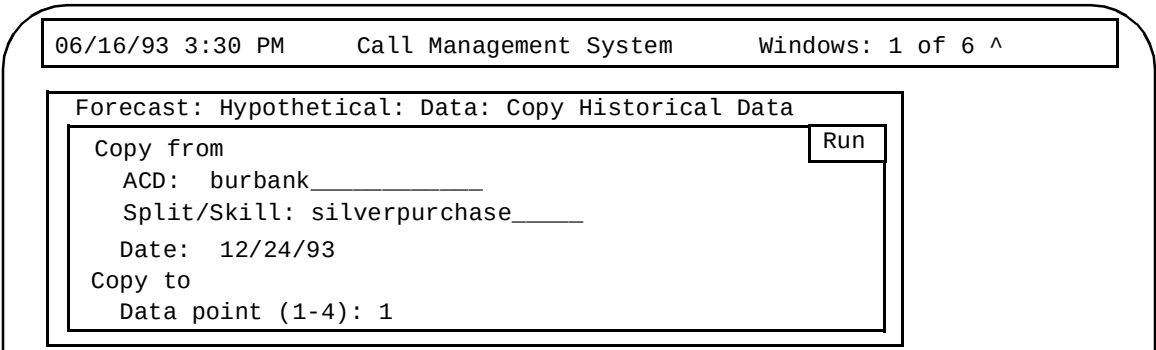


Figure 14-44: Copy Historical Data Window

Field/Action List Usage Copy
Enter any changes and select Copy.

Field Descriptions **ACD: [Copy from]**
Enter the number or name of the ACD that contains the split/skill data you want to copy. The ACD can be either the ACD connected to CMS or a pseudo-ACD.

Split/Skill: [Copy from]
Enter the name or number of the split/skill whose data you want to copy.

Date: [Copy from]
Enter a date whose data you want to copy to the hypothetical table. Use mm/dd/yy format.
Data for all intrahour intervals will be copied from this date.

Data point (1-4): [Copy to]
Enter a number from 1 to 4 to specify which data point the data should be copied to.

- Entering 1 copies data to the most recent data point. A 4 copies data to the oldest data point.
- Whether the data points are 1 day apart or 7 days apart is

determined when you actually run a hypothetical forecast.

Edit and View Hypothetical Data

Use the Edit Values window (Figure 14-45) to view, add, change, or delete the data in the hypothetical data table.

Things to Know Before You Start

- You can edit data for only one data point and one interval at a time.
- The only data you can change is the number of ACD calls per intrahour interval, since this is the only data used for hypothetical forecasts.
- When you run a hypothetical forecast, the interval length of the data must match the interval length of the ACD that supplies the forecast's call handling profile. To check the interval length of the data, do a `List all` for each data point. If the length does not match, you must either:
 - Copy, via the Copy Historical Data window, new data that has the same interval length as the call handling profile's ACD.
 - Change the intervals in the hypothetical table (see “Change the Intervals in the Hypothetical Table”).
 - Select a call handling profile from an ACD with a matching interval length.

If an ACD with a matching interval length does not exist, you can create a pseudo-ACD with the right interval length. You must also create an appropriate call handling profile for that ACD.

Note

Changing the intrahour interval on this window does not affect how real historical data is collected and stored.

Prerequisite System Administration

To use the hypothetical data, you must have **read** and **write** permission for the Forecast subsystem.

Edit Values Window To view hypothetical data, you must use the Edit Values window (Figure 14-45).

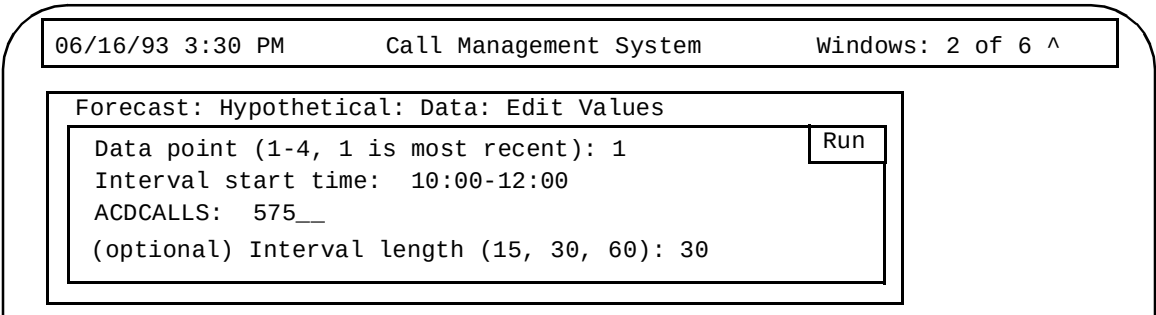


Figure 14-45: Edit Values Window

Field/Action List Usage Add

To add an interval of data, complete all fields and select Add.

Delete/List all

To delete hypothetical data, first do a List all on the data point whose data you want to delete. Then complete the Interval start time: field and select Delete.

Modify/Find one

To modify data for any intervals, first do a Find one on the data point you want to change. Then complete the Interval start time: and ACDCALLS: fields, and select Modify.

Note

To modify the length of intervals, see the following section, “Change the Interval Length of Hypothetical Data.” In general, you should not need to change the interval length.

Field Description **Data point (1-4, 1 is most recent):**

Enter a number from 1 to 4 to specify the data point whose data you want to edit.

Interval start time:

Enter the start time of the intrahour interval for which you want to edit hypothetical data.

ACDCALLS:

Enter the number of ACD calls you want considered for the specified data point and intrahour interval(s) when CMS calculates the hypothetical forecast.

(optional) Interval length (15, 30, 60):

Enter, in minutes, the length of the intrahour interval you want to appear in the hypothetical forecast.

Note

The interval length must be the same for all intervals and all data points in the hypothetical table. Therefore, if you want to change the length of an interval of data, you must change the length for all intervals in all data points.

Change the Interval Length of Hypothetical Data

If you want to change the intrahour interval length of data in the hypothetical table, you will either have to:

- Insert intervals of data (as when changing from 60-minute to 30-minute intervals, from 60-minute to 15-minute intervals, or from 30-minute to 15-minute intervals).
- Delete intervals of data (as when changing from 15-minute to 30-minute intervals, from 15-minute to 60-minute intervals, or from 30-minute to 60-minute intervals).

Note

When you run a hypothetical forecast, the interval length of the data must also match the interval length of the ACD that supplies the forecast's call handling profile.

Two sample procedures for changing interval length follow:

Change Data From 30-minute Intervals to 15-minute Intervals

1. In the `Data point` field, enter the data point whose intervals you want to change.
2. Select `Find one` to display the first interval of data in the data point. → *The `ACDCALLS` field displays the number of ACD calls for the first interval. The `Interval length` field displays the length of the interval.*
3. If desired, change the number of ACD calls in the `ACDCALLS` field. You may want to enter half the number displayed since you are changing 30-minute data to 15-minute data
4. In the `Interval length` field, enter **15**, and select `Modify`. → *Successful appears on the status line to indicate that the interval of data has been changed.*
5. In the `Interval start time` field, enter a start time exactly 15 minutes after the start time of the previous interval.
6. If desired, change the number of ACD calls in the `ACDCALLS` field. If you previously entered half of the ACD calls stored for a 30-minute interval, you may want to leave this number in the field since this also represents the other half the calls for the 30-minute interval.
7. Leave **15** in the `Interval length` field, and select `Add`. → *Successful appears on the status line to indicate that the interval of data has been added.*
8. Press Ctrl **Z**. → *Data in all of the input fields disappears.*

9. Repeat Steps 1 through 8 for each 30-minute interval in the data point.
10. Repeat Steps 1 through 9 for the other three data points you want for your forecast. When you are done, you can run the Hypothetical Forecast with the new interval length.

Note To change data from 60- to 30-minute intervals or 60- to 15-minute intervals, you basically use the same procedure as the preceding sample. However, to change from 60- to 15-minute intervals, you will need to add three intervals of data per 60-minute interval, normally with each interval containing only a fourth of the ACD calls contained in the associated 60-minute interval.

Changing data from 15-minute intervals to 30-minute intervals

1. In the **Data point** field, enter the data point whose data you want to change.
2. Select **List all** to display all of the 15-minute intervals of data. → *The List All window displays. The window contains all 15-minute intervals in the data point.*
3. Note the sum of data for the first two 15-minute intervals, and make the Edit Values window current again (with the **Current** SLK). → *The Edit Values window becomes current.*
4. In the **Interval start time** field, enter the start time of the first 15-minute intrahour interval, and select **Find one**. → *The ACDCALLS field displays the number of ACD calls for the next interval. The Interval length field displays the length of the interval.*

5. In the `ACDCALLS` field, enter the sum of ACD calls in the first two 15-minute intervals.
6. In the `Interval length` field, enter **30**, and select `Modify`. → *Successful appears on the status line to indicate that the interval of data has been changed.*
7. In the `Interval start time` field, enter the start time of the second 15-minute interval listed in the `List All` window.
8. Select `Delete`. → *Successful appears on the status line to indicate that the interval of data has been changed.*
9. Repeat Steps 1 through 8 for each pair of 15-minute intervals in the data point.
10. Repeat Steps 1 through 9 for the other three data points you want for your forecast. When you are done, you can run the Hypothetical Forecast with the new interval length.

Note To change data from 30- to 60-minute intervals or 15- to 60-minute intervals, you basically use the same procedure as the preceding sample. However, to change from 15- to 60-minute intervals, you will need to delete three intervals of data per 60-minute interval, normally with each 60-minute interval containing the sum of the ACD calls contained in the four associated 15-minute intervals.

Hypothetical Report

Purpose

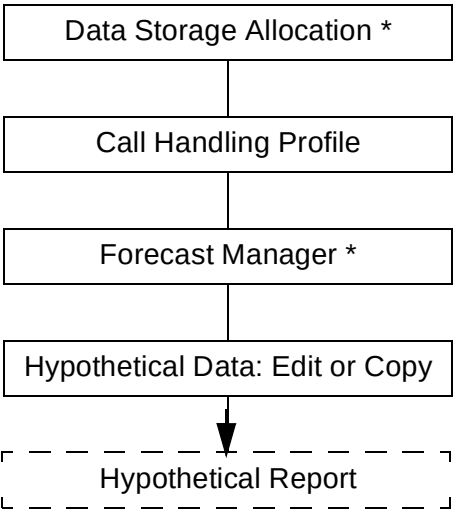
The Hypothetical Data Forecast lets you play with “what if . . .” scenarios. For example, you might say to yourself, “If, during the first week of selling a new product, Split 1 gets 1,000 calls per intrahour interval, how many agents will I need to handle them efficiently?” The hypothetical forecast can give you an answer to this scenario because the forecast uses data that you define in the hypothetical data table.

Note

See the “Copy Historical Data” and “Edit and View Hypothetical Data” sections under “Hypothetical Data” for a description of how to define hypothetical data.

For a detailed explanation of how CMS generates forecast data, see the section, “How the Forecast System Works”, at the end of this chapter.

To run a hypothetical forecast, you must fill in the Report Input window (Figure 14-47)



*Optional. If you enter data manually, these Administrative tasks are not necessary.

Figure 14-46: Hypothetical Report Administration Overview

Prerequisite System Administration

- Data must exist in the hypothetical data table for each intrahour interval you specify for the forecast. For a forecast to make sense, all four data points in the table should have data for the intrahour interval(s).
- The call handling profile you specify for the report must be defined.
- The ACD from which you select a call handling profile must have the same intrahour interval length as that of the data in the hypothetical data table.

Report Input Window

06/16/93 3:30 PM Call Management System Windows: 1 of 6 ^

Forecast: Hypothetical: Report Input

Days between historical data points (1 or 7): 7 **Run**

Forecast day (+n): 8_

First interval start time: 8:00am_

Last interval start time: 4:30pm_

Call handling profile: 1_ ACD: burbank_

Forecast method (select one):

<x> No trending

< > Current trending

< > Expected calls 0_

Change factor: 100_%

Do you want to de-emphasize any data (y/n)? n

Report destination (Select one):

<x> Terminal

< > Printer, Printer name: _____

< > File,

File name: _____

Figure 14-47: Report Input Window

Field Descriptions**Days between data points (1 or 7):**

Enter **1** or **7** to specify the number of days between data points.

- If you enter 1 to specify that data points will be 1 day apart, you can run the forecast for up to 7 days in the future.
- If you enter 7 to specify that data points will be 7 days apart, you can run the forecast for up to 35 days in the future.

Forecast day (+n):

Enter a date as a relative day (for example, 12 means 12 days after today). This is the date for which you want to forecast call traffic and required agents.

First interval start time:

Enter a time of day in hh:mm format, either as military time (for example, 13:30) or with am or pm appended (for example, 10:15am).

- This time tells CMS what time the hypothetical forecast should begin.
- The time should match the beginning of an intrahour interval. In addition, the selected call handling profile must include this interval.

Last interval start time:

Enter a time of day in hh:mm format, either as military time or with am or pm appended (for example, 10:15am).

- This time tells CMS which intrahour interval is the last interval it should include in each hypothetical forecast.
- The time should match the beginning of an intrahour interval. CMS will generate forecast data through the end of this intrahour interval.

Call handling profile:

Enter the number, 1 to 100, of the call handling profile CMS should use to generate forecast data. The selected call handling profile must include the intervals between the times you entered in the First interval start time and Last interval start time fields.

ACD:

Enter the number or name of the ACD from which CMS should retrieve the call handling profile you specified.

Forecast method (Select one)

Enter an **x** to select one of the three trending options:

- **No trending**—CMS will use data from the data points, but will not generate a forecast based on the trend of that data.
- **Current trending**—CMS will use data from the data points, and will generate a forecast that projects growth or shrinkage based on the trend of that data.
- **Expected calls**—CMS will not forecast number of calls. Instead, CMS will take the number of calls you enter and distribute them among the specified intervals in amounts that match the pattern in the hypothetical data in your data points.

If you select **Expected calls** field, you must enter the number of calls you expect will connect for the whole forecasted day.

Change factor:

Enter a number from 1 to 1000. This number tells CMS, as a percentage, how much it should increase or decrease the number of calls carried it finds in its initial forecast. 100 means no change. 1000 means the forecast calls carried should be multiplied by 10.

**To de-emphasize data, weight each data point (0-10)
where 10=most representative, 0=do not use this data**



You should leave the relative weight of each date at 10 unless you know the data stored for a particular date is highly unusual or incorrect.

Dates 1 (most recent) to 4 (least recent)

Enter a number, 0 to 10, to change the relative weight of data on any or all data points.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Hypothetical Forecast Report Example

A description of each report item follows the report example in the Hypothetical Forecast Report Description table.

Hypothetical Forecast										
ACD for Call Handling Profile: NASPS ACD1							Printed: 4/1/93 1:37 PM			
Forecast data 7 days apart							Forecast for day 1			
Data point (weight)		Point 1 (10	Point 2 (10	Point 3 (10	Point 4 (10					
Forecast method: no trending							100 % Change Factor			
(User expected		0 calls)								
-Call Handling Profile 1 - --Profile Results---										
	Forecast	Number	Avg	Service	Agent	Avg	Avg	Service	Agent	
	Calls	Agents	Speed	Level	Occ	Serv	Speed	Level	Occ	
Time	Carried	Req'd	Answer	%	sec	%	Time	Answer	%	%

Totals	3095									

7:00 AM	138	7	10	80%	10	80	60	6	84	66
7:30 AM	135	7	10	80%	10	80	60	5	86	64
.										
.										
6:30 PM	0	0	10	80%	10	80	60	0	100	0

Figure 14-48: Hypothetical Forecast Report Example

Table 14-10: Hypothetical Forecast Report Description

Report Heading	What It Means
ACD for Call Handling Profile	The ACD of the call handling profile used in the forecast.
Printed	The date and time the report was run.
Forecast data _ days apart	The number of days between data points, as specified in the Hypothetical report input window.
Forecast for day	The relative date in the future the forecast is for.
Data point (weight)	The current data points used for the forecast, and their respective weights (0 to 10), as specified on the Hypothetical report input window.
Forecast method	The method, as specified on the Hypothetical report input window, used to determine forecast data: • No trending • Current trending • Expected calls.
% Change Factor	The adjustment, expressed as a percentage, that CMS made to its initial forecasted calls carried. CMS makes changes, if any, based on the Change Factor you enter on the Hypothetical Input window.
User expected calls	The number of calls entered on the Hypothetical Input window, if the expected calls forecast method is used.
Time	The start time of each intrahour interval included in the forecast.
Forecast Calls Carried	The number of calls forecasted to arrive at the split/skill for the associated intrahour interval.
Number Agents Req'd	The number of agents that must be logged into the split/skill for the intrahour interval in order to handle the forecasted calls, given the call handling objectives.
Avg Speed Answer [Call Handling Profile 1]	The targeted average time calls should wait before an agent answer. This objective is specified in the Call Handling Profile selected in the Hypothetical report input window.
Service Level % [Call Handling Profile 1]	The targeted percentage of calls that the split/skill's agents will answer within the time specified in the Service Level sec field.
Service Level sec [Call Handling Profile 1]	The targeted number of seconds within which the Service Level % of calls should be answered. This objective is specified in the Call Handling Profile selected in the Hypothetical report input window.

Table 14-10: Hypothetical Forecast Report Description (Contd)

Report Heading	What It Means
Agent Occ % [Call Handling Profile 1]	The targeted average percentage of time agents should spend on ACD calls while logged in. This objective is specified in the Call Handling Profile selected in the Hypothetical report input window.
Avg Serv Time [Call Handling Profile 1]	The targeted average number of seconds each agent should spend on an ACD call, including talk time and after-call-work time. This objective is specified in the Call Handling Profile selected in the Hypothetical report input window.
Avg Speed Answer [Profile Results]	The forecasted average time calls will wait before an agent answers. CMS calculates this average after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted average will be slightly lower than the Average Speed of Answer objective.
Service Level % [Profile Results]	The forecasted percentage of calls that the split/skill's agents will answer within the time specified in the Service Level sec field. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly higher than the Service Level % objective.
Agent Occ % [Profile Results]	The forecasted average percentage of time agents will spend on ACD calls while logged in. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly lower than the Agent Occ % objective.

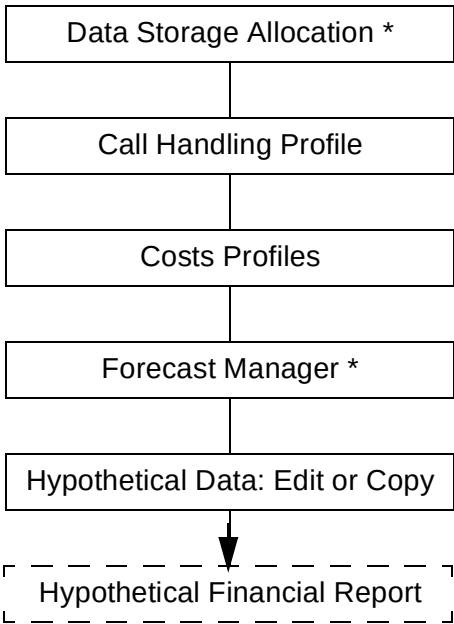
Hypothetical Financial Report

Purpose

Like the Hypothetical Forecast, the Hypothetical Financial Forecast lets you play with “what if . . .” scenarios, with the additional ability to forecast call revenues, call handling costs, and the resulting profit margin. So, in addition to running test forecasts based on data that you enter in the hypothetical data table (via the Copy Historical Data and the Edit Values windows), you can run those tests using various costs profiles.

Note

See the “Copy Historical Data” and “Edit and View Hypothetical Data” sections under “Hypothetical Data Forecast” for a description of how to define hypothetical data.



* Optional. If you enter data manually, these Administrative tasks are not necessary.

Figure 14-49: Hypothetical Financial Report Administration Overview

In addition, you can use the Hypothetical Financial Forecast to experiment with and clearly study the financial effects of call profiles and other forecast inputs.

Note

For a detailed explanation of how CMS generates forecast data, see the section, "How the Forecast System Works", at the end of this chapter.

Prerequisite System Administration

- Data must exist in the hypothetical data table for each intrahour interval in the forecast. And for a forecast to make sense, all four data points in the table should have data for the intrahour interval(s).
- The call handling profile you specify for the report must be defined.
- The ACD from which you select a call handling profile must have the same intrahour interval length as that of the data in the hypothetical data table.
- The costs profile you specify for the report must be defined.
- The ACD from which you select a costs profile must have the same intrahour interval length as that of the data in the hypothetical data table.

Financial Report Input Window

You must fill out the Financial report input window to run your financial report. Field descriptions follow the example.

06/16/93 3:30 PM Call Management System Windows: 1 of 6 ^

Forecast: Hypothetical: Financial Report Input

Days between historical data points (1 or 7): 7 Run

Forecast day (+n):17_

First interval start time: 8:00am__

Last interval start time: 4:30pm__

Call handling profile: 1__ ACD: westregion__

Costs profile: 1__ ACD: westregion__

Forecast method (select one):

- <x> No trending
- < > Current trending
- < > Expected calls 0__

Change factor: 100_%

To de-emphasize data, weight each data point 0-10) where
10=most representative, 0=do not use this data

__ Date 1 (most recent)

__ Date 2

__ Date 3

__ Date 4 (least recent)

Report destination (Select one):

- <x> Terminal
- < > Printer, Printer name: _____
- < > File,
File name: _____

Figure 14-50: Financial Report Input Window

Field Descriptions

Days between historical data points (1 or 7):

Enter 1 or 7 to specify the number of days between data points.

- If you enter 1 to specify that data points will be 1 day apart, you can run the forecast for up to 7 days in the future.
- If you enter 7 to specify that data points will be 7 days apart, you can run the forecast for up to 35 days in the future.

Forecast day (+n):

Enter a date as a relative day (for example, **12** means 12 days after today). This is the date for which you want to forecast call traffic and required agents.

First interval start time:

Enter a time of day in hh:mm format, either as military time (for example, 13:30) or with am or pm appended (for example, 10:15am).

- This time tells CMS what time the forecast should begin.
- The time should match the beginning of an intrahour interval. In addition, the selected call handling profile must include this interval.

Last interval start time:

Enter a time of day in hh:mm format, either as military time or with am or pm appended (for example, 10:15am).

- This time tells CMS which intrahour interval is the last interval it should include in each forecast.
- The time should match the beginning of an intrahour interval. In addition, the selected call handling profile must include this interval. CMS will generate forecast data through the end of this intrahour interval.

Call handling profile:

Enter the number, 1 to 100, of the call handling profile CMS should use to generate forecast data. The selected call handling profile must include the intervals between the times you entered in the **First interval start time:** and **Last interval start time:** fields.

ACD:

Enter the number or name of the ACD from which CMS should retrieve the call handling profile you specified.

Costs profile:

Enter the number, 1 to 100, of the costs profile you want to use for this financial forecast. CMS will use the costs profile to determine total costs of calls and agent labor per intrahour interval, as well as estimated revenue per intrahour interval.

The selected costs profile must include the intervals between the times you entered in the `First interval start time:` and `Last interval start time:` fields.

ACD:

Enter the number or name of the ACD from which CMS should retrieve the costs profile you specified.

Forecast method (Select one)

Enter an `x` to select one of the three trending options:

- **No trending**—CMS will use data from the data points but will not generate a forecast based on the trend of that data.
- **Current trending**—CMS will use data from the data points, and will generate a forecast that projects growth or shrinkage based on the trend of that data.
- **Expected calls**—CMS will not forecast number of calls. Instead, CMS will take the number of calls you enter and distribute them among the specified intervals in amounts that match the pattern in the hypothetical data in your data points.

If you select `Expected calls` field, you must enter the number of calls you expect will connect for the whole forecasted day.

Change factor:

Enter a number from 1 to 1000. This number tells CMS, as a percentage, how much it should increase or decrease the number of calls carried it finds in its initial forecast. 100 means no change. 1000 means the forecast calls carried should be multiplied by 10.

To de-emphasize data, weight each data point (0-10) where 10=most representative, 0=do not use this data



You should leave the relative weight of each date at 10 unless you know the data stored for a particular date is highly unusual or incorrect.

Dates 1 (most recent) to 4 (least recent)

Enter a number, 0 to 10, to change the relative weight of data on any or all data points.

Report destination (Select one):

Enter an **x** next to Terminal, Printer, or File.

- Terminal is the default destination.
- If you selected Printer and want to use a printer other than your default printer, enter the printer name in addition to the **x**.
- If you selected File, enter a file name and then press **Return**. If the file name already exists, the existing file is overwritten with the new report data. The file is in your home directory in the UNIX system (/usr/<your login ID>) unless you specify a full path name.

Hypothetical Financial Forecast Report Example

A description of each report item follows the report example in the Hypothetical Financial Forecast Report Description table.

Hypothetical Financial Forecast														
ACD for Call Handling Profile: NASPS ACD1										Printed: 4/1/93 1:04 PM				
ACD for Costs Profile: NASPS ACD1										Forecast for 4/2/93				
Forecast data 7 days apart										100% Change Factor				
Data point (weight)		Point 1 (10)		Point 2 (10)		Point 3 (10)		Point 4 (10)		100 % Change Factor				
(User expected		0 calls)												
-Call Handling Profile - --Profile Results--- --Costs Profile 1 --														
	Forecast	Number	Avg	Service	Agent	Avg	Avg	Service	Agent	Cost	Cost	Revenue		
	Calls	Agents	Speed	Level	Occ	Serv	Speed	Level	Occ	of	of	per	Est	
Time	Carried	Req'd	Answer	%	sec	%	Time	Answer	%	%	Call	Agent	Call	Margin

Totals	3095													

7:00 AM	138	7	10	80%	10	80	60	6	88	66	1.87	9.00	15.00	1748.94
7:30 AM	135	7	10	80%	10	80	60	8	85	64	1.87	9.00	15.00	1709.55
.														
.														
5:30 PM	0	0	10	80%	10	80	60	0	100	0	1.87	9.00	15.00	0.00

Figure 14-51: Hypothetical Financial Forecast Report Example

Table 14-11: Hypothetical Financial Forecast Report Description

Report Heading	What It Means
ACD for Call Handling Profile	The ACD of the call handling profile used in the forecast.
Printed	The date and time the report was run.
ACD for Costs Profile	The ACD of the costs profile used in the forecast.
Forecast for day	The relative date in the future the forecast is for.
Forecast data _ days apart	The number of days between data points, as specified in the Hypothetical Financial report input window.
Data point (weight)	The current data points used for the forecast, and their respective weights (0 to 10), as specified on the Hypothetical Financial report input window.
Forecast method	The method, as specified on the Hypothetical Financial report input window, used to determine forecast data: • No trending • Current trending • Expected calls.
% Change Factor	The adjustment, expressed as a percentage, that CMS made to its initial forecasted calls carried. CMS makes changes, if any, based on the Change Factor you enter on the Hypothetical Financial Input window.
User expected calls	The number of calls entered on the Hypothetical Financial Input window, if the expected calls forecast method is used.
Time	The start time of each intrahour interval included in the forecast.
Forecast Calls Carried	The number of calls forecasted to arrive at the split/skill for the associated intrahour interval.
Number Agents Req'd	The number of agents that must be logged into the split/skill for the intrahour interval in order to handle the forecasted calls, given the call handling objectives.
Avg Speed Answer [Call Handling Profile 1]	The targeted average time calls should wait before an agent answers. This objective is specified in the Call Handling Profile selected in the Hypothetical Financial report input window.
Service Level % [Call Handling Profile 1]	The targeted percentage of calls that the split/skill's agents will answer within the time specified in the Service Level sec field.

Table 14-11: Hypothetical Financial Forecast Report Description (Contd)

Report Heading	What It Means
Service Level sec [Call Handling Profile 1]	The targeted number of seconds within which the Service Level % of calls should be answered. This objective is specified in the Call Handling Profile selected in the Hypothetical Financial report input window.
Agent Occ % [Call Handling Profile 1]	The targeted average percentage of time agents should spend on ACD calls while logged in. This objective is specified in the Call Handling Profile selected in the Hypothetical Financial report input window.
Avg Serv Time [Call Handling Profile 1]	The targeted average number of seconds each agent should spend on an ACD call, including talk time and after-call-work time. This objective is specified in the Call Handling Profile selected in the Hypothetical Financial report input window.
Avg Speed Answer [Profile Results]	The forecasted average time calls will wait before an agent answers. CMS calculates this average after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted average will be slightly lower than the Average Speed of Answer objective.
Service Level % [Profile Results]	The forecasted percentage of calls that the split/skill's agents will answer within the time specified in the Service Level sec field. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly higher than the Service Level % objective.
Agent Occ % [Profile Results]	The forecasted average percentage of time agents will spend on ACD calls while logged in. CMS calculates this percentage after calculating the number of agent positions required to meet the call handling profile objectives. Normally, the forecasted percentage will be slightly lower than the Agent Occ % objective.
Costs Profile [Costs Profile 1]	The number of the costs profile specified in the Financial Input window. The three objectives directly below this heading are specified in the Costs Profile.
Cost of Call [Costs Profile 1]	The expected average cost of a call to this split/skill, as specified in the Costs Profile window.
Cost of Agent [Costs Profile 1]	The expected average cost per agent for the intrahour interval, as specified in the Costs Profile window.
Revenue per Call [Costs Profile 1]	The expected average revenue per call, as specified in the Costs Profile window.
Est Margin	The estimated profit per interval, based the number of calls, their associated revenue and costs, and the cost of agents.

How the Forecast System Works

Call Volume/Agents Forecast Reports

This section includes all of the algorithms used for Call Volume/Agents Forecast Reports. For the Call Management System to use the algorithms for forecasting, you must first define the following types of information:

- Which dates of data to use
- Which forecast method to use.

Algorithm for Current and Seasonal Data Points

Forecasting uses algorithms to find data points. A data point is a day of historical data and can be current or seasonal. These data points are used in calculations. The Call Management System calculates the algorithms for you, so you will only see the results. You can vary the results you get by changing the information in the report input windows. Refer to the timeline below as you go through the steps of the algorithm and encounter the different variables (for example, C1, S0, etc.).

Current Data Points

Figure 14-52 describes which dates of data to use for the current data points.

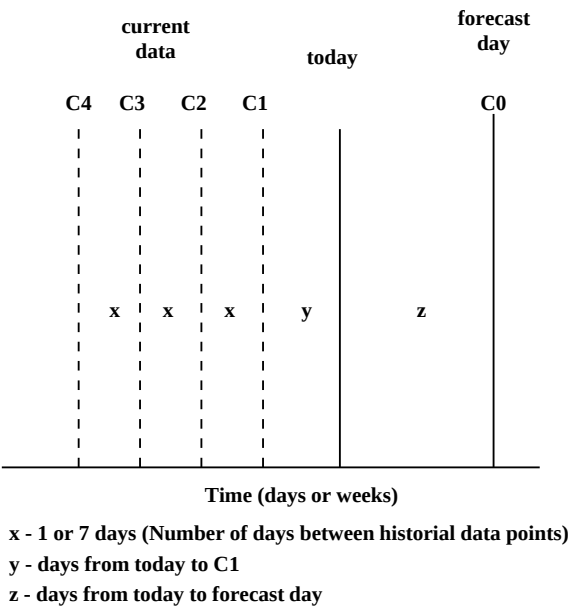


Figure 14-52: Current Data Points Graphic Example

You use Current Data Points for all of the Call Volume/Agents Forecast Reports based on historical data. The system does the following:

1. Gets today's date.
2. Determines the day-of-week of the forecast day.
3. Calculates the number of days from today to the forecast day (z).
4. Assigns X for the value of the number of days between historical data. Acceptable values are 1 or 7.
5. Finds the most recent historical day (C1) and the number of days from today to that day (y) as follows:
 - a. If the number of days between each data point is 1 ($x = 1$), then C1 is yesterday and $y = 1$.
 - b. If the number of days between each data point is 7 ($x = 7$), then C1 is the most recent historical day which is the same day-of-week as the forecast day. "y" is the number of days from today to C1.
6. Find the remaining historical days C2, C3, and C4.
 - a. $C2 = C1 - x$
 - b. $C3 = C2 - x$
 - c. $C4 = C3 - x$

- 6/5/93 as the forecast date.
- 1 as the number of days between historical data points.
- Current trending.

MAY 1993							JUNE 1993						
S	M	Tu	W	Th	F	S	S	M	Tu	W	Th	F	S
						1			1	2	3	4	5
2	3	4	5	6	7	8	6	7	8	9	10	11	12
9	10	11	12	13	14	15	13	14	15	16	17	18	19
16	17	18	19	20	21	22	20	21	22	23	24	25	26
23	24	25	26	27	28	29	27	28	29	30			
30	31												

 = today
  = forecast day

 = current data points (C1=5/28, C2=5/27, etc.)

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Seasonal Data Points

Figure 14-54 describes which dates of data to use for the seasonal data points.

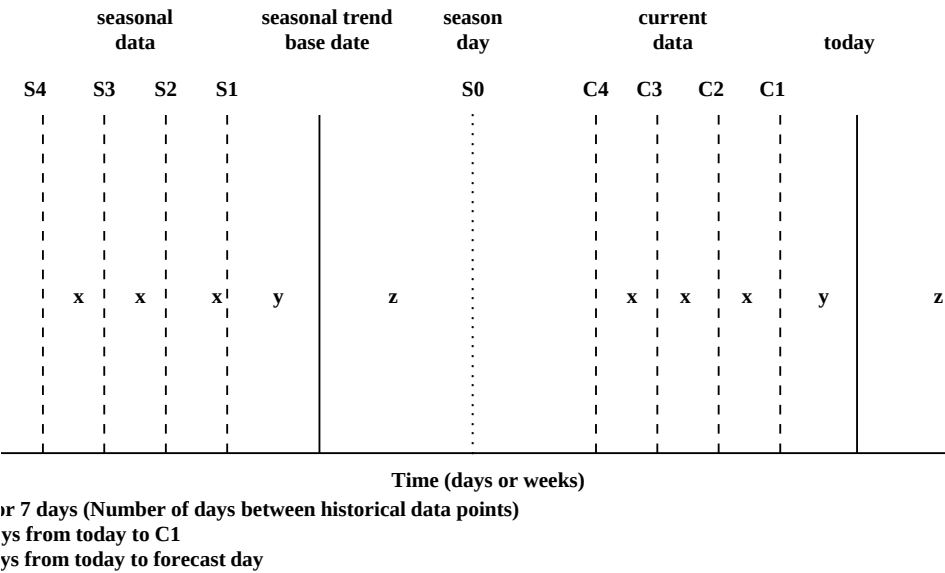


Figure 14-54: Seasonal Data Points Graphic Example

If seasonal trending is used, the algorithm continues:

7. Get the seasonal trend base date.
8. Find season day S0. $S0 = \text{seasonal trend base date} + z$.
9. Find the closest seasonal day S1. $S1 = \text{seasonal trend base date} - y$
10. Find the remaining seasonal days S2, S3, and S4.
 - a. $S2 = S1 - x$
 - b. $S3 = S2 - x$
 - c. $S4 = S3 - x$

Example 2: Seasonal Data Points

Assume that today is 4/28/93 and you have entered the following parameters for a report:

- 5/6/93 as the forecast date
- 7 as the number of days between historical data points.
- Seasonal trending with the base date = -364.

The current and seasonal data points are determined as shown below:

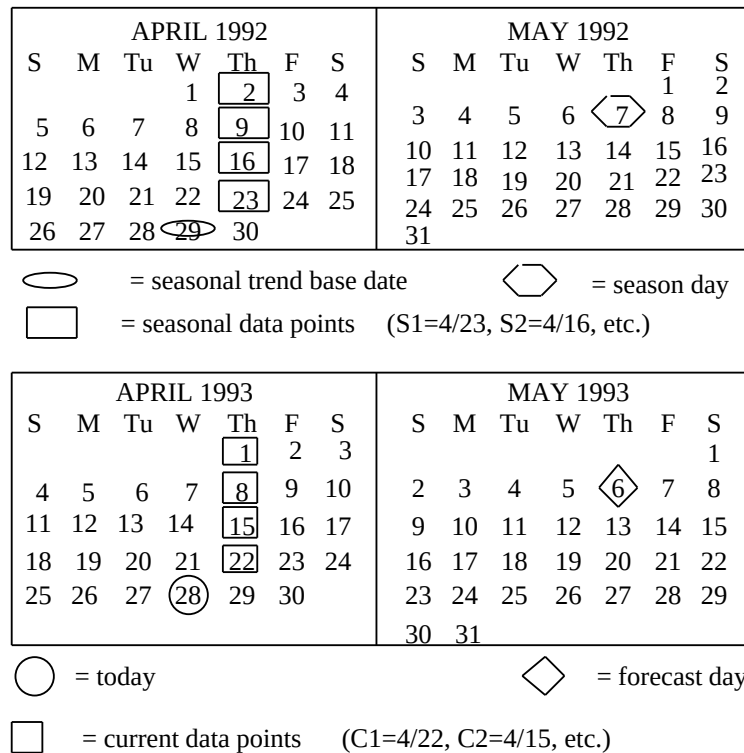


Figure 14-55: Seasonal Data Points Example

**Algorithm for
Forecast Calls
Carried**

This section includes all of the Algorithms used to calculate Call Volume/Agent Forecast Reports:

- Forecast Methods
- Algorithm for FCC Intraday
- Algorithm for FCC Special Days
- Algorithm for Number of Agents Required
- Algorithm for Estimated Margin.

Forecast Methods

This algorithm computes the Forecast Calls Carried (FCC) for each intrahour interval in the following reports:

- Longterm
- Financial
- Current Day
- Hypothetical
- Hypothetical Financial.

The algorithm computes the FCC using one of four forecast methods:

- no trending (weighted average of data)
- seasonal trending
- current trending
- expected calls.

Note

The expected calls method is not applicable for Current Day reports, and seasonal trending is not applicable for Hypothetical reports.

The algorithm for each forecast method is presented on the following pages.

No Trending (Weighted Average of Data):

1. Find the Weighted Average of Calls Carried (WACC) for the current data.
 - a. Multiply the Number of Calls Carried (NCC) in each intrahour interval for historical days C1 through C4 by the assigned data weights.
 - b. Add the weighted data together and divide that sum by the sum of the individual weights.

The equation for WACC is as follows:

$$WACC = \frac{(W_1 \times NCC_{C1}) + (W_2 \times NCC_{C2}) + (W_3 \times NCC_{C3}) + (W_4 \times NCC_{C4})}{W_1 + W_2 + W_3 + W_4}$$

where W_1 through W_4 are the corresponding data weights.

2. Divide the Change Factor (CF) by 100. For example, if the CF were 100, this step would produce a value of 1.
3. Multiply the factors found in the previous two steps to get the FCC for each intrahour interval.

$$FCC = (WACC) \left[\frac{CF}{100} \right]$$

Seasonal Trending:

1. Find the Seasonal Trending Ratio (STR).

- a. Multiply the Number of Calls Carried (NCC) for seasonal days S1 through S4 by the assigned data weights.

The NCC for a seasonal day includes the NCC for the whole day, not just one intrahour interval.

- b. Add the weighted data together and divide that sum by the sum of the individual weights.
- c. Divide the NCC for season day S0 by the quotient found in step b.

The equation for STR is as follows:

$$STR = \frac{NCC_{S0}}{\left[\frac{(W_1 \times NCC_{S1}) + (W_2 \times NCC_{S2}) + (W_3 \times NCC_{S3}) + (W_4 \times NCC_{S4})}{W_1 + W_2 + W_3 + W_4} \right]}$$

where W_1 through W_4 are the corresponding data weights.

2. Find the Weighted Average of Calls Carried (WACC) of the current data.

$$WACC = \frac{(W_1 \times NCC_{C1}) + (W_2 \times NCC_{C2}) + (W_3 \times NCC_{C3}) + (W_4 \times NCC_{C4})}{W_1 + W_2 + W_3 + W_4}$$

3. Divide the Change Factor (CF) by 100.

4. Multiply the factors found in the previous three steps to get the FCC for each intrahour interval.

$$FCC = STR \times WACC \times \left[\frac{CF}{100} \right]$$

Current Trending:

1. Find the projected number of calls in each intrahour interval of the forecast date using a weighted quadratic least squares curve fit.

The weighted quadratic least squares curve fit is an algorithm that fits a curve to the current data. The algorithm uses the fitted curve as a trend, and projects the number of calls based on this trend. The algorithm works in the following manner:

- If four data points are given (all four points have weights greater than 0), the algorithm derives a parabolic curve that fits the four points with the least error. The algorithm then uses this curve to project the number of calls for the forecast date.
 - If three data points are given (one point has a weight of 0), the algorithm derives a straight line that runs through the three points with the least error. The algorithm uses the slope of this line to project the number of calls for the forecast date.
 - If two data points are given, the algorithm returns the weighted average of the two points as the projected number of calls.
 - If one data point is given, that value is returned as the projected number of calls.
2. Divide the Change Factor (CF) by 100.
 3. Multiply the factors found in the previous two steps to get the FCC for each intrahour interval.

$$FCC = projectedcalls \times \left[\frac{CF}{100} \right]$$

Expected Calls:

1. Find the Weighted Average of Calls Carried (WACC) of the current data.

$$WACC = \frac{(W_1 \times NCC_{C1}) + (W_2 \times NCC_{C2}) + (W_3 \times NCC_{C3}) + (W_4 \times NCC_{C4})}{W_1 + W_2 + W_3 + W_4}$$

2. Divide the WACC for each interval by the sum of WACC for all intervals.
3. Multiply the quotient found in step 2 by the Expected Calls (EC) to get the FCC for each intrahour interval.

$$FCC = \left[\frac{WACC \text{ each interval}}{WACC \text{ all intervals}} \right] \times EC$$

Algorithm for FCC Intraday

This algorithm computes the FCC for each intrahour interval in Intraday reports. The algorithm uses the NCC from intervals that have already passed and the FCC in the Current Day report to obtain a ratio of actual calls to forecast calls. Then, using this ratio, the algorithm scales the FCC for the remaining intervals in the day. The number of agents required to handle the new call volume is recalculated.

1. Sum together the NCC for all specified passed intervals.
2. Sum together the FCC for all specified passed intervals.
3. Divide the sum found in step 1 by the sum found in step 2.
4. Multiply the FCC for the remaining intervals in the Current Day report by the quotient found in step 3.
5. The equation for FCC is as follows:

$$FCC = FCC \text{ remaining interval} \times \left[\frac{NCC \text{ passed intervals}}{FCC \text{ passed intervals}} \right]$$

Algorithm for FCC Special Days

This algorithm computes the FCC for each intrahour interval in Special Day reports. The algorithm computes the FCC using historical data collected from the previous special day. There is no trending, however, you may or may not specify Expected Calls which results in the following two algorithms:

No Expected Calls: .

1. Find the NCC in each intrahour interval of the previous special day.
2. Divide the Change Factor (CF) by 100.
3. Multiply the factors found in the previous two steps to get the FCC for each intrahour interval.

$$FCC = NCC \text{ each interval Prev Spec Day} \times \left[\frac{CF}{100} \right]$$

Expected Calls:

This algorithm distributes the Expected Calls into intrahour intervals in a pattern similar to the NCC of the previous special day.

1. Divide the NCC in each interval of the previous special day by the sum of NCC in all intervals of that day.
2. Multiply the quotient found in step 2 by the Expected Calls (EC) to get the FCC for each intrahour interval.

$$FCC = \left[\frac{NCC \text{ each interval Prev Spec Day}}{NCC \text{ all intervals Prev Spec Day}} \right] \times EC$$

Algorithm for Number of Agents Required

This algorithm computes the Number of Agents Required for each intrahour interval in the following reports:

- Longterm
- Financial
- Current Day
- Intraday
- Special Day
- Hypothetical
- Hypothetical Financial.

Use the following procedure:

1. Convert FCC to traffic load in erlangs.
2. Set the number of agents to the load + 1.
3. Compute the initial probability that all agents are busy.

$$P = \frac{\frac{a^n}{(n-1)!(n-a)}}{1 + \sum_{k=1}^{n-1} \frac{a^k}{k!} + \frac{a^n}{(n-1)!(n-a)}}$$

4. Compute subsequent values for the probability with the following formula:

$$P_n = \frac{1}{1 + \frac{n-1-aP_{n-1}}{(n-1-a)P_{n-1}} \times \frac{n-a}{a}}$$

where P = probability all agents are busy, n = number of agents, a = load in erlangs.

5. Using the above probability, the number of agents, and the given load, compute a new set of objectives which correspond to the objectives in the Call Handling Profile.
6. If any of the new objectives exceeds or falls below the objectives in the Call Handling Profile, end the search. Return the number of agents as the answer. Otherwise, add 1 to the number of agents and repeat steps 4 through 6.

**Algorithm for
Estimated Margin**

This algorithm computes the Estimated Margin for each intrahour interval in Financial reports. The Estimated Margin is the difference between call revenue and call costs.

1. Multiply the Number of Agents Required (NAR) by the cost of each agent.
2. Multiply the Forecast Calls Carried (FCC) by the cost of each call.
3. Add together the products found in steps 1 and 2.
4. Multiply the FCC by the revenue from each call.
5. Subtract the agent and call costs from the revenue to get the Estimated Margin (EM).

$$EM = (FCC \times call\ revenue) - [(NAR \times agent\ cost) + (FCC \times call\ cost)]$$

Requirement Reports

This section includes all of the algorithms used in Requirement Reports:

- Algorithm for Agent Positions Required
- Algorithm for Trunks Required

Algorithm for Agent Positions Required

This algorithm computes how many calls a given number of agents can handle per intrahour interval. The number of agents can be a number or a range of numbers. The results of the algorithm are within the call handling objectives you specify in the report.

1. Determine the number of agents for which the calls carried is to be computed.
2. For each number of agents, compute the load.

The following search calculates the load using an upper and lower bound:

- a. Set the lower bound for the load to 0.
- b. Set the upper bound for the load to the number of agents.
- c. Compute the midpoint.

$$Midpoint = \left\lceil \frac{lower\ bound + upperbound}{2} \right\rceil$$

- d. Compute the probability that all agents are busy using the midpoint as the load.

$$P = \frac{\frac{a^n}{(n-1)!(n-a)}}{1 + \sum_{k=1}^{n-1} \frac{a^k}{k!} + \frac{a^n}{(n-1)!(n-a)}}$$

where P = probability all agents are busy, n = number of agents, and a = load in erlangs (midpoint).

- e. Compute a new set of call handling objectives using the above probability.
- f. If any of the new objectives exceeds or falls below the objectives in the Call Handling Profile, set upper bound = midpoint. Otherwise, set lower bound = midpoint.
- g. Compute the new midpoint.

- h. If the new midpoint changed less than 0.001 from the previous midpoint, end the search. Return the midpoint as the load. Otherwise, repeat steps d through h using the new midpoint.
3. Convert the load into calls carried.

When you enter a range of numbers, you can set graduations to yes or no. With no graduations, the algorithm does its computations for every number in the range. With graduations, the algorithm starts its computations with the closest number in the following set and proceeds as follows: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100...(continuing by tens).

Algorithm for Trunks Required

This algorithm computes how many calls a given number of trunks can handle per intrahour interval. The number of trunks can be a number or a range of numbers. The results of the algorithm are within the trunk blocking probability and the average trunk holding time you specify in the report.

1. Determine the number of trunks for which the calls carried is to be computed.
2. For each number of trunks, compute the load.

The following search computes the load using an upper and lower bound:

- a. Set the lower bound for the load to 0.
- b. Set the upper bound for the load to the number of trunks, and, while the blocking probability produced by the number of trunks and the high load is $\geq$ blocking objective, double the upper bound.
- c. Compute the midpoint.

$$\text{Midpoint} = \left\lceil \frac{\text{lower bound} + \text{upper bound}}{2} \right\rceil$$

- d. Calculate the blocking probability using the midpoint as the load.

$$P = \frac{\frac{a^n}{n!}}{1 + \sum_{k=1}^n \frac{a^k}{k!}}$$

where P = blocking probability, n = number of trunks, a = load in erlangs (midpoint).

- e. If $P \leq$ blocking objective, set the lower bound = midpoint.
Otherwise, set the upper bound = midpoint.
- f. If the midpoint is close enough, return the midpoint as the
desired load. Otherwise, repeat steps *c* through *f*.

This algorithm handles graduations the same way as the Agent Positions
Required algorithm.

Algorithm for Trunk Performance

This algorithm estimates, at the busiest intervals in the specified time period, the number of trunks required to meet your objective blocking percentage.

To determine the actual blocking percentage for a trunk group, CMS uses the following algorithm:

1. Find the trunk occupancy for the trunk group in the average busy interval for the period of the report.
2. Convert the trunk occupancy into erlangs (that is, the number of trunks that are likely to busy at any given point in time). For example, if at any point in time 8 trunks are likely to be busy, trunk occupancy is 8 erlangs. This is the actual carried load for the busy hour, and represents the trunk occupancy due to calls that actually connected to the switch.
3. Set lower and upper boundaries for offered load. The offered load is the actual carried load, plus the additional load that would have occurred if blocked calls had connected to the switch. The initial upper boundary for the offered load is set at twice the actual carried load. The initial lower boundary is set at 0.
4. Find the midpoint of the lower and upper boundaries and use this midpoint as the offered load in Equation 1.
5. Complete the following equation to find the estimated blocking percentage P (which will be represented as a decimal between 0 and 1).

$$P = \frac{\frac{a^n}{n!}}{1 + \sum_{k=1}^n \frac{a^k}{k!}} \quad (1)$$

where a = load in erlangs (midpoint), n = the number of trunks.

6. Complete Equation 2 to find an estimated carried load. Use the estimated blocking percentage P found in Step 5 and the offered load (midpoint) found in Step 4.

$$\text{carried} = \text{offered} (1-P) \quad (2)$$

Compare the estimated carried load found in Step 6 with the actual carried load found in Step 2.

If the estimated carried load is greater than the actual carried load:

- a. Return to Step 3 and replace the upper boundary with the midpoint previously found in Step 4.
- b. Repeat Step 4 to find the new midpoint of the lower and upper boundaries.
- c. Repeat Steps 5 through 7.

If the estimated carried load is less than the actual carried load:

7. Return to Step 3 and replace the lower boundary with the midpoint value previously found in Step 4.
8. Repeat Step 4 to find the new midpoint of lower and upper boundaries.
9. Repeat Steps 5 through 7.

If the estimated carried load approximately equals the actual carried load, the estimated blocking percentage found in Step 5 is the actual blocking percentage.

“Approximately equals” means that the following expression is true:

$$\text{difference between actual and estimated load} \leq .0001 \text{ estimated load}$$

Once the offered load has been found, it is used to find the number of trunks which should have been in the trunk group to meet your blocking objective. A recursive formula is used to calculate the actual probability of blocking P .

$$P_0 = 1.0$$

$$P_n = \frac{aP_{n-1}}{n + aP_{n-1}}$$

where a = offered load in erlangs, n = the number of trunks, and P_n = probability of blocking where there are n trunks.

The number of trunks n starts at 0 and counts up until the actual blocking probability P becomes less than or equal to the objective blocking probability.

General Information

This appendix describes the CMS database tables, the items in the database tables, and the standard dictionary calculations that use the database items. Database items are grouped by ACD element (split/skill, agent, trunk group, trunk, vector, VDN, etc.) and are listed alphabetically. Many database items appear in more than one database table. Database items that appear in the description of other database items are presented in bold-face type. The **indexes** in each table are marked. Indexes add structure to table rows so that CMS can retrieve data faster. The row search criteria you define for custom reports should be based on indexes whenever possible. For historical custom reports, always include a “where” clause based on the ROW_DATE database item.

Each real-time database item contains one of the following types of data:

C = Cumulative data	This type of data accumulates throughout the collection interval. Most real-time database items contain cumulative data.
A = Administrative data	This type of data is administered on the switch or on CMS. For example, the database item INTRVL in the split/skill real-time table contains the number of minutes in the intrahour interval (15, 30, 60) currently assigned to the specified split/skill on CMS.
S = Status data	This type of data gives the current status, that is a snapshot of a particular ACD element. For example, the database item INQUEUE in the split/skill real-time table contains the number of split/skill calls currently waiting in queue.

The letter C, A, or S appears in the Type column for each real-time database item.

Cumulative and **Administrative** data items are in the historical database tables along with the real-time database tables. **Status** items appear in the real-time database tables only.

In addition to the types of data described above, items in the CMS database can be either call-based or interval-based. Most CMS database items are call-based. **Call-based data** is committed to the database after a call completes. Therefore, if a call starts and ends in different collection intervals, all of the data is recorded in the interval in which the call and any after call work are completed.

Interval-based data represents the amount of time during a collection interval spent doing a particular activity. Interval-based items are updated throughout the collection interval and timing is restarted at the end of the interval. Most interval-based items start with **I_** or **TI_**. The database items **ALLINUSETIME** (trunk-group tables) and **MBUSYTIME** (trunk and trunk-group tables) are also interval-based.

Interval-based items should only be used to calculate percentages such as percentage of time staffed or in AUX work. Interval-based items should not be used, for example, to calculate average talk time; use call-based items for this type of calculation. Furthermore, because call-based and interval-based items may not track the same events, a calculation should use only one type of item and comparisons of call-based calculations and interval-based calculations may not be relevant or meaningful. For example, the call-based ACD time and interval-based ACD time for an agent will not be equal if the agent handled one or more ACD calls that crossed over interval boundaries.

Note	Report data may not add up if the report has a combination of call-based and interval-based items.

Interactions With Switch Features and Database Rules

The following features have an impact on CMS database items.

Adjunct-Placed and Adjunct-Routed Calls

For Generic 2.2 with the ASAI Gateway Interface feature and Generic 3 with the ASAI feature, CMS tracks outbound calls placed by an adjunct processor or host computer on behalf of an agent and adjunct-routed calls (Generic 3 only). Database items that start with **O_** track outbound split/skill calls and database items that contain **ADJ** track adjunct-routed calls.

Adjunct-placed outbound split/skill calls are also included as part of ACD database items such as **ACDCALLS**, **ACDTIME**, and **ACWTIME**. Inbound split/skill calls can be calculated as **ACDCALLS - O_ACDCALLS**.

Converse Vector Command (G3V2)

The “converse” command integrates Voice Response Units (VRUs) and the Call Vectoring feature. The “converse” command allows voice-response scripts to be execute while, for example, a call waits in queue. This command also allows data to be passed between the switch and a VRU or from the VRU through the switch to an ASAI adjunct processor.

Look-Ahead Interflow Calls

For Generic 2.2 and Generic 3, CMS tracks look-ahead interflow calls attempted and completed separately (database items that start with **LOOK**) and as part of interflow calls. For 85 R2V4 and Generic 2.1, CMS tracks look-ahead interflow calls as part of interflow calls only. The “LOOK” database items will not be used.

Personal Call Tracking

The Personal Call Tracking (PCT) feature on the Generic 3 and Generic 2.2 switches sends CMS information to track all personal calls an agent makes and receives. This includes calls made or received when the agent has a call on **hold**.

With the Personal Call Tracking feature, CMS tracks calls an agent makes or receives with a call on hold. Calls are tracked as AUXIN or AUXOUT calls. Time is tracked as OTHER or AUX. If you upgraded from an older switch release to a Generic 3 or Generic 2.2 switch, you will see the following data tracking changes:

- An increase in the number of extension in/out calls made or received by agents, if agents make or receive calls while they have a call on hold.
- Agent time on AUXIN/AUXOUT calls will increase.
- If agents do a lot of conferences and transfers, the average talk time for extension out calls will probably drop, since time spent in AUX for conferences and transfers is very short (a matter of seconds).
- The average talk time on ACD calls will drop if agents put calls on hold, since the time on hold is no longer included as ACD talk time.

Hold Calls/Agent State With Personal Call Tracking

Personal Call Tracking offers the following data tracking capabilities:

- Data is available for calls on hold, time for calls on hold, and calls abandoned from hold. Without personal call tracking, time for calls on hold was counted as talk time.
- CMS split and agent data reflect calls made while another call is on hold.
- When an agent places a call on hold, the agent returns to his or her previous state before the call unless the previous state was AVAIL. If the agent was in the AVAIL state, the agent is placed in the

OTHER state until the agent dials a valid number (if the number dialed is invalid, the agent remains in OTHER), reconnects with the held call, or the held call abandons. When the agent reconnects to the held call, the original agent state for the call displays.

- The following example shows how R3V2 CMS tracks hold calls with the new database items.

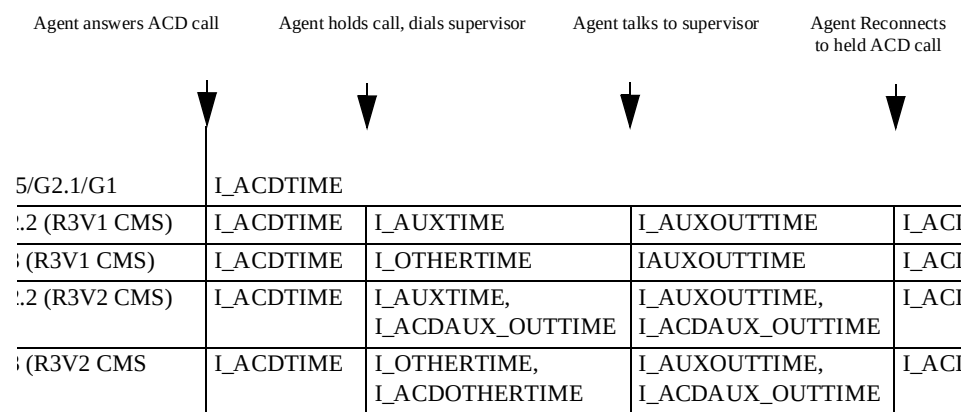


Figure A-1: Hold Tracking for Supervisor Assist Example

- Agents do not have a **hold** state. Hold time is associated with a call placed on hold. Agent states reflect the current activity of the agent.
- Hold time (HOLDTIME) is the time the call spent on hold. HOLDCALLS is the number of calls that were placed on hold at least once, and HOLDABNCALLS is the number of calls that abandoned while on hold.
- I_OTHERTIME is the time during the collection interval that the agent was doing other work.
- For Generic 3, this includes time while in the Auto-In or Manual-In mode during which the agent put a call on hold and performed no further action, the agent placed a call or activated a feature, or a personal call rang with no further activity.
- When an agent dials a valid extension, the agent's state changes to AUX OUT (if the agent was in AUX or OTHER) or to ACW OUT (if the agent was in ACW).

Abandoned Calls

VDN calls that route to extensions and are then abandoned are counted as abandoned calls for the VDN.

Transferred and Conferenced Calls

- Transferred and conferenced calls are tracked as held calls while the call(s) wait to be transferred or added to a conference.
- When an agent ends a conference call, the agent returns to the call state prior to setting up the conference.
- If an agent is talking, then places the ACD call on hold to transfer that call, and then completes the transfer, the agent then goes to the AVAIL state (Auto-In) or to ACW (Manual-In) following the transfer.
- Transferred or conferenced unmeasured split, trunk group, or VDN calls are now tracked. Prior to Personal Call Tracking, these calls were not tracked.

Audio Difficulty

You now get the trunk associated with audio difficulty for personal calls if the trunk group is measured. Prior to Personal Call Tracking, audio difficulty was restricted to ACD calls.

Direct Agent Calling (G3)

Direct agent calls are tracked separately from other ACD calls in the CMS database tables. Since direct agent calls are not split/skill calls but are calls to a specific agent, most of the direct agent data is collected in the agent tables in items starting with "DA_" or "I_DA". Reports can be customized to include direct agent data. In the real-time split/skill table, the number of agents on direct agent calls and the number of agents in ACW associated with direct agent calls are collected, but they are subsets of the number of agents in the **OTHER** agent state, that is, doing work but not for the split/skill. Only the **OTHER** value will appear on standard real-time reports. The number of direct agent calls queued and ringing appears on the Queue/Agent Summary report.

Multiple Call Handling (G2/ System 85 R2V4 only)

The Multiple Call Handling feature allows an ACD agent to put a call on hold and to push the Auto-In or Manual-In key to become available to take another ACD call. CMS tracks the hold state as a call state, not an agent state. This means that hold time is counted for each call. For example, an agent who places two calls on hold for 5 minutes to answer a third will accrue 10 minutes' time on hold for the two calls in the space of only 5 minutes on the clock.

For Generic 2.1 and System 85 R2V4, an agent with ACD calls on hold continues to accrue interval-based talk time. The call-based ACD talk time is stopped while the calls are on hold, until the agent reconnects to one of them.

Hold Tracking (G3, G2, System 85 R2V4)

CMS will track and report hold state for calls put on hold for Generic 3, Generic 2, and System 85 R2V4 switches. This means that CMS will be notified when an agent puts a call on hold. For Generic 3 and Generic

2.2, CMS tracks **all** calls put on hold. For Generic 2.1 and System 85 R2V4, CMS tracks **split** ACD calls put on hold.

Ringling (G3, G2, System 85 R2V4)

CMS displays the number of agents with split/skill ACD calls ringing at their voice terminals. This information is only meaningful if agents' voice terminals are programmed to ring rather than receive zip tone. The switch sends a message to CMS when a call is directed to an agent and alerting begins. Currently, this is only supported on System 85 R2V4, Generic 2, and Generic 3. If your switch does not have this change, the ring state columns in standard reports will display blanks.

Transfer Tracking

For Generic 3 and Generic 2.2, CMS tracks all transferred calls made by measured agents. For Generic 2.1 and System 85 R2V4, transferred calls to a VDN are tracked in the VDN tables. The agent and split/skill reports display these transfers.

Transfers into a split/skill, agent, or VDN are not tracked explicitly (i.e., the party initiating the transfer is credited with a transfer, not the party receiving the transfer).

Conference Tracking (G2.2 and G3)

CMS tracks conferenced calls for Generic 2.2 and Generic 3. Agents that transfer a call by conferencing and then dropping off will be credited with a conference and not a transfer.

Call Pickup

CMS tracks ACD calls that are answered by an agent using the Call Pickup feature as AUXIN calls.

Multiple-Split/Skill Queuing (G3)

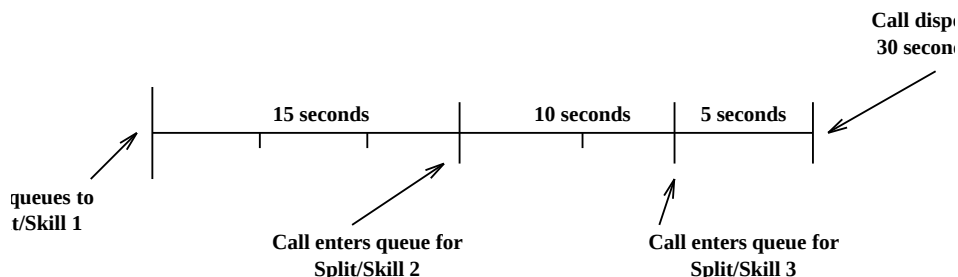
On a Generic 3, calls can be queued to as many as three splits/skills simultaneously. For the first split/skill to which a call is queued (primary split/skill), CMS pegs an answer, outflow (leaves vector processing or is answered by an agent in another split/skill), or abandon. For the second or third split/skill to which a call is queued, CMS pegs an answer and an inflow if the call is answered in that split/skill. If the call is answered in another split, the call outflows, or the caller abandons, CMS pegs a dequeued.



If a call rings in a second or third split and then abandons, an inflow and abandon will be counted for that split; an outflow or dequeue will be counted for the other splits.

In the following Multiple-Split/Skill Queuing example, you see the call queue to Split/Skill 1 first, then queue to Split/Skill 2 after 15 seconds, then after another 10 seconds, the call enters Split/Skill 3's queue. The

call is now queued to Splits/Skills 1, 2, and 3 at the same time. See the example for disposition of the call for all three splits if the call abandoned, was answered, or routed to a VDN.



sition	Split/Skill 1	Split/Skill 2	Split/Skill 3
from queue	ABANCALLS ABNTIME = 30	DEQUEUECALLS DEQUETIME = 15	DEQUEUECALLS DEQUETIME = 15
answered	OUTFLOWCALLS OUTFLOWTIME = 30	ACDCALLS ANSTIME = 15 INFLOWCALLS	DEQUEUECALLS DEQUETIME = 15
VDN	OUTFLOWCALLS OUTFLOWTIME = 30	DEQUEUECALLS DEQUETIME = 15	DEQUEUECALLS DEQUETIME = 15
from Skill 2	OUTFLOWCALLS OUTFLOWTIME = 30	ABANCALLS ABNTIME=15	DEQUEUECALLS DEQUETIME = 15

Figure A-2: Multiple-Split/Skill Queuing Example

Agents in Multiple Splits/Skills

CMS requires agents to log into multiple splits/skills using the same login ID for all splits/skills. This allows CMS to track the agent as a single person and to coordinate the data for that agent.

Real-time reports assume that agents can only be doing one thing at a time. Agents can be in the following states: AVAIL, ACD, ACW, AUX, DACD, DACW, RING, UNKNOWN, OTHER, or UNSTAFFED. When an agent logs into multiple splits/skills, the split/skill number(s) will be shown on the report(s) for the states (ACD, DACD, ACW, AVAIL, and RING) associated with the call. For example, if an agent logged into Split/Skill 1 and Split/Skill 2 and answered an ACD call for Split/Skill 2, the split/skill number shown in the standard real-time report(s) will be "2".

For splits, as long as the agent is not on a call or the agent is in AUX and is available in at least some splits, real-time reports will show all the splits in which the agent is available. For skills, the agent cannot be available in some skills and in AUX in others. The Skill Status report shows all the agent's login skills. If an ACD call is ringing the agent's voice terminal, the

real-time report will show the RING state. If a personal call is ringing at the agent's voice terminal, the real-time report will show the OTHER state. No split/skill will be shown for the AUX and UNKNOWN states because these states are not split/skill related. The agent will be shown as being in AUX **only** if the agent is in AUX in **all** splits/skills.

With real-time split/skill reports, if an agent is available in Split 1 and in AUX in Split 2 and you request the Split/Skill report which displays both splits, the report will show the agent as AVAIL in Split 1 and as OTHER in Split 2.

Agent State Tracking at Login

CMS does not know what state agents are in immediately after they have logged in (or right after the link to the switch has come up) until it is notified by the switch of the agent's current state. The time the agent spent in this state is tracked as I_OTHERTIME and TI_OTHERTIME and the agent's state is displayed as **OTHER**.

For System 85 R2V3 and Generic 2 switches, the time between logging in and moving to the AUX state depends on the time it takes for the agent logging in to release the call or go on-hook, completing the login sequence.

For Generic 1/Generic 3 switches, the time between logging in and moving to the AUX state depends on the time it takes for the agent logging in to release the call or go on-hook or for the switch to time the call out (about 5 to 10 seconds).

Go To Vector

When a "go to vector" command is executed, an outflow and a "goto call" are counted for the first vector and an inflow is counted for the second vector. The timing and statistics associated with the first vector for that call stop and are started for the second vector. The call remains in the original VDN, however, and tracking in that VDN continues.

Outbound Call Management (OCM)

Outbound call management calls to splits/skills are included as a subset of the ACD call database items (talk time, ringing, ACW, etc.). OCM calls also have their own database items which start with "O_" in the agent, split/skill, trunk and trunk group tables. Inbound split/skill calls can be calculated as ACDCALLS - O_ACDCALLS.

Redirection on No Answer (G3 V2)

When a ringing call times out and is requeued to the same split/skill by the Redirection on No Answer feature (Generic 3 Version 2 only), an outflow and an inflow are counted for the split/skill. Thus, the redirected call appears as two offered calls to the split/skill. The database item NOANSREDIR is also incremented. The unique calls offered to the

split/skill can then be calculated by subtracting the value of NOANSREDIR from CALLSOFFERED.

Note

This assumes that the split/skill is set up so that split/skill calls will not cover back to the same split/skill except through the Redirection on No Answer feature. If they can cover back to the same split/skill, each call that does this will be counted as an outflow and inflow to that same split/skill. In this case, NOANSREDIR is **not** incremented.

Tracking of Times/Duration

In the trunk, trunk group, and VDN tables, the “TIME” items are typically based on the IDLE message at the end of the call, unless the items are queue time or ring time or other similar items.

In the split/skill, and vector tables, the “TIME” items are typically based on when the call leaves the split/skill/vector and the disposition is known. For example, when the DFWD is received and the call outflows or when the caller starts hearing the forced busy.

Trunk No Answer Timeout (G3V2)

This timer starts when the call first seizes the trunk and is stopped when answer supervision is sent for the call. If it times out, the call is dropped by the switch and the CMS pegs the call as an abandoned call. (This time is for switches in countries that lack disconnect supervision for trunks. The assumption is that the caller abandoned long ago.)

Vector Disconnect Timer (G3V2)

The Vector Disconnect Timer is started when a call begins vector processing and stops when the call is routed successfully. This means that the call rings at a destination or the trunk is connected to a destination. In the case of adjunct routing, the timer is stopped at the point at which the call is routed successfully. If the timer times out, the call is dropped by the switch and the CMS records a forced disconnect for the call.

Wait Answer Supervision Timer (WAST)

This timer is started when a call begins ringing at an agent or station. It is stopped if the call is answered or connected or redirected. Once a redirected call begins ringing, the timer will be restarted. In the case of redirection on no answer, if the call cannot be redirected, the WAST is restarted. If the WAST times out, the call is dropped by the switch and the CMS records an abandon (from ringing) for the call.

Terminology

The following terms are used in the database item descriptions.

Abandoned Call	A call is considered an abandoned call if the caller hangs up before the call is answered or connected. Calls may also be considered abandoned if certain timers in the switch time out [see explanations of the Wait Answer Supervision Timer (WAST) and the trunk No Answer Timeout (NATO) above]. These timers are used primarily in locations where the central office trunks lack disconnect supervision. Calls may abandon during many phases of processing, including during vector processing, after being queued to a split/skill, while ringing at an agent or station. The calls that are counted as abandons differ depending on the table. The agent table counts as abandons those calls that abandoned while ringing at the agent. The split/skill table counts as abandons those calls that abandoned while queued to the split/skill or while ringing at an agent in the split/skill. The VDN table counts as abandons those calls that abandoned while in the VDN, including calls in vector processing not yet queued to a split/skill (for example, calls that abandoned while listening to an announcement), calls queued to one or more splits/skills, calls ringing at agents or stations. The definitions in each table state which abandons are counted in that table.
ACD Call	An ACD call is a call that queued to a split/skill and was answered by an agent in that split/skill or a call that queued as a direct agent call and was answered by the agent to whom it was queued.
Agent	Agent refers to the login id that staffed the extension. This term is often extended to mean the person who used the id to staff the extension. In all cases, the term agent implies measurement by CMS.

Agent position (no EAS)	In traditional ACD, that is, without the Expert Agent Selection (EAS) feature, agent position refers to the combination of agent login ID and split the agent logged into. Agents logged into multiple splits have multiple positions associated with them. Call data are collected for each agent/split combination separately, so that it is possible to report on the calls handled and time spent by agents in each of the splits they were in. To report on the total work performed by the agent, call data must be summed for the agent over all the splits in which he or she worked.
Agent position (with EAS)	When Expert Agent Selection (EAS) is enabled, there is a single agent position associated with each logged-in agent, regardless of the number of skills assigned to the agent. Data are still collected for the agent by skill, so the total work for the agent must be summed over all skills in which the agent worked.
Answered Call	A call is considered to be answered when the agent's state changes to ACD or DACD. The term answered is used only for split/skill and direct agent ACD calls. (See Connected for non-ACD calls.) For manual answer agents, the call is answered when the agent selects the ringing line appearance. For automatic answer agents, the call is answered directly after the zip tone is applied.

After Call Work There are two types of after call work: call-related after call work and after call work not associated with a call. An agent enters a call-related after call work state by completing a manual-in call or, on Generic 1/Generic 3 switches, by pressing the after call work key during an automatic-in call, then completing the call. CMS tracks call-related after call work in the call-based ACWTIME item and in the interval-based I_ACWTIME item.

An agent on a Generic 1 or Generic 3 switch can enter the after call work state without having an associated call by pressing the after call work key while available or in the AUX mode. CMS will track this after call work time in the I_ACWTIME item, but not in the ACWTIME item.

For Generic 1/Generic 3 without the EAS feature, the after call work time not associated with an ACD call will be tracked for the split whose after call work key the agent pressed. For Generic 3 with EAS, the after call work time not associated with an ACD call will be tracked for the first skill administered for and successfully logged into by the agent.

Connected Call A non-ACD call is considered to be connected to an extension (not a VDN or direct agent) when the call rings at the station and the caller does not abandon. The System 85 R2V4 and Generic 2.1 switch releases do not notify CMS when non-ACD calls abandon, so all non-ACD calls that route to an extension are tracked as connected calls for these switch releases. For Generic 1, Generic 3 and Generic 2.2 switches, only calls that routed to an extension and did not abandon are tracked as connected calls.

Default Skill (Generic 2.2) On the Generic 2.2 with EAS, every skill that ends with a "0" is called a "default skill", since every agent in the skill group is logged into this skill by default. The default skill is the first skill for each skill group.

Direct Agent ACD Call (Generic 3)	A direct agent ACD call is a call that queues for a specific agent. Direct agent ACD calls can be generated by an ASAI adjunct (Generic 3) or by calling an agent's login id (G3 with EAS), given the proper class of restriction for the caller and for the receiving agent. Direct agent ACD calls are tracked as ACD calls along with split/skill ACD calls in the trunk, trunk group, VDN and vector tables. Direct agent ACD calls are tracked separately from split/skill ACD calls in the agent tables. Direct agent ACD calls are not tracked in the split/skill tables (since they are not split/skill ACD calls).
Extension Call	Extension calls are any calls originated by agents and non-ACD calls received by agents. For the Generic 2.2 and Generic 3 switch releases, these include calls an agent makes to set up a conference or a transfer.
Hold	A call is considered to be on hold whenever an agent places it on hold by using the Hold key or the hard hold feature access code, by using the Transfer or Conference key or by flashing the switch hook. CMS only tracks calls on hold for the switch releases that notify CMS when calls are placed on hold. Releases that notify CMS are System 85 R2V4/Generic 2.1 for split/skill ACD calls placed on hold via the Hold key or feature access code; Generic 2.2 and Generic 3 for all calls.
Nonprimary Split/Skill	When a call is queued to multiple splits/skills (Generic 3 with vectoring, Generic 2.2 with EAS), the second and third splits/skills to which the call queues in a VDN are called "non-primary splits/skills". They are also referred to as secondary and tertiary splits/skills, respectively.
Nonzero (0) Skill (Generic 2.2)	On Generic 2.2 with EAS, any skill that does not end in "0" is called a nonzero skill.

Primary Split/Skill	When a call is queued to multiple splits/skills (Generic 3 with vectoring, Generic 2.2 with EAS), the first split/skill the call queues to in a VDN is called the primary split/skill. If the call leaves vector processing and queues to another split/skill (for example, routes to a split/skill extension, routes to another VDN), then that split/skill becomes the primary split/skill. If the call leaves vector processing and does not queue to another split/skill (for example, routes to an extension), then there is no new primary split/skill.
Queued	CMS is notified that an ACD call queued to a split/skill even if the call was immediately delivered to an available agent and spent no time waiting in queue. In the case of the Generic 1/Generic 3 switches, even though the call may never have physically occupied a queue slot on the switch (because it could be delivered immediately to an agent), CMS is still notified that the call queued to the split/skill.
Secondary Split/Skill	When a call is queued to multiple splits/skills (Generic 3 with vectoring, Generic 2.2 with EAS), the second split/skill the call queues to in a VDN is called the secondary split/skill.
Split/Skill ACD Call	A split/skill ACD call is a call that queued to a split/skill and was answered by an agent in that split/skill.
Skill Group (Generic 2.2)	On the Generic 2.2 with EAS, each consecutive ten skills ending with digits 0 through 9 constitute a skill tens group. For example, skills 10-19 form a skill tens group, as do skills 340-349.
Station	Station refers to an unmeasured extension, that is, an extension that is not currently staffed by an agent or that is a member of an unmeasured split/skill or hunt group.
Tertiary Split/Skill	When a call is queued to multiple splits/skills (Generic 3 with vectoring, Generic 2.2 with EAS), the third split/skill the call queues to in a VDN is called the tertiary split/skill.
Zero (0) Skill (Generic 2.2)	On the Generic 2.2 with EAS, every skill that ends with a "0" is called a zero skill. The zero skill is the first skill for each skill group.

Database Table Names

To select data for custom reports, you must use the names listed in Table A-1 and Table A-2. The database items are described in later sections of this appendix.

Table A-1: Real-Time Table Names

Name	Data Stored
csplit	Split/Skill data for the current interval.
psplit	Split/Skill data for the previous interval.
cagent	Agent data fro the current interval.
pagent	Agent data for the previous interval.
ctkgrp	Trunk group data for the current interval.
ptkgrp	Trunk group data for the previous interval.
ctrunk	Trunk data for the current interval.
ptrunk	Trunk data for the previous interval.
cvector	Vector data for the current interval.
pvector	Vector data for the previous interval.
cvdn	VDN data for the current interval.
pvdn	VDN data for the previous interval.
ccwc	Call Work Code (CWC) data for the current interval.
pcwc	CWC data for the previous interval.

Table A-2: Historical Table Names

Name	Data Stored
hsplit	Split/Skill data for each intrahour interval.
dsplit	Split/Skill data summarized by day.
wsplit	Split/Skill data summarized by week.
msplit	Split/Skill data summarized by month.
hagent	Agent data for each intrahour interval.
dagent	Agent data summarized by day.
wagent	Agent data summarized by week.
magent	Agent data summarized by month
htkgrp	Trunk group data for each intrahour interval.
dtkgrp	Trunk group data summarized by day.
wtkgrp	Trunk group data summarized by week.
mtkgrp	Trunk group data summarized by month.
htrunk	Trunk data for intrahour interval.
dtrunk	Trunk data summarized by day.
wtrunk	Trunk data summarized by week.
mtrunk	Trunk data summarized by month.
hvector	Vector data for each intrahour interval.
dvector	Vector data summarized by day.
wvector	Vector data summarized by week.
mvector	Vector data summarized by month.
hvdn	VDN data for each intrahour interval.
dvdn	VDN data summarized by day.
wvdn	VDN data summarized by week.
mvdn	VDN data summarized by month.
hcwc	CWC data for each intrahour interval.
dcwc	CWC data summarized by day.
wcwc	CWC data summarized by week.
mcwc	CWC data summarized by month.

Table A-2: Historical Table Names (Contd)

Name	Data Stored
call_rec	Call record data.
agex	Agent exceptions.
spex	Split exceptions
tgex	Trunk group exceptions.
vecex	Vector exceptions.
vdnex	VDN exceptions.
linkex	Link down exceptions.
mctex	Malicious call trace exceptions.
f_cday	Forecast current day configuration data by split/skill.
f_cdayrep	Current day forecast data by split/skill.

Split/Skill Database Items

The Split/Skill Database Item descriptions apply to real-time and historical items. The **Type** column refers to **Cumulative**, **Administrative**, or **Status** data. See the descriptions at the beginning of this Appendix.

Real-Time

For real-time, split/skill database items apply to the Current Interval Split/Skill (csp`lit`) and Previous Interval Split/Skill (psp`lit`) tables. The indexes for real-time are **ACD** and **SPLIT**.

Cumulative (C) and Administrative (A) items typically apply to both the current and previous interval real-time tables. Status items (S) only apply to the current interval real-time tables.

Historical

Split/Skill historical database items apply to the Intrahour Split/Skill (hspl`lit`), Daily Split/Skill (dspl`lit`), Weekly Split/Skill (wspl`lit`), and Monthly Split/Skill (mspl`lit`) tables, except as noted. The indexes are **SPLIT** and **ROW_DATE**.

Table A-3: Split/Skill Database Items

Database Item	Description	Type
ABNCALLS	Number of CALLSOFFERED that were abandoned while in queue or ringing at an agent position. For System 85 R2V4, Generic 2.1, and Generic 3 switches with vectoring, this also includes calls that were queued to the split/skill and abandoned while listening to a forced disconnect announcement. When a call abandons while queued to multiple splits/skills, only the primary split/skill pegs ABNCALLS . ABNCALLS includes O_ABNCALLS .	C
ABNCALLS1-10	Number of ABNCALLS that were abandoned during the collection interval in each of the service level increments PERIOD1 through PERIOD9 (as defined on the ACD Administration: Call Profile window). ABNCALLS10 counts calls that abandoned after PERIOD9 .	C
ABNRINGCALLS	Number of ABNCALLS that abandoned while ringing at an agent position. This database item is only available with Generic 2 and Generic 3.	C
ABNTIME	Time callers waited in queue or ringing before abandoning	C

Table A-3: Split/Skill Database Items (Contd)

Database Item	Description	Type
ACCEPTABLE	Number of ACDCALLS answered by an agent within the acceptable service level (as defined on the ACD Administration: Call Profile window).	C
ACD (index)	The ACD number for which data was collected.	A
ACDAUXOUTCALLS	Number of AUXOUTCALLS agents in the split/skill made with at least one split/skill ACD call on hold. For agents in multiple splits (Generic 3), the call is counted for the split/skill of the last ACD call the agent put on hold. ACDAUXOUTCALLS includes calls made to transfer or conference the ACD call. The database item is available only with Generic 2.2 and Generic 3.	C
ACDCALLS	Number of CALLSOFFERED calls that were answered by an agent in the split/skill.	C
ACDCALLS1-10	Number of ACDCALLS during the collection interval that were answered in each of the service level increments PERIOD1 through PERIOD9 (as defined on the ACD Administration: Call Profile window). ACDCALLS10 is the number of calls answered after the last increment PERIOD9 .	C
ACDOTHER (real-time)	Number of agents in OTHER with one or more ACD calls on hold. ACDOTHER is a subset of OTHER .	C
ACDTIME	Talk time of all ACDCALLS (does not include HOLDTIME , but it does include O_ACDTIME).	C
ACWINCALLS	Number of inbound extension calls received by agents while in ACW (after call work) for split/skill ACD calls or in ACW not associated with a call.	C
ACWINTIME	Talk time of all ACWINCALLS (does not include hold time on Generic 2.2 and Generic 3 switches).	C
ACWOUTADJCALLS	Number of ACWOUTCALLS an adjunct processor or host computer placed on behalf of an agent (keyboard dialed). If such calls are placed to off-switch destinations, then they are also counted as ACWOUTOFFCALLS . This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
ACWOUTCALLS	Number of outbound extension calls made by agents while in ACW for split/skill ACD calls or in ACW not associated with a call.	C
ACWOUTOFFCALLS	Number of ACWOUTCALLS that were made to a destination outside the switch. If such calls are placed by an adjunct on behalf of an agent then they are also counted as ACWOUTADJCALLS . This database item is only available with Generic 2.2 and Generic 3 switches.	C

Table A-3: Split/Skill Database Items (Contd)

Database Item	Description	Type
ACWOUTOFFTIME	Talk time of all ACWOUTOFFCALLS (does not include hold time). This database item is only available with Generic 2.2 and Generic 3 switches.	C
ACWOUTTIME	Talk time of all ACWOUTCALLS (does not include hold time on Generic 2.2 and Generic 3 switches).	C
ACWTIME	Duration of all after call work associated with ACDCALLS .	C
AGINRING (real-time)	<i>Current number of POSITIONS at which split/skill calls are ringing for this split/skill. When an agent makes or answers a personal call while an ACD call is ringing, that position is no longer counted in AGINRING (because the agent is then on an AUXIN/OUT call). This database item is available only with Generic 2 and Generic 3.</i>	S
ANSTIME	Time spent by callers in queue or ringing before being answered by an agent.	C
ASSISTS	Number of times supervisor was called (supervisor assists) by agents on ACD calls or in call-related after call work for this split/skill.	C
AUXINCALLS	Number of inbound extension calls received by agents while in AUX (auxiliary work), AVAILABLE, or, for Generic 2.2 and Generic 3, with an ACD or AUXIN/AUXOUT call on hold.	C
AUXINTIME	Talk time of all AUXINCALLS (does not include hold time on Generic 2.2 and Generic 3).	C
AUXOUTADJCALLS	Number of AUXOUTCALLS an adjunct processor or host computer placed on behalf of an agent. If such calls are placed to off-switch destinations, then they are also counted as AUXOUTOFFCALLS . This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
AUXOUTCALLS	Number of outbound extension calls made by agents while in AUX (auxiliary work), AVAILABLE, or, for Generic 2.2 and Generic 3, with an ACD or AUXIN/AUXOUT call on hold.	C
AUXOUTOFFCALLS	Number of AUXOUTCALLS that were made to a destination outside the switch. If such calls are placed by an adjunct on behalf of an agent then they are also counted as AUXOUTADJCALLS . This database item is only available with Generic 2.2 and Generic 3 switches.	C
AUXOUTOFFTIME	Talk time of all AUXOUTOFFCALLS (does not include hold time). AUXOUTOFFTIME is included in AUXOUTTIME . This database item is only available with Generic 2.2 and Generic 3 switches.	C
AUXOUTTIME	Talk time of all AUXOUTCALLS (does not include hold time, but does include AUXOUTOFFTIME).	C

Table A-3: Split/Skill Database Items (Contd)

Database Item	Description	Type
AVAILABLE (real-time)	Current Number of POSITIONS that are available in this split/skill.	S
BACKUPCALLS	Number of ACDCALLS that were delivered to this split/skill by a vector command other than a "queue to main split" command. This includes calls delivered by "messaging split/skill", "check backup", and "route to" split/skill vector commands. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches that have the Call Vectoring feature.	C
BUSYCALLS	Number of CALLSOFFERED calls that were given a busy signal by the switch. This happens when a "busy" vector command is executed while the call is queued to this split/skill (and this is the primary split/skill the call is queued to) or if a call queued to this split/skill forwards to another split/skill whose queue is full.	C
BUSYTIME	Time the callers waited in queue until hearing busy tone for all BUSYCALLS .	C
CALLSOFFERED	Number of calls that queued to the split/skill. This does not include calls on Generic 1 and Generic 3 switches that could not queue to the split/skill because the queue was full or there was no queue. CALLSOFFERED = ACDCALLS + ABNCALLS + BUSYCALLS + DISCCALLS + OUTFLOWCALLS + DEQUECALLS	C
CONFERENCE	Number of ACDCALLS that were conferenced (Generic 2.2, Generic 3).	C
DA_ACWINCALLS	Number of in calls while ACW for direct agent call.	
DA_ACWINTIME	Duration of all DA_ACWINCALLS .	
DA_ACWOCALLS	Number of out calls while ACW for direct agent call.	
DA_ACWOTIME	Duration of all DA_ACWOCALLS .	
DA_INACW (real-time)	Current number of POSITIONS that are in after call work associated with direct agent calls. This includes agents who are on ACWIN/OUT calls. DA_INACW is a subset of OTHER . Total number of agents in after call work = INACW + DA_INACW . This database item is only available with Generic 3 switches.	S
DA_INQUEUE (real-time)	Current number of direct agent ACD calls waiting in this split/skill queue. This database item is only available with Generic 3 switches.	S
DA_INRING (real-time)	Current number of direct agent ACD calls ringing at an agent in this split/skill. This database item is available only with Generic 3 switches.	S
DA_OLDESTCALL (real-time)	Length of time that the oldest direct agent ACD call has been waiting in queue or ringing at an agent position. This database item is only available with Generic 3 switches.	S

Table A-3: Split/Skill Database Items (Contd)

Database Item	Description	Type
DA_ONACD (real-time)	Current number of POSITIONS that are on direct agent ACD calls. DA_ONACD is a subset of OTHER . Total number of agents on ACD calls = ONACD + DA_ONACD . This database item is only available with Generic 3 switches.	S
DA_OLDEST (real-time)	Time oldest call waiting was placed in agent queue.	
DEQUECALLS	Number of calls that queued to this split/skill as a nonprimary split/skill, but whose disposition was recorded in another split/skill (as answered, abandoned, outflowed, busy, or forced disconnect). This database item is only available with Generic 2.2 with EAS and Generic 3.	C
DEQUETIME	Amount of time DEQUECALLS waited in this split/skill queue before dequeuing. This database item is only available with Generic 2.2 with EAS and Generic 3.	C
DISCCALLS	For Generic 2.2 switches, this is the number of INCALLS that were disconnected by the switch via the "disconnect" vector command. For System 85 R2V4, Generic 2.1, and Generic 3 switches, this is the number of INCALLS that were given a forced disconnect announcement, listened to the entire announcement, then were disconnected by the switch. For the Generic 3 Version 2 switch release, this also includes the number of INCALLS that were disconnected by the switch when the vector disconnect timer expired or that reached the end of vector processing without being queued	C
DISCTIME	Time all DISCCALLS spent in this VECTOR . For Generic 2.2, this is the time until the end of the announcement or until the trunk drops (the caller hangs up without listening to the entire announcement). For System 85 R2V4, Generic 2.1, and Generic 3 switches, this is the time until the announcement ends, and the caller is disconnected by the switch. For the Generic 3 Version 2 switch, if the call is disconnected due to the expiration of the vector disconnect timer or because it reached the end of vector processing without queuing, this is the time until the caller is disconnected by the switch.	C
EVENT1-9	Number of times each event (stroke count) key (keys 1 to 9) was pressed by agents on ACD calls or in after call work associated with an ACD call for this split/skill. This database item is only available with 85, Generic 2, and Generic 3 switches.	C
HIGHCALLS	Number of ACDCALLS with high priority that were answered by agents in this split/skill. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches that have the Call Vectoring feature.	C

Table A-3: Split/Skill Database Items (Contd)

Database Item	Description	Type
HOLDABNCALLS	Number of times split/skill ACD caller abandoned while on hold. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches.	C
HOLDCALLS	Number of split/skill ACD calls that were placed on hold at least once. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches.	C
HOLDTIME	Time spent by split/skill ACD callers on hold. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches.	C
I_ACDAUXINTIME	Time during the collection interval that POSITIONS were talking on AUXIN calls with at least one split/skill ACD call on hold. This database item is only available with Generic 2.2 and Generic 3 switches.	C
I_ACDAUX_OUTTIME	Time during the collection interval that POSITIONS spent dialing (Generic 2.2) and talking on AUXOUT calls with at least one split/skill ACD call on hold. This database item is available only with Generic 2.2 and Generic 3 switches.	C
I_ACDOTHERTIME	Time during the collection interval that POSITIONS spent in the OTHER state (dialing an outgoing call with a Generic 3 switch, with a ringing personal call with Generic 3, or with calls on hold and with no other state selected) with at least one split/skill ACD call on hold. This database item is available only with Generic 2.2 and Generic 3 switches.	C
I_ACDTIME	Time during the collection interval that POSITIONS were on split/skill ACD calls. This includes time on O_ACDCALLS as well as on ACDCALLS .	C
I_ACWINTIME	Time during the collection interval that POSITIONS were in ACW for this split/skill and on inbound extension calls.	C
I_ACWOUTTIME	Time during the collection interval that POSITIONS were in ACW for this split/skill and on outbound extension calls.	C
I_ACWTIME	Time during the collection interval that POSITIONS were in ACW for split/skill ACD calls or were in ACW not associated with an ACD for this split/skill. This includes I_ACWINTIME and I_ACWOUTTIME .	C
I_AUXINTIME	Time during the collection interval that POSITIONS were in AUX work, AVAILABLE, or, for Generic 2.2 and Generic 3, had an ACD or AUXIN/AUXOUT call on hold and were on inbound extension calls.	C
I_AUXOUTTIME	Time during the collection interval that POSITIONS were in AUX work, AVAILABLE or, for Generic 2.2 and Generic 3, had an ACD or AUXIN/AUXOUT call on hold and were on outbound extension calls.	C
I_AUXTIME	Time during the collection interval that POSITIONS were in AUX. This includes I_AUXINTIME and I_AUXOUTTIME .	C

Table A-3: Split/Skill Database Items (Contd)

Database Item	Description	Type
I_AVAILTIME	Time during the collection interval that POSITIONS were available for calls from this split/skill.	C
I_OTHERTIME	Time during the collection interval that POSITIONS were doing other work. For Generic 3, other work includes: while in Auto-In or Manual-In mode, an agent put any call on hold and performed no further action; the agent had a direct agent call ringing, was on a direct agent call or in ACW for a direct agent call; the agent dialed to place a call or activate a feature; or a personal call rang at the agent with no other activity. For Generic 1, and Generic 3 without EAS, agents were logged into multiple splits and doing work for a split other than this one (on an ACD call, in call-related ACW, or on a personal call attributed to a split other than this one). For Generic 2.2 and Generic with EAS, agents were logged into multiple skills and doing work for a skill other than this one (on an ACD call, in call-related ACW or on a personal call attributed to a skill other than this one). For all switches, I_OTHERTIME is collected for the time period after the link to the switch comes up or after the agent logs in and before the CMS receives notification of the agent's state from the switch.	C
I_RINGTIME	Time during the collection interval that POSITIONS had split/skill ACD calls ringing. If an agent changes work modes or makes/answers another call instead of answering the ringing call, I_RINGTIME stops accumulating. RINGTIME is the time the caller spends ringing and is independent of agent activity. This database item is only available with Generic 2 and Generic 3 switches.	C
I_STAFFTIME	Time during the collection interval that POSITIONS were staffed (logged in).	C
INACW (real-time)	Current number of POSITIONS that are in ACW for this split/skill. This includes agents on ACW-IN/AUX-OUT calls as well as agents in ACW not associated with an ACD call.	S
INAUX (real-time)	Current number of POSITIONS that are in AUX work for all splits/skills (this includes agents on AUX-IN/AUX-OUT calls).	S
INCOMPLETE	Indicates whether or not the data for this collection interval is complete	C

Table A-3: Split/Skill Database Items (Contd)

Database Item	Description	Type
INFLOWCALLS	Number of calls that were redirected to the split's/skill's queue. With multiple split/skill queueing (Generic 3 with vectoring and Generic 2.2 with EAS), calls answered by an agent in a non-primary split/skill are counted as inflows to the split/skill. Calls that abandon from ringing an agent in a non-primary split/skill are also counted as inflows to the split/skill. On the Generic 2.2 with EAS, calls that queue to the "zero" skill after having been queued to a "nonzero" skill are counted as inflows to the "zero" skill. The opposite also applies; calls that queue to a "nonzero" skill after having been queued to the "zero" skill are counted as inflows to the "nonzero" skill. Calls that are queued to one skill group and are subsequently queued to a different skill group are not counted as inflows to the subsequent skill group. Calls that ring at an agent position and then are requeued to the same split/skill by the Redirection on No Answer feature (Generic 3 Version 2 and later) are counted as inflows to the split/skill to which they are requeued. When a call leaves a vector, for example by routing to a split/skill or routing to another VDN, the next split/skill to which a call queues will not be credited with an inflow.	C
INQUEUE (real-time)	Current number of split/skill ACD calls waiting in queue.	S
INRING (real-time)	Current number of split/skill ACD calls which are ringing at agent positions for this split/skill. This database item is available only for Generic 2 and Generic 3 switches.	S
INTERFLOWCALLS	Number of OUTFLOWCALLS that were redirected to a destination outside the switch.	C
INTRVL	Number of minutes in the intrahour interval (15, 30, 60). INTRVL applies to intrahour reports only.	A
LOWCALLS	Number of ACDCALLS with low or no priority that were answered by this split/skill.	C
MAXINQUEUE	Maximum number of calls in queue at any time during the collection interval.	C
MAXOCWTIME	Maximum time during the collection interval that a call waited in queue ringing before an agent answered in this split/skill, the caller abandoned, or the call was redirected, received a busy signal, or was disconnected.	C

Table A-3: Split/Skill Database Items (Contd)

Database Item	Description	Type
MAXSTAFFED	The maximum number of agent POSITIONS that were staffed during the collection interval.	C
MEDCALLS	Number of ACDCALLS medium or "yes" priority that were answered by agents in this split/skill.	C
NOANSREDIR	Number of split/skill ACD calls that rang at agent positions in the split/skill and then were automatically redirected back to the split/skill queue by the Redirection on No Answer feature because they were not answered. This database item is available only with the Generic 3 Version 2 switch.	
O_ABNCALLS	Number of OUTCALLS on this trunk that were offered to ACD splits/skills and were abandoned by the far end. This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
O_ACDCALLS	Number of ACDCALLS that were placed by an adjunct (outbound predictive dialing). This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
O_ACDTIME	Talk time of all O_ACDCALLS (does not include HOLDTIME). This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
O_ACWTIME	Duration of all after call work associated with O_ACDCALLS . This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
OLDESTCALL (real-time)	Current number of seconds the oldest split/skill call has been waiting in queue or ringing at an agent position.	S
ONACD (real-time)	Current number of POSITIONS that are on inbound and outbound ACD calls to this split/skill.	S
ONACDAUXIN (real-time)	Number of agents in AUXIN with one or more ACD calls on hold. ONACDAUXIN is a subset on ONAUXIN.	C
ONACDAUXOUT (real-time)	Number of agents in AUXOUT with one or more ACD calls on hold and are on an outbound extension call. ONACDAUXOUT is a subset of ONAUXOUT.	
ONACDOUT (real-time)	Current number of POSITIONS that are on outbound calls to this split/skill. This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	S

Table A-3: Split/Skill Database Items (Contd)

Database Item	Description	Type
ONACWIN (real-time)	Current number of POSITIONS that are in ACW and on inbound extension calls. These agents also appear in either INACW or DA_INACW .	S
ONACWOUT (real-time)	Current number of POSITIONS that are in ACW and on outbound extension calls. These agents also appear in either INACW or DA_INACW .	S
ONAUXIN (real-time)	Current number of POSITIONS that are in AUX work or AVAILABLE, or, for Generic 2.2 and Generic 3 switches, with an ACD or AUXIN/AUXOUT call on hold, and on inbound extension calls.	S
ONAUXOUT (real-time)	Current number of POSITIONS that are in AUX work or AVAILABLE or, for Generic 2.2 and Generic 3 switches, with an ACD or AUXIN/AUXOUT call on hold, and on outbound extension calls.	S
ONHOLD (real-time)	Current number of split/skill calls on hold at agent positions. This database item is only available with System 85 R2V4, Generic 2, and Generic 3.	S
O_OTHERCALLS	Number of outbound calls queued to this split/skill that were not answered or abandoned as ACD split/skill calls. These include forced busy calls and calls with unknown dispositions.	C
OTHER (real-time)	Current number of POSITIONS doing OTHER work. For Generic 3, other work includes: while in Auto-In or Manual-In mode, an agent put any call on hold and performed no further action; the agent is on a direct agent call or in ACW for a direct agent call; the agent is dialing to place a call or to activate a feature; a personal call or a direct agent ACD call is ringing with no other activity. For Generic 1 and Generic 3 without EAS, agents are logged into multiple splits and doing work for a split other than this one (on an ACD call, in ACW, or on a personal call attributed to a split other than this one). For Generic 2.2 and Generic 3 with EAS, agents are logged into multiple skills and doing work for a skill other than this one (on an ACD call, in call-related ACW, or on a personal call attributed to a skill other than this one). Agent POSITIONS will show up as in OTHER directly after the link to the switch comes up and directly after the agents log in before the CMS is notified of the agent's work state.	S
OTHERTIME	Time OTHERCALLS waited in queue until the disposition was known and the call left the split.	C

Table A-3: Split/Skill Database Items (Contd)

Database Item	Description	Type
OUTFLOWCALLS	Number of CALLSOFFERED that were redirected to another destination while queued to this split/skill. This can happen if: • The call intraflowed or interflowed. • The split/skill call forwarding was active. This can happen with vectoring: • if the call was routed to another VDN. • if the call routed to a number or digits. • if the call queued to another split (Generic 2) • if the call queued to a messaging split/skill (Generic 3). • if the call queued to this split/skill as the primary split/skill, and the call left vector processing and was redirected. • by queuing to multiple splits/skills and being answered by an agent in another • split/skill if queued to this split/skill as primary (Generic 3 and Generic 2.2 with EAS). • by queuing to multiple splits/skills if queued to this split/skill as primary. • by ringing at an agent position in another split/skill and then abandoning if queued to this split/skill as primary (Generic 3 and Generic 2.2 with EAS). • by requeuing to the same split/skill via the Redirection on No Answer feature (Generic 3 Version 2). On Generic 2.2 with EAS, if a call is queued to skills other than the "zero" skill and then is queued to the "zero" skill, the call is counted as an outflow from the primary skill to which it queued. Similarly, a call queued to the "zero" skill which is subsequently queued to a nonzero skill counts as an outflow from the "zero" skill. Calls that queue to one skill group and then subsequently queue to another skill group count as outflows from all the skills to which they were queued in the first skill group.	C
OUTFLOWTIME	Time OUTFLOWCALLS waited in queue or ringing before being redirected.	C
PERIOD 1-9	Length, in seconds, of each service level increment as defined in the ACD Administration: Call Profile window. Each increment represents a progressively longer wait time. CMS counts answered or abandoned calls that wait beyond the last increment (PERIOD9) in either ACDCALLS10 or ABNCALLS10 .	A
PERIODCHG	Indicates whether or not service level increments PERIOD1-9 (as defined on the ACD Administration: Call Profile window) changed during the collection interval. Values: YES, NO	A
POSITIONS (real-time)	Current number of agent positions that are assigned to this SPLIT .	A
RINGCALLS	Number of this split's/skill's calls that rang at agent positions. This database item is only available with Generic 2 and Generic 3.	C

Table A-3: Split/Skill Database Items (Contd)

Database Item	Description	Type
RINGTIME	Time this split/skill's calls spent ringing at agent positions independent of final disposition and other agent activity. I_RINGTIME is the time the agent spends with ringing calls and is affected by other agent activity. RINGTIME is the time the caller spends ringing and is independent of agent activity. This database item is only available with Generic 2 and Generic 3.	C
ROW_DATE (index)	Date on which data was collected.	
SERVICELEVEL	Number of seconds within which calls must be answered in order to be considered acceptable (as defined on the ACD Administration: Call Profile window).	A
SPLIT (index)	The split/skill number for which data was collected.	A
STAFFED (real-time)	Current number of POSITIONS that are staffed (logged in). STAFFED = AVAILABLE + AGINRING + ONACD + INACW + INAUX + OTHER	S
STARTTIME (real-time)	Start time for the interval data was collected.	S
SVCLEVELCHG	indicates whether or not the service level was changed during the collection interval. Values: YES, NO	A
TOPCALLS	Number of ACDCALLS with top priority that were answered by agents in this split/skill. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches that have the Call Vectoring feature.	C
TRANSFERRED	Number of ACDCALLS that were transferred to another destination (Generic 1 = transfers to a measured split or transfers from a measured trunk to a measured trunk, 85 R2V4 and Generic 2.1 = transfers to a VDN or a split/skill, Generic 2.2 and Generic 3 = all split/skill calls transferred).	

Agent Database Items

The Agent Database Item descriptions apply to real-time and historical data.

The column **Type** refers to **Cumulative**, **Administrative**, or **Status** real-time data. See the descriptions at the beginning of this Appendix.

Real-Time

Agent real-time database items apply to the Current Interval Agent (cagent) and Previous Interval Agent (pagent) tables. The indexes are **ACD**, **LOGID**, **POSITION**, and **SPLIT**.

Cumulative (C) and Administrative (A) items typically apply to both the current and previous interval real-time tables. Status (S) items only apply to the current interval real-time tables.

Historical

Agent historical database items apply to the Intrahour Agent (hagent), Daily Agent (dagent), Weekly Agent (wagent), and Monthly Agent (magent) tables, except as noted. The indexes are **LOGID**, **SPLIT** and **ROW_DATE**.

Table A-4: Agent Database Items

Database Item	Description	Type
ABNCALLS	Number of split/skill ACD calls that were abandoned while ringing the agent's voice terminal (after being directed to the agent voice terminal, but before being answered). This database item is available with Generic 2 and Generic 3 switches.	C
ABNTIME	Time split/skill ACD callers waited while ringing the agent before being abandoned. This database item is available with Generic 2 and Generic 3 switches.	C
ACD (index)	The ACD number for which data was collected	A
ACDAUXOUTCALLS	The number of AUXOUTCALLS the agent made with at least one split/skill or direct agent ACD call on hold. This includes calls made to transfer or conference the ACD call. This database item is available with Generic 2.2 and Generic 3 switches only.	C

Table A-4: Agent Database Items (Contd)

Database Item	Description	Type
ACDCALLS	Number of calls that were queued to SPLIT and answered by this agent in this SPLIT (includes O_ACDCALLS).	C
ACDONHOLD (real-time)	Number of direct agent and split/skill ACD calls on hold for the agent. This database item is available with System 85 R2V4, Generic 2, and Generic 3 switches only.	S
ACDTIME	Talk time of all ACDCALLS (does not include HOLDTIME).	C
ACWINCALLS	Number of inbound extension calls received by the agent while in ACW (after call work). This includes ACW for split/skill ACD calls and ACW not associated with a call.	C
ACWINTIME	Talk time of all ACWINCALLS (does not include HOLDTIME).	C
ACWOUTADJCALLS	Number of ACWOUTCALLS an adjunct processor or host computer placed on behalf of the agent (keyboard dialed). If such calls are placed to off-switch destinations, then they are also counted as ACWOUTOFFCALLS . This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
ACWOUTCALLS	Number of outbound extension calls made by the agent or on behalf of the agent while in ACW. This includes ACW for split/skill ACD calls and ACW not associated with a call. ACWOUTCALLS includes ACWOUTADJCALLS and ACWOUTOFFCALLS .	C
ACWOUTOFFCALLS	Number of ACWOUTCALLS that were made to a destination outside the switch. If these calls were placed by an adjunct on behalf of the agent (keyboard dialed), then they are also counted as ACWOUTADJCALLS . This database item is only available with Generic 2.2 and Generic 3 switches.	C
ACWOUTOFFTIME	Talk time of all ACWOUTOFFCALLS (does not include HOLDTIME). ACWOUTOFFTIME is included in ACWOUTTIME . This database item is only available with Generic 2.2 and Generic 3 switches.	C
ACWOUTTIME	Talk time of all ACWOUTCALLS (does not include HOLDTIME). This includes time on ACWOUTADJCALLS and on ACWOUTOFFCALLS .	C
ACWTIME	Duration of all ACW associated with ACDCALLS , including time on ACWINCALLS and ACWOUTCALLS .	C
AGSTATE (real-time)	Agent's current WORKMODE and call DIRECTION , for example, AUXOUT.	S
AGTIME (real-time)	Current time since the last agent state change for any split/skill.	S

Table A-4: Agent Database Items (Contd)

Database Item	Description	Type
ANSRINGTIME	Time split/skill and direct agent calls spent ringing at the agent's position before being answered. This database item is only available with Generic 2.2 and Generic 3.	C
ASSIST (real-time)	Current request for supervisor assistance is active for this agent for any split/skill.	S
ASSISTS	Number of times the agent requested assistance from the split/skill supervisor by pressing the ASSIST key or dialing the supervisor's extension. The agent must be handling an ACD call or in call-related after call work for this item to be recorded.	C
AUXINCALLS	Number of inbound extension calls the agent received while in AUX (auxiliary work), AVAILABLE, or, for Generic 2.2 and Generic 3 switches, with an ACD or AUXIN/AUXOUT call on hold.	C
AUXINTIME	Talk time of all AUXINCALLS (does not include HOLDTIME).	C
AUXOUTADJCALLS	Number of AUXOUTCALLS an adjunct processor or host computer placed on behalf of the agent (keyboard dialed). If such calls are placed to off-switch destinations, then they are also counted as AUXOUTOFFCALLS . This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
AUXOUTCALLS	Number of outbound extension calls made by the agent or on behalf of the agent while in AUX work, AVAILABLE or, for Generic 2.2 and Generic 3 switches, with an ACD or AUXIN/AUXOUT call on hold. AUXOUTCALLS includes AUXOUTADJCALLS and AUXOUTOFFCALLS .	C
AUXOUTOFFCALLS	Number of AUXOUTCALLS the agent made to a destination outside the switch. If these calls were placed by an adjunct on behalf of the agent (keyboard dialed), they are also counted as AUXOUTADJCALLS . This database item is only available with Generic 2.2 and Generic 3 switches.	
AUXOUTOFFTIME	Talk time of all AUXOUTOFFCALLS (does not include HOLDTIME). This time is included in AUXOUTTIME . This database item is only available with Generic 2.2 and Generic 3 switches.	C
AUXOUTTIME	Talk time of all AUXOUTCALLS (does not include HOLDTIME). This includes time on AUXOUTOFFCALLS and AUXOUTADJCALLS .	C
CHANGED (real-time)	Time of day that new agent activity started (i.e., when WORKMODE or DIRECTION changed). Values: NULL, time-of-day	S
CONFERENCE	Number of times the agent completed a conference, that is, pushed the conference key a second time (Generic 3 and Generic 2.2 = all calls).	C

Table A-4: Agent Database Items (Contd)

Database Item	Description	Type
DA_ABNCALLS	Number of direct agent ACD calls that were abandoned by callers while in queue or ringing the agent's voice terminal. This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	C
DA_ABNTIME	Time DA_ABNCALLS were waiting in queue or ringing before being abandoned. This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	C
DA_ACDCALLS	Number of direct agent ACD calls that the agent answered. This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	C
DA_ACDTIME	Talk time of all DA_ACDCALLS (does not include HOLDTIME). This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	C
DA_ACWINCALLS	Number of inbound extension calls received by the agent in ACW for direct agent ACD calls. This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	C
DA_ACWINTIME	Talk time of all DA_ACWINCALLS (does not include HOLDTIME). This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	C
DA_ACWOCALLS	Number of outbound extension calls made by the agent in ACW for direct agent ACD calls. This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	C
DA_ACWOTIME	Talk time of all DA_ACWOCALLS (does not include HOLDTIME). This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	C
DA_ACWOADJCALLS	Number of DA_ACWOCALLS that were placed by an ASAI adjunct on behalf of the agent (keyboard dialed). If these calls were placed to off-switch destinations, they are also counted as DA_ACWOFFFCALLS . This database item is only available with Generic 3 switches that have the outbound ASAI.	C
DA_ACWOFFFCALLS	Number of DA_ACWOCALLS that were made to an off-switch location. If these calls were placed by an adjunct on behalf of the agent (keyboard dialed), they are also counted as DA_ACWOADJCALLS .	C
DA_ACWOFFFTIME	Talk time of all DA_ACWOFFFCALLS (does not include HOLDTIME). This time is included in DA_ACWOTIME . This database item is only available with Generic 3 switches that have the ASAI or the EAS feature.	C

Table A-4: Agent Database Items (Contd)

Database Item	Description	Type
DA_ACWTIME	Duration of after call work associated with DA_ACDCALLS , including time on DA_ACWINCALLS and DA_ACWOCALLS . This database item is only available with Generic 3 switches that have the ASAI or the EAS feature.	C
DA_ANSTIME	Time spent by callers in direct agent queue and ringing before being answered. This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	C
DA_INQUEUE (real-time)	Current number of direct agent calls waiting in any split/skill queue for this agent. This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	S
DA_OLDESTCALL (real-time)	Length of time that the current oldest direct agent call has waited in any split/skill queue for this agent. This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	S
DA_OTHERCALLS	Number of direct agent calls that were redirected to another destination. This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	C
DA_OTHERTIME	Time spent in queue or ringing by DA_OTHERCALLS before being redirected. This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	C
DESTINATION (real-time)	Outbound call destination for the call the agent is active on for any split/skill (NULL, PBX, OFF, or as defined in Dictionary). If the agent is not handling an outbound call, the value is blank.	S
DIRECTION (real-time)	The direction of the call the agent is currently handling for any split/skill (NULL, IN or OUT, or as defined in Dictionary). If the agent is not on a call, the value is blank.	S
DURATION (real-time)	Duration of current WORKMODE and DIRECTION for this SPLIT (i.e., length of time in current AGSTATE for this SPLIT).	S
EVENT1-9	Number of times each event (stroke count) key (1 to 9) was pressed while the agent was on an ACD call or in call-related after call work. This database item is only available with 85, Generic 2, and Generic 3 switches.	C
EXTENSION	The extension number for which data was collected.	A
HOLDABNCALLS	Number of times callers abandoned from hold (Generic 3 and Generic 2.2 = all callers, 85 R2V4 and Generic 2.1 = split callers)	C
HOLDCALLS	Number of calls that were placed on hold at least once (Generic 2.2 and Generic 3 = all calls, 85 R2V4 and Generic 2.1 = split calls). This includes calls that abandoned from hold.	C
HOLDTIME	Time spent by callers on hold (Generic 3 and Generic 2.2 = all calls, 85 R2V4 and Generic 2.1 = split calls)	C

Table A-4: Agent Database Items (Contd)

Database Item	Description	Type
I_ACDAUXINTIME	Time during the collection interval that the agent spent talking on AUXIN calls with at least one split/skill or direct agent ACD call on hold. This database item is available on Generic 2.2 and Generic 3 switches only.	C
I_ACDAUX_OUTTIME	Time during the collection interval that the agent spent dialing (Generic 2.2) and talking on AUXOUT calls with at least one split/skill or direct agent ACD call on hold. This database item is available on Generic 2.2 and Generic 3 switches only.	C
I_ACDOTHERTIME	Time during the collection interval that the agent spent in the OTHER state (dialing an outgoing call [Generic 3], with a ringing personal call [Generic 3], or with calls on hold and with no other state selected) with at least one split/skill or direct agent ACD call on hold. This database item is available on Generic 2.2 and Generic 3 switches only.	C
I_ACDTIME	Time during the collection interval that the agent was talking on ACD calls for SPLIT . This includes time spent on O_ACDCALLS . For System 85 R2V4 and Generic 2.1 switches, this also includes the time ACD calls spent on hold.	C
I_ACWINTIME	Time during the collection interval that the agent was in ACW and on inbound extension calls. This includes ACW for split/skill ACD calls and ACW not associated with a call. I_ACWINTIME does not include HOLDTIME .	C
I_ACWOUTTIME	Time during the collection interval that the agent was in ACW and on outbound extension calls. This includes ACW for split/skill ACD calls and ACW not associated with a call. I_ACWOUTTIME does not include HOLDTIME .	C
I_ACWTIME	Time during the collection interval that the agent was in ACW. This includes ACW for split/skill ACD calls and ACW not associated with a call. It also includes I_ACWINTIME and I_ACWOUTTIME .	C
I_AUXINTIME	Time during the collection interval that the agent was in AUX work, AVAILABLE, or for Generic 2.2 and Generic 3 switches, with an ACD or AUXIN/AUXOUT call on hold and on inbound extension calls and SPLIT was the OLDEST_LOGON (does not include HOLDTIME).	C
I_AUXOUTTIME	Time during the collection interval that the agent was in AUX work, AVAILABLE, or, for Generic 2.2 and Generic 3 switches, with an ACD or AUXIN/AUXOUT call on hold and on outbound extension calls and SPLIT was the OLDEST_LOGON (does not include HOLDTIME).	C
I_AVAILTIME	Time during the collection interval that the agent was available for ACD calls in this split/skill.	C

Table A-4: Agent Database Items (Contd)

Database Item	Description	Type
I_DA_ACDTIME	Time during the collection interval that the agent spent talking on direct agent calls (does not include HOLDTIME). This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	C
I_DA_ACWTIME	Time during the collection interval that the agent was doing after call work associated with direct agent ACD calls. This database item is only available with Generic 3 switches that have the ASAI or EAS feature.	C
I_OTHERTIME	Time during the collection interval that the agent was doing other work. For Generic 3, other work includes: while in Auto-In or Manual-In mode, an agent put any call on hold and performed no further action; the agent dialed to place a call or activate a feature; or a personal call rang at the agent with no other activity. For Generic 1 and Generic 3 without EAS the agent was logged into multiple splits and doing work for a split other than this one (on an ACD call, in call-related ACW, or on a personal call attributed to a split other than this one). For Generic 2.2 and Generic with EAS, the agent was logged into multiple skills and doing work for a skill other than this one (on an ACD call, in call-related ACW or on a personal call attributed to a skill other than this one). For all switches, I_OTHERTIME is collected for the time period after the link to the switch comes up or after the agent logs in and before the CMS receives notification of the agent's state from the switch.	C
I_RINGTIME	Time during the collection interval that the agent had split/skill and direct agent ACD calls ringing. If the agent changes work modes or makes/receives another call instead of answering the ringing call, I_RINGTIME stops accumulating. RINGTIME is the time the caller spends ringing and is independent of agent activity. This database item is only available with Generic 2 and Generic 3 switches.	C
I_STAFFTIME	Time during the collection interval that the agent was staffed (logged in) in this split/skill.	C
INCOMPLETE	Indicates whether or not the data for this collection interval is complete.	C
INTRVL	Number of minutes in the intrahour interval (15, 30, 60). INTRVL applies to intrahour reports only.	A
LOGID (index) (real-time)	The login ID that was used to staff the EXTENSION . Agents in multiple splits/skills have LOGID .	S
LOGONSKILL (real-time)	First skill the agent logged in with. This is also stored in SPLIT . This database item requires a Generic 2.2 or Generic 3 with the EAS feature.	S

Table A-4: Agent Database Items (Contd)

Database Item	Description	Type
LOGONSKILL2-5 (real-time)	Second through fifth skills the agent logged in with. LOGONSKILL5 is only used with Generic 2.2. This database item requires a Generic 2.2 or Generic 3 with the EAS feature.	S
LOGONSTART (real-time)	Time of day that the agent logon session started for this SPLIT . If the agent has not logged in during the collection interval, the value will be blank. Values: NULL, time-of-day.	S
MALICIOUS (real-time)	Indicates whether a malicious call trace is active for the agent for any split/skill. This database item is available with Generic 2 and Generic 3 switches, but not for Generic 3i Version 1.	S
NOANSREDIR	The number of split/skill and direct agent ACD calls that rang at this agent and then were automatically requeued to the split/skill by the Redirection on No Answer feature because they were not answered. This database item is available only with the Generic 3 Version 2 switch.	C
O_ACDCALLS	Number of outbound ACDCALLS that an adjunct processor or host computer placed. This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
O_ACDTIME	Talk time of all O_ACDCALLS (does not include HOLDTIME). This time is included in ACDTIME . This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
O_ACWTIME	Duration of all after call work associated with the O_ACDCALLS . This time is included in ACWTIME . This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
OLDEST_LOGON (real-time)	Current record of the split/skill the agent has been logged into the longest. For Generic 2.2 with EAS, this is always the default ("zero") skill.	S
ONHOLD (real-time)	Current number of calls for any split/skill on hold at the agent's station (Generic 2.2 and Generic 3 = all calls, 85 R2V4 and Generic 2.1 = split ACD calls).	S
ORIGIN (real-time)	How the outbound call the agent is currently handling, if any, originated for any split/skill. Values: NULL, PHONE, or KEYBOARD (adjunct dialed).	S
POSITION (index) (real-time)	The position number associated with this EXTENSION . Agents in multiple splits without EAS have multiple POSITIONS . Agents in multiple skills with EAS have a single POSITION .	A
RINGCALLS	Number of split/skill and direct agent (Generic 3) calls that rang at the agent's position. This database item is only available with Generic 2 and Generic 3 switches.	C

Table A-4: Agent Database Items (Contd)

Database Item	Description	Type
RINGTIME	Time split/skill and direct agent ACD calls spent ringing at the agent's position (independent of disposition or other agent activity). I_RINGTIME is the time the agent spends in the ringing state and is affected by other agent activity. RINGTIME is the time the caller spends ringing and is independent of agent activity. This database item is only available with Generic 2 and Generic 3.	C
ROW_DATE (index)	Date on which data was collected.	
SPLIT (index)	Assigned split/skill number or skill number the agent is logged into for this EXTENSION .	A
SKILLTYPE (real-time)	Type (primary or secondary) of the first skill. This database item is available only with Generic 3 Version 2 with EAS.	S
SKILLTYPE2-4 (real-time)	Type (primary or secondary) of the second, third, and fourth skills. This database item is available only with Generic 3 Version 2 with EAS.	S
STARTED (real-time)	Time of day that WORKMODE began. Values: NULL, time-of day	S
STARTTIME (real-time)	Time of day that the INTRVL for data collection began.	S
TI_AUXTIME	Time during the collection interval that the agent was in AUX for all splits/skills or on AUXINCALLS or AUXOUTCALLS and SPLIT was OLDEST_LOGON . "TI_" time is only stored for the split/skill the agent has been logged into the longest. "TI_" needs to be summed across the splits/skills the agents may log into, in case the logon order changes.	C
TI_AVAILTIME	Time during the collection interval that the agent was in the available state for split/skill or direct agent ACD calls in any split/skill. TI_AVAILTIME is collected for the split/skill that was the OLDEST_LOGON . For traditional (non-EAS) operation, if an agent logged into multiple splits and is in AUX mode in one split and is available for ACD calls in another split, the agent will accrue I_AVAILTIME for the split in which the agent is available and TI_AVAILTIME in the split logged into the longest. "TI_" time is only stored for the split/skill the agent has been logged into the longest. "TI_" time needs to be summed across the splits/skills the agents may log into, in case the logon order changes.	C

Table A-4: Agent Database Items (Contd)

Database Item	Description	Type
TI_OTHERTIME	Time during the collection interval that the agent was doing other work in all splits/skills. For Generic 3, other work includes: while in Auto-In or Manual-In mode, the agent put any call on hold and performed no further action, the agent dialed to place a call or to activate a feature, or a personal call rang with no further activity. For all switches, TI_OTHERTIME is collected for the time period after the link to the switch comes up or after the agent logs in and before the CMS receives notification of the agent's state from the switch. "TI_" time is only stored for the split/skill the agent has been logged into the longest. "TI_" time needs to be summed across the splits/skills the agent may be log into, in case the logon order changes.	C
TI_STAFFTIME	Time during the collection interval that the agent was staffed in any split/skill and SPLIT was OLDEST_LOGON . "TI_" time is only stored for the split/skill the agent has been logged into the longest. "TI_" time needs to be summed across the splits/skills the agent may be log into, in case the logon order changes.	C
TRANSFERRED	Number of times the agent completed a transfer, that is, pressed the transfer key the second time (Generic 1 = measured call to measured split or measured trunk to measured trunk, Generic 3 and Generic 2.2 = all calls, 85 R2V4 and Generic 2.1 = transfers to a VDN or split)	C
VDN (real-time)	Vector directory number associated with the agent's current ACD call for any split/skill. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches that have the Call Vectoring feature.	S
WORKMODE (real-time)	Current work mode of the agent. Agent work modes include: AVAIL, ACD, ACW, AUX, DACD, DACW, RING, UNKNOWN, OTHER, and UNSTAFF. If the agent has not been logged in during the collection interval, the value will be blank.	S
WORKSKILL (real-time)	Current work state of the agent. The WORKSKILL can be ACW (agent is on a skill or direct agent call, or in ACW) or OLDEST_LOGON (agent is on an AUXIN/AUXOUT call), When the agent is in AUX or OTHER , the WORKSKILL is null. This database item requires a Generic 2.2 or Generic 3 Version 2 switch with the EAS feature.	S
WORKSPLIT (real-time)	When the agent is handling a split/skill or direct agent call or in ACW, this is the split/skill associated with the call or the ACW. When the agent is on an AUXIN or AUXOUT call, this is OLDEST_LOGON . When the agent is available, this is the last split/skill in which the agent was available. This database item is available only with Generic 1 and Generic 3. For switch releases with the EAS feature active, it is recommended you use WORKSKILL instead of WORKSPLIT in reports.	S

Table A-4: Agent Database Items (Contd)

Database Item	Description	Type
WORKSPLIT2-3 (real-time)	For agents available in multiple splits/skills, other splits/skills in which the agent is available. This database item is only available with Generic 2.2 with EAS, Generic 1 and Generic 3.	S
WORKSPLIT4 (real-time)	For agents available in multiple splits/skills, another splits/skills in which the agent is available. This database item is only available with Generic 2.2 with EAS and Generic 3 Version 2.	S
WORKSPLIT5 (real-time)	For agents available in multiple splits/skills, another splits/skills in which the agent is available. This database item is only available with Generic 2.2 with EAS.	S

Trunk Group Database Items

The Trunk Group Database Item descriptions apply to real-time and historical data. The column **Type** refers to **Cumulative**, **Administrative**, or **Status** real-time data. See the descriptions at the beginning of this Appendix.

Real-Time

Trunk group real-time database items apply to the Current Interval Trunk Group (ctkgrp) and Previous Interval Trunk (ptkgrp) tables. The indexes are **ACD** and **TKGRP**.

Cumulative (C) and Administrative (A) items typically apply to both the current and previous interval real-time tables. Status (S) items only apply to the current interval real-time tables.

Historical

Trunk Group historical database items apply to the Intrahour Trunk Group (htkgrp), Daily Trunk Group (dtkgrp), Weekly Trunk Group (wtkgrp), and Monthly Trunk Group (mtkgrp) tables, except as noted. The indexes are **ROW_DATE** and **TKGRP**.

Table A-5: Trunk Group Database Items

Database Item	Description	Type
ABNCALLS	Number of calls carried by this trunk that were abandoned by the caller before being answered by an agent. For Generic 2.2 and Generic 3, this is all calls abandoned by the caller that were carried by this trunk, except for calls directly to unmeasured stations that did not go through a VDN or split/skill. For Generic 2.1 and System 85 R2V4, this is ACD calls that abandon from the split queue or from ringing, calls that abandon from vector processing and calls that abandon after being routed to an extension (via the "route to" vector command). For Generic 3, Generic 2.1, and System 85 R2V4, calls that abandon while listening to a forced disconnect announcement are also included. For Generic 1, this is ACD calls that abandon from queue or ringing.	C
ABNQUECALLS	Number of ABNCALLS that were abandoned while in a split/skill or direct agent queue.	C

Table A-5: Trunk Group Database Items (Contd)

Database Item	Description	Type
ABNRINGCALLS	Number of ACDCALLS that were abandoned by the caller while ringing at an agent position. This database item is only available with Generic 2 and Generic 3 switches.	C
ABNVECCALLS	Number of ABNCALLS that abandoned while in vector processing. This includes vector calls that abandoned while in queue or while ringing at an agent position. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches with Call Vectoring	C
ACD (index)	ACD number for which data was collected	A
ACDCALLS	Number of INCALLS that were answered by an agent as a split/skill or direct agent ACD call	C
ADJUNCTOUT (real-time)	Current number of OUTBOUND calls an adjunct processor originated. This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	S
ALLINUSE (real-time)	Current use status of all trunks in the trunk group (on calls or maintenance busy). Values: YES, NO	S
ALLINUSETIME	Length of time during the interval that all trunks in the trunk group were in use (on calls or maintenance busy).	C
AUDIO	Number of calls for which audio difficulty problems were reported for trunks in this trunk group. This database item is available only with System 85 R2V4, Generic 2, and Generic 3.	C
BACKUPCALLS	Number of ACDCALLS that were queued to the answering split/skill using a vector command other than "queue to main". MAINCALLS is then calculated as ACDCALLS - BACKUPCALLS . BACKUPCALLS includes messaging split/skill calls, check backup calls, and route to split/skill calls; it also includes direct agent calls, if you are using this feature. MAINCALLS , therefore, does not include direct agent calls. This database item is only available with System 85 R2V4, Generic 2, and Generic 3 switches with the Call Vectoring feature.	C
BLOCKAGE	Number of outbound call attempts that were blocked because all trunks were busy. This database item is only available with System 85 and Generic 2 switches.	C
BUSYCALLS	Number of INCALLS that were given a busy signal by the switch via the "busy" vector command (System 85 R2V4, Generic 2, and Generic 3) or because the split queue was full (Generic 1 and Generic 3).	C
BH_ABNCALLS	Number of busy hour incoming calls abandoned.	
BH_ACDCALLS	Number of busy hour incoming calls answered.	
BH_ALLINUSETIME	Number of busy hour length of time all trunks were in use.	

Table A-5: Trunk Group Database Items (Contd)

Database Item	Description	Type
BH_BUSYCALLS	Number of busy hour incoming calls forced busy.	
BH_DISCCALLS	Number of busy hour incoming calls disconnected.	
BH_INCALLS	Number of busy hour incoming calls.	
BH_INTIME	Duration of busy hour incoming calls.	
BH_OABNCALLS	Number of busy hour outgoing calls abandoned.	
BH_OACDCALLS	Number of busy hour outgoing calls answered.	
BH_OOTHERCALLS	Number of busy hour outgoing other calls.	
BH_OTHERCALLS	Number of busy hour incoming other calls.	
BH_OUTCALLS	Number of busy hour outgoing calls.	
BH_OUTTIME	Duration of busy hour outgoing calls.	
BH_STARTTIME	Hour for which data was collected.	
COMPLETED	Number of OUTCALLS that were completed (far end answered). This database item is only available with Generic 1 and Generic 3.	C
CONNECTCALLS	Number of INCALLS that were answered at a station and were not split/skill or direct agent ACD calls.	C
DISCCALLS	With Generic 2.2, the number of INCALLS that were disconnected by the switch via the "disconnect" vector command. With System 85 R2V4, Generic 2.1, and Generic 3, the number of INCALLS that were given a forced disconnect announcement (via the disconnect vector) and listened to the entire announcement, then were disconnected by the switch. With Generic 3 Version 2, the number also includes calls disconnected due to the expiration of the vector disconnect timer and those that were disconnected because they reached the end of vector processing without being queued.	C
FAILURES	Number of trunk failures for this TKGRP (System 85 R2V4 and Generic 2). No time or call is recorded in any of the CMS tables. Trunk failures can be due to trunk sequencing failures (usually hardware problems on the trunk or incompatible trunk types on either end of a call) or due to internal switch errors (such as errors in call processing or vectoring translations). This database item is only available with 85 and Generic 2. This item does not include calls with short holding times. (When the Generic 1/Generic 3 switches detect such a problem with trunks, they automatically place the trunks in the maintenance busy state.)	C

Table A-5: Trunk Group Database Items (Contd)

Database Item	Description	Type
I_INOCC	Total trunk hold time for all inbound calls carried by trunks in this trunk group for this collection interval. Trunk holding time is the time from the initial trunk seizure until the trunk goes idle (that is, until the caller drops, the agent releases the call, or the switch disconnects the call). If an incoming call on a measured trunk is transferred off the switch, the incoming trunk remains in use for the call and accrues trunk holding time until the caller drops or the call is released.	C
I_OUTOCC	Total trunk holding time for all outbound calls carried by trunks in this trunk group for this collection interval. Trunk hold time is the time from the initial trunk seizure until the trunk goes idle (i.e., until the far end drops, the agent releases the call, or the switch disconnects the call).	C
INBOUND (real-time)	Current number of NUMINUSE trunks that are busy on inbound calls.	S
INCALLS	Number of inbound calls that were carried by this TKGRP . INCALLS = ACDCALLS + ABNCALLS + OTHERCALLS	C
INCOMPLETE	Indicates whether or not the data for this collection interval is complete. Intervals in which there were trunk failures or in which any trunk in the trunk group was maintenance busy will be marked as INCOMPLETE.	C
INTIME	Trunk holding time for all inbound calls (INCALLS) carried by trunks in this trunk group. Trunk holding time is the time from the initial trunk seizure until the trunk goes idle (that is, until the caller drops, the agent releases the call, or the switch disconnects the call). If an incoming call on a measured trunk is transferred off the switch, the incoming trunk remains in use for the call and accrues trunk holding time until the caller drops or the call is released.	C
INTRVL	Number of minutes in the interval. INTRVL applies to intrahour reports only.	A
MBUSY (real-time)	Current number of NUMINUSE trunks that are maintenance busy.	S
MBUSYTIME	Total time during the collection interval that trunks in the trunk group were maintenance busy.	C
NUMINUSE (real-time)	Current number of TRUNKS that are busy (on calls or maintenance busy). NUMINUSE = INBOUND + OUTBOUND + MBUSY	S
O_ABNCALLS	Number of OUTCALLS that were offered to ACD splits/skills and were abandoned by the far end. This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C

Table A-5: Trunk Group Database Items (Contd)

Database Item	Description	Type
O_ACDCALLS	Number of OUTCALLS that were offered to one or more splits/skills and were answered by an agent in one of those splits/skills. This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
O_OTHERCALLS	Number of OUTCALLS on trunks in this trunk group that were not answered or abandoned as ACD split/skill calls. These include extension out calls, forced busy calls, short outgoing calls, and calls with unknown dispositions.	C
OTHERCALLS	Number of INCALLS carried by this trunk group that were not answered or abandoned as split/skill or direct agent ACD calls. These include forced busy calls, forced disconnect calls, calls that were connected to a non-ACD destination, short inbound calls, and calls with unknown dispositions. OTHERCALLS = INCALLS - ACDCALLS - ABNCALLS	C
OUTBOUND (real-time)	Current number of NUMINUSE trunks that are busy on outbound calls.	S
OUTCALLS	Number of outbound calls that were carried by this TKGRP . OUTCALLS = O_ACDCALLS + O_ABNCALLS + O_OTHERCALLS	C
OUTTIME	This is the trunk holding time for all OUTCALLS carried by trunks in this trunk group. Trunk holding time is the time from the initial trunk seizure until the trunk goes idle (i.e., until the far end drops, the agent releases the call, or the switch disconnects the call).	C
ROW_DATE (index)	Date on which data was collected.	
SETUPTIME	Amount of time until OUTCALLS completed at the far end. This database item is only available with Generic 1 and Generic 3.	C
SHORTCALLS	Number of inbound and outbound calls that occupied a trunk in the trunk group for less than 2 seconds and that did not queue to a split/skill, forward to a split/skill, get answered by an agent, get a forced busy or forced disconnect from the switch, or produce a trunk failure or maintenance busy.	C
SPLIT	Split/skill this TKGRP terminates to.	A
STARTTIME (real-time)	Start time for the interval data was collected.	S
TKGRP (index)	Trunk group number for which data was collected.	A
TRANSFERRED	Number of calls that were transferred to another destination (Generic 1 = measured call to measured split/skill or measured trunk to measured trunk, Generic 3 and Generic 2.2 = all calls, 85 R2V4 and Generic 2.1 = transfers to VDNs an splits).	C

Table A-5: Trunk Group Database Items (Contd)

Database Item	Description	Type
TRUNKS	Current number of trunks assigned to this TKGRP .	A
VDN	VDN this TKGRP terminates to. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches that have the Call Vectoring feature.	A
VECTOR	Vector the VDN terminates to. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches that have the Call Vectoring feature.	A

Trunk Database Items

The Trunk Database Item descriptions apply to real-time and historical data.

The column **Type** refers to **Cumulative**, **Administrative**, or **Status** real-time data. See the descriptions at the beginning of this Appendix.

Real-Time

Trunk real-time database items apply to the Current Interval Trunk (ct trunk) and Previous Interval Agent (pt trunk) tables. The indexes are **ACD**, **ITN**, and **TKGRP**.

Cumulative (C) and Administrative (A) items typically apply to both the current and previous interval real-time tables. Status items (S) only apply to the current interval real-time tables.

Historical

Trunk historical database items apply to the Intrahour Trunk (ht trunk), Daily Trunk (dt trunk), Weekly Trunk Group (wt trunk), and Monthly Trunk (mt trunk) tables, except as noted. The indexes are **EQLOC**, **ROW_DATE** and **TKGRP**.

Table A-6: Trunk Database Items

Database Item	Description	Type
ABNCALLS	Number of calls carried by this trunk that were abandoned by the caller before being answered by an agent. For Generic 2.2 and Generic 3, this is all calls abandoned by the caller that were carried by this trunk, except for calls directly to unmeasured stations that did not go through a VDN or split/skill. For Generic 2.1 and System 85 R2V4, this is ACD calls that abandon from the split queue or from ringing, calls that abandon from vector processing and calls that abandon after being routed to an extension (via the "route to" vector command). For Generic 3, Generic 2.1, and System 85 R2V4, calls that abandon while listening to a forced disconnect announcement are also included here. For Generic 1, this is ACD calls that abandon from queue or ringing.	C
ACD (index)	ACD number for which data was collected.	A

Table A-6: Trunk Database Items (Contd)

Database Item	Description	Type
ACDCALLS	Number of INCALLS on the trunk answered by an agent as a split/skill or direct agent ACD call.	C
AUDIO	Number of calls for which audio difficulty was reported for this trunk. This database item is available only with the System 85 R2V4, Generic 2, and Generic 3 switches.	C
DIRECTION (real-time)	Current call direction of trunk (IN, OUT, or as defined in Dictionary). The value is blank (NULL) if the trunk is not seized (trunk idle).	S
DURATION (real-time)	Current length of time the trunk has been in TKSTATE .	S
EQLOC	Physical equipment location (trunk number) for which data was collected.	A
EXTENSION (real-time)	Extension to which this trunk is currently queued , ringing, or connected.	S
FAILURES	Number of trunk failures for this trunk (System 85 R2V4 and Generic 2). No time or call is recorded in any of the CMS tables. Trunk failures can be due to trunk sequencing failures (usually hardware problems on the trunk or incompatible trunk types on either end of a call) or due to internal switch errors (such as errors in call processing or vectoring translations). This database item is only available with 85 and Generic 2. This item does not include calls with short holding times. (When the Generic 1/Generic 3 switches detect such a problem with trunks, they automatically place the trunks in the maintenance busy state.)	C
I_INOCC	Total trunk hold time for all inbound calls carried by trunks in this trunk group for this collection interval. Trunk holding time is the time from the initial trunk seizure until the trunk goes idle (that is, until the caller drops, the agent releases the call, or the switch disconnects the call). If an incoming call on a measured trunk is transferred off the switch, the incoming trunk remains in use for the call and accrues trunk holding time until the caller drops or the call is released.	C
I_OUTOCC	Total trunk holding time for all outbound calls carried by trunks in this trunk group for this collection interval. Trunk hold time is the time from the initial trunk seizure until the trunk goes idle (i.e., until the far end drops, the agent releases the call, or the switch disconnects the call).	C
INCALLS	Number of inbound calls carried by this trunk. This includes calls with short holding times (SHORTCALLS), but does not include calls that had a trunk failure (FAILURES). INCALLS = ABNCALLS + ACDCALLS + OTHERCALLS	C

Table A-6: Trunk Database Items (Contd)

Database Item	Description	Type
INCOMPLETE	Indicates whether or not the data for this collection interval is complete. Intervals in which the trunk failed or in which the trunk was maintenance busy are marked as INCOMPELTE.	C
INTIME	Trunk holding time for all inbound calls (INCALLS) carried by trunks in this trunk group. Trunk holding time is the time from the initial trunk seizure until the trunk goes idle (that is, until the caller drops, the agent releases the call, or the switch disconnects the call). If an incoming call on a measured trunk is transferred off the switch, the incoming trunk remains in use for the call and accrues trunk holding time until the caller drops or the call is released.	C
INTRVL	Number of minutes in the interval (15, 30, or 60) INTRVL applies to intrahour reports only	A
ITN (index) (real-time)	Internal trunk number of the trunk.	A
LOGID (real-time)	Current agent (Login ID) handling the call. This is blank (NULL) when the trunk is idle.	S
MBUSYTIME	Length of time during the collection interval that this trunk was maintenance busy.	C
O_ABNCALLS	Number of OUTCALLS on this trunk that were offered to ACD splits/skills and were abandoned by the far end. This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
O_ACDCALLS	Number of OUTCALLS on this trunk that were offered to ACD splits/skills and were answered by an agent in one of those splits/skills. This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.	C
O_OTHERCALLS	Number of OUTCALLS on trunks in this trunk group that were not answered or abandoned as ACD split/skill calls. These include extension out calls, forced busy calls, short outgoing calls, and calls with unknown dispositions.	C
OTHERCALLS	Number of INCALLS carried by this trunk group that were not answered or abandoned as split/skill or direct agent ACD calls. These include forced busy calls, forced disconnect calls, calls that were connected to a non-ACD destination, short inbound calls, and calls with unknown dispositions. OTHERCALLS \ INCALLS - ACDCALLS - ABNCALLS	C
OUTCALLS	Number of outbound calls that were carried by the trunk. OUTCALLS = O_ACDCALLS + O_ABNCALLS + O_OTHERCALLS	C

Table A-6: Trunk Database Items (Contd)

Database Item	Description	Type
OUTTIME	This is the trunk holding time for all OUTCALLS carried by trunks in this trunk group. Trunk holding time is the time from the initial trunk seizure until the trunk goes idle (i.e., until the far end drops, the agent releases the call, or the switch disconnects the call).	C
PRIORITY (real-time)	Priority at which call was queued. Without Call Vectoring, the values are: YES, NO, or as defined in Dictionary. With Call Vectoring, the values are: LOW, MED, HIGH, TOP, or as defined in Dictionary. This is blank (NULL) when the trunk idles, gets forced busy, or gets a forced disconnect.	C
PRIORITY2-3 (real-time)	Priority at which call was queued to a second or third Without Call Vectoring, the values are: YES, NO, or as defined in Dictionary. With Call Vectoring, the values are: LOW, MED, HIGH, TOP, or as defined in Dictionary. This is blank (NULL) when the trunk idles, gets forced busy, or gets forced disconnect (announcement). This database item is only available with Generic 2.2 that have the Call Vectoring and EAS feature, and Generic 3 switches that have the Call Vectoring feature.	C
QUECOUNT (real-time)	Number of ACD split/skill queues that the call is in. This is blank (NULL) when the trunk goes idle, gets forced busy, gets a forced disconnect, connects to a station or agent, or forwards out of the queue. Values: NULL, 1-3	S
QUETYPE (real-time)	Manner call entered into the queue. The values are: MAIN, BACKUP, or as defined in Dictionary. This is NULL for direct agent calls, when vectoring is not used, when the trunk idles, gets forced busy, or gets a forced disconnect. This database item is only available with Generic 3, System 85 R2V4, and Generic 2 switches that have the Call Vectoring feature.	S
QUETYPE2-3 (real-time)	Manner the call entered into the second or third queue. The values are: MAIN, BACKUP, or as defined in Dictionary. This is blank (NULL) when vectoring is not used, when the trunk idles, gets forced busy, or gets a forced disconnect. This database item is only available with Generic 2.2 switch with the EAS and Call Vectoring features and the Generic 3 switch with the Call Vectoring feature.	S
ROW_DATE (index)	Date on which data was collected.	
SHORTCALLS	Number of inbound and outbound calls that occupied a trunk in the trunk group for less than 2 seconds and that did not queue to a split/skill, forward to a split/skill, get answered by an agent, get a forced busy or forced disconnect from the switch, or produce a trunk failure or maintenance busy.	C
SPLIT (real-time)	Current split/skill number of the call. This can be the first split/skill number the call was queued to or the split/skill number in which the call was answered. This is blank (NULL) when the trunk idles.	S

Table A-6: Trunk Database Items (Contd)

Database Item	Description	Type
SPLIT2-3 (real-time)	Current split/skill numbers of second and third splits/skills to which the call is queued. This is blank (NULL) when the trunk idles. This database item is available only with the Generic 2.2 switch with the Call Vectoring and EAS features and the Generic 3 switch with the Call Vectoring feature.	S
STARTED (real-time)	Time of day that TKSTATE started. Values: NULL, time-of-day	S
STARTTIME	Start time for the interval data was collected.	S
TKGRP (index)	Trunk group number to which the trunk is assigned.	A
TKSTATE (real-time)	Current state of the trunk. Trunk states include: IDLE, SEIZED, QUEUED, CONN, RING, DABN, FBUSY, FDISC, HOLD, MBUSY, UNKNOWN, or as defined in Dictionary.	S
VDN (real-time)	VDN that is associated with the current call. This stays set until the trunk idles, at which time it is set to NULL. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches that have the Call Vectoring feature.	S
VECTOR (real-time)	Vector that is associated with the current call. This stays set until the trunk idles, at which time it is set to NULL. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches that have the Call Vectoring feature.	C

Vector Database Items

The Vector Database Item descriptions apply to real-time and historical data.

The column **Type** refers to **Cumulative**, **Administrative**, or **Status** real-time data. See the descriptions at the beginning of this Appendix.

Real-Time

Vector database items are available only with the Vectoring feature. They apply to the Current Interval Vector (cvector) and Previous Interval Vector (pvector) tables. The indexes are **ACD** and **VECTOR**.

Cumulative (C) and Administrative (A) items typically apply to both the current and previous interval real-time table. Status (S) items only apply to the current interval real-time tables.

Historical

Vector historical database items apply to the Intrahour Vector (hvector), Daily Vector (dvector), Weekly Vector (wvector), and Monthly Vector (mvector) tables, except as noted. The indexes are **ROW_DATE** and **VECTOR**.

Table A-7: Vector Database Items

Database Item	Description	Type
ABNCALLS	Number of INCALLS that were abandoned while INPROGRESS for this vector. This includes split/skill and direct agent ACD calls that abandon from queue or from ringing, calls that abandon from vector processing, and for the System 85 R2V4, Generic 2.1, and Generic 3 switches, calls that abandoned while listening to a forced disconnect announcement.	C
ABNQUECALLS	Number of ABNCALLS that were abandoned while in a split/skill or direct agent queue. System 85 R2V4 calls that abandon from ringing are included here.	C
ABNRINGCALLS	Number of split/skill or direct agent ABNCALLS that were abandoned by the caller while ringing at an agent position. This database item is only available with Generic 2 and Generic 3 switches.	C

Table A-7: Vector Database Items (Contd)

Database Item	Description	Type
ABNTIME	Time caller waited while vector steps were executed, the call was queued, and ringing.	C
ACD (index)	ACD number for which data was collected	A
ACDCALLS	Number of split/skill and direct agent ACD calls that were answered by an agent. Includes calls from "queue to main split/skill," "check backup split/skill," "messaging split/skill," "route to" split/skill or direct agent, and "adjunct routing" to split/skill or direct agent.	C
ADJATTEMPTS	Number of adjunct routing attempts for calls in this VECTOR . This database item is only available with Generic 3 switches that have the ASAI feature.	C
ADJROUTED	Number of adjunct-routing calls that were redirected by an adjunct processor or host computer. This database item is only available with Generic 3 switches that have the ASAI feature.	C
ANSTIME	Time split/skill and direct agent ACD calls waited while executing vector steps, queuing and ringing before being answered by an agent.	C
BACKUPCALLS	Number of ACDCALLS that were queued to the answering split/skill using a vector command other than "queue to main". MAINCALLS is calculated as ACDCALLS - BACKUPCALLS . BACKUPCALLS includes messaging split/skill calls, check backup calls, and route to split/skill calls; it also includes direct agent calls, if you are using this feature. Therefore, MAINCALLS does not include direct agent calls. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches with the Call Vectoring feature.	C
BUSYCALLS	Number of INCALLS that were given a busy signal by the switch, either via the "busy" vector command or, on Generic 3, via a route to split/skill extension with coverage = y where the split/skill queue is full and there are no available agents in the split/skill.	C
BUSYTIME	Time BUSYCALLS waited before hearing a busy signal.	C
DISCCALLS	With Generic 2.2, the number of INCALLS that were disconnected by the switch via the "disconnect" vector command. With System 85 R2V4, Generic 2.1, and Generic 3, the number of INCALLS that were given a forced disconnect announcement (via the disconnect vector) and listened to the entire announcement, then were disconnected by the switch. With Generic 3 Version 2, the number also includes calls disconnected due to the expiration of the vector disconnect timer and those that were disconnected because they reached the end of vector processing without being queued.	C

Table A-7: Vector Database Items (Contd)

Database Item	Description	Type
DISCTIME	Time all DISCCALLS spent in this VECTOR . For Generic 2.2, this is the time until the end of the announcement or until the trunk drops, in the case where the caller hangs up without listening to the entire announcement. For System 85 R2V4, Generic 2.1, and Generic 3, this is the time until the announcement ends, and the caller is disconnected by the switch. For the Generic 3 Version 2 switch, if the call is disconnected due to the expiration of the vector disconnect timer or because it reached the end of vector processing without queuing, this is the time until the caller is disconnected by the switch.	C
GOTOCALLS	Number of OUTFLOWCALLS that were redirected to another vector by way of a "go to vector" command. This database item is available only with Generic 2.2 and Generic 3 switches.	C
GOTOTIME	Time all GOTOCALLS spent in the vector before being redirected to another vector. This database item is available only with Generic 2.2 and Generic 3 switches.	C
INCALLS	Number of inbound calls that were processed by the vector (this includes INFLOWCALLS). INCALLS = ACDCALLS + ABNCALLS + OTHERCALLS	C
INCOMPLETE	Indicates whether or not the data for this collection interval is complete.	C
INFLOWCALLS	Number of calls that were redirected to the vector by way of a "go to vector" or "route to" VDN command.	C
INPROGRESS (real-time)	Current number of inbound calls that are being processed by this vector until the disposition of the call is known (answered, abandoned, or outflowed from the vector).	S
INQUEUE (real-time)	Current number of INPROGRESS calls that are in split/skill or direct agent ACD queues. System 85 R2V4 calls that are ringing at agent positions are included here.	S
INRING (real-time)	Current number of INPROGRESS split/skill and direct agent ACD calls that are ringing at an agent position. This database item is only available with Generic 2 and Generic 3 switches.	S
INTERFLOWCALLS	Number of OUTFLOWCALLS that were redirected to a destination outside the switch.	C
INTIME	Time spent by INCALLS in the VECTOR executing steps. INTIME stops accruing when the "stop" vector step is executed, when a blank step in the vector is reached, when busy or disconnect is sent, when the call abandons, when a "route to" command succeeds, when a "messaging split/skill or "adjust routing" command succeeds, or when the split/skill or direct agent ACD call rings an agent.	C

Table A-7: Vector Database Items (Contd)

Database Item	Description	Type
INTRVL	Number of minutes in the interval (15, 30, 60). INTRVL applies to intrahour reports only	A
LOOKATTEMPTS	Number of look-ahead interflow attempts for calls processed by the vector. This database item is only available with DEFINITY Generic 2.2 and Generic 3 switches that have the Look-Ahead Interflow feature.	C
LOOKFLOWCALLS	Number of INTERFLOWCALLS that were redirected to another switch by way of the Look-Ahead interflow feature. This database item is only available with Generic 2.2 and Generic 3 switches that have the Look-Ahead interflow feature.	C
NUMVDNS (real-time)	Current number of VDNs that are assigned to this vector.	A
OTHERCALLS	Number of INCALLS that connected to a non-ACD destination, were redirected out of the vector, were given a busy signal, or were disconnected. OTHERCALLS = INCALLS - ACDCALLS - ABNCALLS	C
OTHERTIME	Time OTHERCALLS spent in the vector until their dispositions were known.	C
OUTFLOWCALLS	Number of INCALLS that were redirected to another destination by way of a "go to vector", "route to", or "adjunct routing" command to a destination other than split/skill. (Calls that route to a split/skill by way of a "route to," "adjunct routing," or "messaging split/skill" command are still tracked in the vector.)	C
OUTFLOWTIME	Time all OUTFLOWCALLS spent in the vector before being redirected.	C
RINGCALLS	Number of split/skill and direct agent ACD calls that rang at agent positions. This database item is only available with Generic 2 and Generic 3 switches.	C
RINGTIME	Time split/skill and direct agent ACD calls spent ringing at agent positions independent of final disposition. This database item is only available with Generic 2 and Generic 3 switches.	C
ROW_DATE (index)	Date on which data was collected.	
STARTTIME (real-time)	Start time for the interval data was collected.	S
VECTOR (index)	Vector number that this row represents.	A

VDN Database Items

The VDN Database Item descriptions apply to real-time and historical data.

The column **Type** refers to **Cumulative**, **Administrative**, or **Status** real-time data. See the descriptions at the beginning of this Appendix.

Real-Time

VDN database items are available only with the Vectoring feature. They apply to the Current Interval VDN (cvdn) and Previous Interval VDN (pvdn) tables. The indexes are **ACD**, **VDN**, and **VECTOR**.

Cumulative (C) and Administrative (A) items typically apply to both the current and previous interval real-time tables. Status (S) items only apply to the current interval tables.

Historical

VDN historical database items apply to the Intrahour VDN (hvdn), Daily VDN (dvdn), Weekly VDN (wvdn), and Monthly VDN (mvdn) tables, except as noted. The indexes are **ROW_DATE** and **VDN**.

Table A-8: VDN Database Items

Database Item	Description	Type
ABNCALLS	Number of INCALLS that were abandoned while INPROGRESS for this VDN. This includes split/skill and direct agent ACD calls that abandon from queue or from ringing, calls that abandon from vector processing, calls that abandon after being routed to an extension via the "route to" vector command, and for the System 85 R2V4, Generic 2.1, and Generic 3 switches, calls that abandoned while listening to a forced disconnect announcement.	C
ABNCALLS1-10	Number of INCALLS that abandoned in each of the service level increments PERIOD1 through PERIOD9 (as defined on the ACD Administration: Call Profile window). ABNCALLS10 counts calls that abandoned after PERIOD9 .	C
ABNQUECALLS	Number of ABNCALLS that were abandoned while in a split/skill or direct agent queue. System 85 R2V4 calls that abandon from ringing are included here.	C

Table A-8: VDN Database Items (Contd)

Database Item	Description	Type
ABNRINGCALLS	Number of split/skill and direct agent ABNCALLS that were abandoned by the caller while ringing at an agent position. This database item is only available with Generic 2 and Generic 3 switches.	C
ABNTIME	Length of time caller waited before abandoning.	C
ACCEPTABLE	Number of ACDCALLS and CONNECTCALLS that were answered within the acceptable service level (as defined on the ACD Administration: VDN Call Profile window).	C
ACD (index)	ACD number for which data was collected	A
ACDCALLS	Number of split/skill and direct agent ACD calls that were answered by an agent. This includes calls from vector commands: "queue to main," "check backup," "messaging split/skill," "route to" split/skill or direct agent, and "adjunct routing" to a split/skill or direct agent.	C
ACDTIME	Talk time of all ACDCALLS . (This does not include HOLDTIME).	C
ACWTIME	Time that agents spent in after call work associated with split/skill or direct agent ACD calls.	C
ADJATTEMPTS	Number of adjunct-routing attempts for calls to this VDN. This database item is only available with Generic 3 switches that have the ASAI feature.	C
ADJROUTED	Number of adjunct routing calls that were redirected by the adjunct. This database item is only available with Generic 3 switches that have the ASAI feature.	C
ANSCONNCALLS1-10	Number of calls that were answered in each of the service level increments PERIOD1 - PERIOD9 (as defined on the ACD Administration: VDN Call Profile window). This includes ACD calls and extension calls (by way of a "route to" or "adjust routing" command).	C
ANSTIME	Time split/skill and direct agent ACD calls waited to be answered, in vector processing, in queue, and ringing. For extension calls on System 85 V2R4 and Generic 2.1, this is the time until ringing starts.	C
ATAGENT (real-time)	Current number of INPROGRESS calls (ACD and non-ACD) that have been answered by an agent or a station.	S
BH_ABNCALLS	Number of incoming calls that were abandoned during the busy hour.	
BH_ACDCALLS	Number of incoming calls that were answered during the busy hour.	
BH_ACDTIME	Duration of busy hour answered calls.	
BH_BUSYCALLS	Number of incoming calls that were forced busy during the busy hour.	
BH_DISCCALLS	Number of incoming calls that were disconnected during the busy hour.	

Table A-8: VDN Database Items (Contd)

Database Item	Description	Type
BH_OTHERCALLS	Number of other incoming busy hour calls.	
BH_STARTTIME	Hour for which data was collected.	
BH_VDNCALLS	Number of calls offered to the VDN during the busy hour.	
BACKUPCALLS	Number of ACDCALLS that were queued to the answering split/skill using a vector command other than "queue to main". MAINCALLS is then calculated as ACDCALLS - BACKUPCALLS . BACKUPCALLS includes messaging split/skill calls, check backup calls, and route to split/skill calls; it also includes direct agent calls, if you are using this feature. Therefore, MAINCALLS does not include direct agent calls. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches with the Call Vectoring feature.	C
BUSYCALLS	Number of INCALLS that were given a busy signal by the switch, either via the "busy" vector command or, on Generic 3, via a route to split/skill extension with coverage = y where the split/skill queue is full and there are no available agents in the split/skill.	C
BUSYTIME	Duration of all BUSYCALLS (until the trunk goes idle).	C
CONNECTCALLS	Number of non-ACD INCALLS that were delivered to a station by way of a "route to" or "adjunct routing" command and were not abandoned. For 85 R2V4 and Generic 2.1, non-ACD abandons are not tracked, so all calls that route to a station extension are included in CONNECTCALLS for those switch releases.	C
CONNECTTIME	Time CONNECTCALLS waited before being answered (Generic 3). For 85 R2V4 and Generic 2.1, this is the time before ringing starts.	C
CONNTALKTIME	Talk time for all CONNECTCALLS (does not include HOLDTIME).	C
DISCCALLS	With Generic 2.2, the number of INCALLS that were disconnected by the switch via the "disconnect" vector command. With System 85 R2V4, Generic 2.1, and Generic 3, the number of INCALLS that were given a forced disconnect announcement and listened to the entire announcement, then were disconnected by the switch. With Generic 3 Version 2, the number also includes calls disconnected due to the expiration of the vector disconnect timer and those that were disconnected because they reached the end of vector processing without being queued.	C
DISCTIME	Time all DISCCALLS spent in this VECTOR . For Generic 2.2, this is the time until the end of the announcement or until the trunk drops, in the case where the caller hangs up without listening to the entire announcement. For System 85 R2V4, Generic 2.1, and Generic 3, this is the time until the announcement ends, and the caller is disconnected by the switch. For the Generic 3 Version 2 switch, if the call is disconnected due to expiration of the vector disconnect timer or because it reached the end of vector processing without queuing, this is the time until the caller is disconnected by the switch.	C

Table A-8: VDN Database Items (Contd)

Database Item	Description	Type
HOLDABNCALLS	Number of times callers abandoned from hold (Generic 2.2 and Generic 3 = all callers; System 85 R2V4 and Generic 2.1 = split callers).	C
HOLDACDCALLS	The number of split/skill or direct agent ACD callers on hold.	C
HOLDACDTIME	The time spent by split/skill or direct agent ACD callers on hold.	C
HOLDCALLS	Number of calls that were placed on hold at least once. This database item is available for Generic 3, Generic 2, and System 85 switches only.	C
HOLDTIME	Time spent by callers on hold. This database item is available for Generic 3, Generic 2, and System 85 switches only.	C
ILN (index) (real-time)	Internal line number of the VDN.	A
INCALLS	Number of inbound calls that were directed to this VDN. INCALLS = ACDCALLS + ABNCALLS + OTHERCALLS	C
INCOMPLETE	Indicates whether or not the data for this collection interval is complete.	C
INFLOWCALLS	Number of calls that were redirected into the VDN by way of a "route to" VDN command.	C
INPROGRESS (real-time)	Current number of inbound calls that are associated with this VDN . Calls are considered to be in progress in the VDN until they route to another VDN, route off the switch, are transferred, or the trunk carrying them goes idle.	S
INQUEUE (real-time)	Current number of INPROGRESS calls that are in a split/skill or direct agent ACD queue. For System 85 R2V4, this includes calls that are ringing at agent positions.	S
INRING (real-time)	Current number of INPROGRESS split/skill and direct agent ACD calls that are ringing at an agent position. This database item is only available with Generic 2 and Generic 3 switches.	C
INTERFLOWCALLS	Number of OUTFLOWCALLS that were redirected to a destination outside the switch.	C

Table A-8: VDN Database Items (Contd)

Database Item	Description	Type
INTIME	Time spent by INCALLS in this VDN. INTIME = ACDTIME + ABNTIME + OTHERTIME + ANSTIME + HOLDTIME On System 85 R2V4 and Generic 2.1, there are multiple call handling scenarios in which call-based ACDTIME is stopped before the call ends. In these scenarios, INTIME does not add up to ACDTIME + ABNTIME + ANSTIME + OTHERTIME + HOLDTIME , so hold time cannot be calculated. (The scenarios occur when an agent puts an ACD call on hold using the hold key when another ACD call is already on hold or when a call is dropped while an ACD call is on hold.)	C
INTRVL	Number of minutes in the timed period (15, 30, 60). INTRVL applies to intrahour reports only	A
INVECTOR (real-time)	Current number of INPROGRESS calls that are being processed by a vector. Calls that are in queue and calls that are ringing are still counted as INVECTOR . Calls are no longer counted as INVECTOR when they connect to a station, are answered by an agent, abandon, or outflow from the VDN.	S
LOOKATTEMPTS	Number of look-ahead interflow attempts for calls in this VDN This database item is available with the Generic 2.2 and Generic 3 switches.	C
LOOKFLOWCALLS	Number of INTERFLOWCALLS that were redirected by way of the Look-Ahead Interflow feature This database item is available with the Generic 2.2 and Generic 3 switches.	C
MAXOCWTIME	Maximum time during the collection interval that a caller waited in the VDN before being answered or connected, abandoning, being redirected, receiving busy signal or being disconnected. This applies only to the first disposition of the call.	C
MAXWAITING	Maximum number of calls in progress in the VDN during the collection interval (i.e., the high-water mark for calls in the VDN during the interval).	C
NOANSREDIR	The number of split/skill ACD calls that rang at agent stations and then were automatically requeued to the split's/skill's queue by the Redirection on No Answer feature because they were not answered. This database item is available only with the Generic 3 Version 2 switch.	
NUMTGS	Number of trunk groups assigned to this VDN.	A
OLDESTCALL (real-time)	Amount of time the oldest call has been waiting to be answered.	S

Table A-8: VDN Database Items (Contd)

Database Item	Description	Type
OTHERCALLS	OTHERCALLS include forced busy, forced disconnect, and outflow calls, as well as non-ACD calls that were answered. OTHERCALLS = INCALLS - ACDCALLS - ABNCALLS	C
OTHERTIME	Duration of all OTHERCALLS until the calls leave the VDN (i.e., calls drop, are sent to another VDN, are transferred, or are sent outside the switch).	C
OUTFLOWCALLS	Number of INCALLS that were redirected to another VDN or to a destination outside the switch by way of a "route to" or "adjunct routing" command.	C
OUTFLOWTIME	Time all OUTFLOWCALLS spent in this VDN before being redirected.	C
PERIOD1-9	Time periods defining the way answers/connects and abandons are collected for the call profiles.	A
PERIODCHG	Indicates whether or not the periods for call profiles were changed during the collection interval.	A
RINGCALLS	Number of split/skill and direct agent ACD calls that rang at agent positions. This database item is only available with Generic 2 and Generic 3 switches.	C
RINGTIME	Time split/skill and direct agent ACD calls spent ringing at agent positions independent of final disposition. This database item is only available with Generic 2 and Generic 3 switches.	C
ROW_DATE (index)	Date the information was collected.	
SERVICELEVEL	Number of seconds in which calls must be answered/connected to be considered acceptable.	A
SKILLACWTIME1-3	ACW time spent by agents for calls answered in each VDN skill preference. This database item is available only with Generic 2.2 and Generic 3 Version 2 switches with EAS.	C
SKILLCALLS1-3	Number of calls answered by agents in each VDN skill preference. This database item is available only with Generic 2.2 and Generic 3 Version 2 switches with EAS.	C
SKILLTIME1-3	Time agents spent talking on calls answered by each VDN skill preference. This database item is available only with Generic 2.2 with EAS and Generic 3 Version 2 with EAS.	C
SKILL1-3	The first, second, and third VDN skill assigned to this VDN. This database item is available only with Generic 2.2 with EAS and Generic 3 Version 2 with EAS.	A
STARTTIME (real-time)	Start time for the interval data was collected.	S

Table A-8: VDN Database Items (Contd)

Database Item	Description	Type
SVCLEVELCHG	Indicates whether or not the service level was changed during the collection interval.	A
TRANSFERRED	Number of calls that were transferred to another destination (Generic 3 and Generic 2.2 = all VDN calls, 85 R2V4 and Generic 2.1 = transfers to a measured VDN or split).	C
VDN (index)	Vector directory number (extension) that this row represents.	A
VECTOR (index)	Number of the vector to which this VDN is assigned.	A

Call Work Codes Database Items

The Call Work Codes Database Item descriptions apply to real-time and historical data. The column **Type** refers to **Cumulative**, **Administrative**, or **Status** real-time data. See the descriptions at the beginning of this Appendix.

Real-Time

Call Work Codes are only available with Generic 3 and Generic 2.2 switches. Real-time database items for call work codes apply to the Current Interval CWC (ccwc) and Previous Interval (pcwc) tables. The indexes are **ACD** and **CWC**.

Cumulative (C) and Administrative (A) items typically apply to both the current previous interval real-time tables. Status (S) items only apply to the current interval real-time table.

Historical

Call Work Codes historical database items apply to the Intrahour Call Work Codes (hcwc), Daily Call Work Codes (dcwc), Weekly Call Work Codes (wcwc), and Monthly Call Work Codes (mcwc) tables, except as noted. The indexes are **ROW_DATE** and **CWC**.

Table A-9: Call Work Codes Database Items

Database Item	Description	Type
ACD (index)	ACD number for this data	A
ACDCALLS	Number of split/skill and direct agent ACD calls for which this call work code was entered.	C
ACDTIME	Talk time of all ACDCALLS with this call work code (does not include HOLDTIME).	C
ACWTIME	Time that agents spent in after call work for ACDCALLS that were associated with the call work code.	C
CWC (index)	Call work code that this data row represents	A
INCOMPLETE	Indicates whether or not the data for this collection interval is complete.	C
INTRVL	Number of minutes in the intrahour interval (15, 30, 60) INTRVL applies to intrahour reports only	A
ROW_DATE (index)	Date on which data was collected.	
STARTTIME (real-time)	Start time for the interval for which data was collected (Intrahour table only).	S

Agent Login/Logout Historical Database Items

Agent Login/Logout historical database items apply to the Agent Login/Logout (hag log) table. The indexes are **SPLIT** and **ROW_DATE**.

Table A-10: Agent Login/Logout Historical Database Items

Database Item	Description
ACD	The ACD number for which data was collected.
EXTN	Extension number of the station that the agent staffed.
INFLAG	If not null, indicates that agent was already logged in when link came up. Values: NULL, "<".
LOGID	Login ID that was used to staff the EXTN .
LOGIN	Time at which the agent logged into this extension and split/skill with the given login ID.
LOGONSKILL2-5	Skills assigned to agents
LOGOUT	Time at which the agent logged out
LOGOUT_DATE	Date on which the agent logged out.
OUTFLAG	If not null, indicates that agent logged out while link was down. Values: NULL, ">".
ROW_DATE (index)	The date the agent logged in or out.
SKILLTYPE	Type of agent skill (primary or secondary) for agent's first skill. (Generic 3 Version 2 with EAS).
SKILLTYPE2-4	Type of agent skill (primary or secondary) for agent's second, third, and fourth skills. (Generic 3 Version 2 with EAS).
SPLIT (index)	Split number that this EXTN is assigned to or skill number that the agent logged into.
SPLIT2-5	Skill number of the agent's second, third, fourth, and fifth skills. The fifth skill is only for Generic 2.2 with EAS. (Generic 3 Version 2 with EAS or Generic 2.2 with EAS).

Agent Trace Historical Database Items

Agent Trace historical database items apply to the Agent Trace (ag_actv) table. **Optional** database items collect data only when those items are selected in the System Setup: Agent Trace Record Contents window. To receive a report containing optional Agent Trace historical database items, a custom report must be created. The index is **LOGID**.

Table A-11: Agent Trace Historical Database Items

Database Item	Description
ACD	The ACD number for which data was collected.
DIRECTION	Direction of the call - NULL, IN, or OUT.
DURATION	Length of time in the given work state (work mode and direction).
EVENT_TIME	Time of day (hour, minute, and second) the WORKMODE or DIRECTION changed.
LOGID (index)	Login ID that was used to staff the extension.
RECONNECT	This event represents the agent reconnecting to the call after putting it on hold. (System 85 R2V4, Generic 2, and Generic 3).
ROW_DATE	The date of the agent's work mode or direction change.
SPLIT	Split number that the agent's extension is assigned to or skill number that the agent logged into.
STARTTIME	Time of day (hour and minute) for which the Agent Trace is being ordered. This is the time of day you enter to request the report.
WMODE_SEQ	Sequence number for events that occur in the same second.
WORKMODE	Work mode the agent was in NULL, AVAIL, ACD, ACW, AUX, DACD, DACW, RING, UNKNOWN, OTHER, or UNSTAFF.
Optional Database Items	
ASSIST_ACTV	The agent requested supervisor assistance (pressed the ASSIST key).
CALLER_HOLD	The agent put the caller on hold. (System 85 R2V4, Generic 2.1 = split calls, Generic 2.2 and Generic 3 = all calls)
CALLING_PTY	The calling party identification. This is the ANI/SID, for Generic 2.2 with ISDN ANI delivery, extension or trunk equipment location identifying the originator of the call.
CONFERENCE	The agent activated a conference. (Generic 3 and Generic 2.2 = all calls).
DIGITS_DIALED	Digits the agent dialed. (Generic 2.2, Generic 3).

Table A-11: Agent Trace Historical Database Items (Contd)

Database Item	Description
EXT_CALL_ORIG	The agent originated an external call. This database item is only available with Generic 2.2 and Generic 3.
KEYBD_DIALED	The call was keyboard-dialed. This database item is only available with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.
MCT	The agent activated a malicious call trace. This database item is only available with 85 R2V4, Generic 2, and Generic 3 except for Generic 3i Version 1.
PROMPT_DIGITS	Digits the caller entered in response to call prompting. This database item is only available with Generic 3 switches that have the Call Vectoring and Call Prompting features.
TRANSFERRED	The agent transferred the call. For Generic 1, this is a measured call to measured split or measured trunk to measured trunk. For Generic 3 and Generic 2.2, this is all calls. For System 85 R2V4 and Generic 2.1, this is transfers to a measured VDN or split.
WORKCODE	The call work code entered for the call. This database item is only available with Generic 3 and Generic 2.2 switches that have the Call Work Codes feature.

Current Day Configuration Forecast Database Items

The Current Day Configuration Forecast database items collect values entered in the Current Day window, and apply only to the Current Day (f_cday) table. The indexes are **ACD**, **ROW_DATE** and **SPLIT**.

Table A-12: Current Day Configuration Database Items

Database Item	Description
ACD (index)	ACD number for this data.
CHANGE	Additional change factor (percent).
CHPROF	Number of the call handling profile to use.
FMETHOD	Type of trending to use for forecast. Values: 0 = none, 1 = seasonal, 2 = current trending.
HDATE1	Date of first day of historical data to be used.
HDATE2	Date of second day of historical data to be used.
HDATE3	Date of third day of historical data to be used.
HDATE4	Date of fourth day of historical data to be used.
ROW_DATE (index)	The date of the forecast.
SPLIT (index)	Split/skill number.
TRENDBASE	Base date for seasonal trending.
WT1	Weight given to date 1.
WT2	Weight given to date 2.
WT3	Weight given to date 3.
WT4	Weight given to date 4.

Current Day Forecast Report Database Items

The Current Day Forecast Report database items collect data for Current Day forecasts, and apply only to the Current Day Report (f_cdayrep) table. Forecast data for a split/skill is automatically generated when the Forecast Manager runs (if you have also completed a Current Day Configuration for the split/skill). The indexes are **ACD**, **ROW_DATE** and **SPLIT**.

Table A-13: Current Day Report Database Items

Database Item	Description
ACD (index)	ACD number for this current day data.
AGOCC	The objective maximum percentage of time that an agent will be on ACD calls (agent occupancy).
AVGAGSERV	The objective average number of seconds for an agent to service a call.
AVGSPEEDANS	The objective average speed of answer in seconds for this time of call.
FCALLS	Number of forecast calls carried.
INTRVL	Length of intrahour interval. INTRVL applies to intrahour reports only
NUMAGREQ	Number of agents required to handle FCALLS .
RAGOCC	The resulting maximum percentage of time that an agent will be on ACD calls.
RAVGSPEEDANS	The resulting average speed of answer in seconds for this type of call.
ROW_DATE (index)	Date of the forecast.
RSERVLEVELP	The resulting percentage of calls to be handled within SERVLEVELT seconds.
SERVLEVELP	The objective percentage of calls to be handled within SERVLEVELT seconds.
SERVLEVELT	The number of seconds within which SERVLEVELP percent of calls are to be answered (service level time).
SPLIT (index)	Split/skill number.
STARTTIME	Start of intrahour interval (on 24-hour clock).

Call Record Historical Database Items

The Call Record historical database items apply to the `call_rec` table.

Table A-14: Call Record Database Items

Database Item	Description
ACD	The number of the ACD that handled this call.
ACWTIME	Time spent in ACW (after call work) related to this call by the answering agent in this segment, in seconds.
ANSHOLDTIME	Total time call was put on hold by the answering agent, in seconds, in this segment. Note that in agent-to-agent calls, ANSHOLDTIME is accrued for the answering agent if the agent puts the call on hold, but not for the other agent (who continues to accrue talk time). Hold time is recorded for any type of call for Generic 2.2 and Generic 3. Hold time is recorded only for ACD calls for System 85 and Generic 2.1. Hold time is not recorded for Generic 1 switches.
ANSLOGIN	The login ID of the agent who answered the call in this segment.
ASSIST	Whether or not the answering agent in this segment requested supervisor assistance on this call (YES/NO).
AUDIO	Whether or not an agent in this segment reported an audio problem (YES/NO).
CALLID	A unique number assigned to this call and all its segments. For conferenced/transferred calls, two (or more) calls are tied together. When the entire call is recorded, one call ID is used to tie together all call segments. This may result in a “later” segment of the call starting earlier than the first segment. Call IDs are not necessarily strictly sequential, but will be unique for calls over a day.
CALLING_PTY	The ANI/SID (Generic 2.2 with ANI delivery), extension or trunk equipment location identifying the originator of the call.
CONFERENCE	Whether or not the answering agent initiated a conference on this segment (YES/NO).
CONSULTTIME	The time an agent talked on any outbound call, while in AUX work or ACW. This includes the time the originating agent spent talking to the destination party. This is the time between the two presses of the transfer or conference key. It includes wait time if the agent is calling a VDN or split/skill extension, but the wait time can be subtracted out by subtracting the DISPTIME item from CONSULTTIME .
DA_QUEUED	Whether or not the call was queued as a direct agent call (YES/NO). This database item applies to Generic 3 only.

Table A-14: Call Record Database Items (Contd)

Database Item	Description
DIALED_NUM	The number the caller dialed. This will be the VDN for inbound vectoring calls and dialed digits for outbound calls. This will be zero for inbound calls without vectoring.
DISPIVECTOR	The number of the first vector associated with the disposition VDN.
DISPOSITION	Represents the call disposition and indicates whether the call was: connected (CONN, non-ACD call to a measured agent), answered (ANS, split/skill or Direct Agent call answered by an agent), abandoned (ABAN), interflowed, forced busy (FBUSY), forced disconnect (FDISC), or other (OTHER) in the segment. A connected call is a non-ACD call to a measured agent for which CMS receives an indication that the call was connected or, in the case of System 85 R2V4 and Generic 2.1, any call that was delivered to an extension by a "route to" vector command (CMS receives no indication the call abandons). An answered call is any split/skill or direct agent ACD call for which CMS receives an indication that the call was answered by an agent. An abandoned call is any call for which CMS receives notification that the caller abandoned. An interflowed call is any call interflowed to another destination. Forced busy calls are calls that CMS records as BUSYCALLS for the trunk group that carried them. These calls can be VDN calls that received a forced busy from the vector command or, on the Generic 1 and Generic 3 switches, a split/skill call for a nonvector-controlled split that received a busy indication from the switch because the split queue was full. For Generic 2.2, forced disconnect calls are VDN calls that are disconnected by the switch due to the execution of a disconnect vector command. For System 85 R2V4, Generic 2.1, and Generic 3, forced disconnect calls are calls that were given a forced disconnect announcement and listened to the entire announcement, then were disconnected by the switch. For Generic 3 Version 2, disconnect calls also include calls disconnected because of the vector disconnect timer or because they reached the end of vector processing without being queued. Other calls are any other calls.
DISPPRIORITY	The priority the call had at its disposition. Priorities can be LOW, MED, HIGH, or TOP (with vectoring) or YES/NO (without vectoring). If the call never queued to a split/skill, the priority will be null.

Table A-14: Call Record Database Items (Contd)

Database Item	Description
DISPSPLIT	The number of the split or skill associated with the call at its disposition in this segment. Calls that were not queued to a split or skill at the time of disposition will have DISPLIT set to -1. Calls that were queued to an unmeasured split or skill at the time of disposition will have DISPLIT set to zero.
DISPTIME	The wait time (in the vector, in queue, ringing) until the disposition recorded in DISPOSITION for the call segment. For extension calls made directly to agents (not through a VDN), this will always be zero.
DISPVDN	The number of the VDN associated with the call at its disposition for this segment. DISPVDN will be zero for calls that are not associated with a VDN at their disposition.
DURATION	Total time the trunk was in use. This is the overall trunk holding time from the beginning of the segment until the caller is disconnected. Trunk holding time for the trunk in this segment can involve two trunks, each of which has a holding time. For the first segment of a call, this will be the trunk holding time for the caller for the entire call. With a transfer, the original trunk remains associated with both segments until the call ends. Thus, the DURATION for the first segment is the time from the SEIZED to IDLE state for the trunk
EQLOC	The equipment location of the trunk that carried the call. This will be zero if the trunk is not measured.
EVENT1-9	Number of times each event (stroke count) key was entered for this call segment. This database item is available with System 85 R2V4, Generic 2, and Generic 3.
FIRSTVECTOR	The number of the first vector associated with the first VDN for the call segment. This will be zero if no vector is involved.
FIRSTVDN	The number of the first VDN associated with the call segment. This will be zero for calls not associated with a VDN.
HELD	The total number of times this call was placed on hold by the answering agent in this segment. With agent-to-agent calls, this count is incremented for the answering agent who puts the call on hold, but not for the calling agent. With System 85 R2V4 and Generic 2.1 switches, this equals split/skill calls. With Generic 2.2 and Generic 3 switches, this is all calls.
HOLDABN	Whether this call abandoned from hold (YES/NO) in this segment. With System 85 R2V4 and Generic 2.1, this is only for ACD calls. With Generic 2.2 and Generic 3, this is for any call.
LASTCWC	The last call work code entered by the answering agent in this segment. This database item applies to Generic 2.2 and Generic 3 only.

Table A-14: Call Record Database Items (Contd)

Database Item	Description
LASTOBSERVER	The login ID of the last agent that service-observed or bridged on to this call.
MALICIOUS	Was malicious call trace activated for this call segment (YES/NO)? This database item applies to Generic 2, Generic 3, but not Generic 3i Version 1.
OBSERVINGCALL	Whether this call represents an agent observing or bridging on to an existing call (YES/NO).
ORIGLOGIN	The login ID of the agent originating the call. This is used for calls an agent originates to another agent, to an on-switch extension or to an external destination.
ROW_DATE (index)	The date the call started.
ROW_TIME	The start time for this call segment.
SEGMENT	The number identifying the segment. Segment numbers are from 1 up to the number of segments in the call.
SEGSTART	<i>UNIX</i> time and date when the segment started. (<i>UNIX</i> time and date is the number of seconds since midnight, 01/01/70.) Segments start when CMS receives the first message for the call, since each segment represents a call. (When an agent transfers or conferences a call, the agent makes another call to effect the transfer/conference.)
SEGSTOP	<i>UNIX</i> time and date when the segment ended. A segment ends when all trunks and agents associated with the segment have dropped off the call. This means that after call work time for the agent is included when calculating the segment stop time.
SEQNUM	The unique sequence number for this call record.
SPLIT1	The first split/skill the call queued to in the first VDN with which it was associated.
SPLIT2	The second split/skill the call was also queued to in the first VDN with which it was associated. This is for Generic 2.2 with EAS and Generic 3 switches with multiple-split/skill queuing only.
SPLIT3	The third split/skill the call was also queued to in the first VDN with which it was associated. (This is for Generic 2.2 with EAS and Generic 3 switches with multiple-split/skill queuing only.)
TALKTIME	Total talk time for the answering agent in this segment.
TKGRP	The number of the trunk group that carried the call. This will be zero if the trunk group carrying the call is not measured.

Table A-14: Call Record Database Items (Contd)

Database Item	Description
TRANSFERRED	Whether or not an answering agent initiated a transfer on this segment (YES/NO). For Generic 2.2 and Generic 3 switches, this is set for any call transferred. For System 85 and Generic 2.1 switches, this is set for transfers to a measured VDN or split. For Generic 1 switches, this is set only if a measured call is transferred to a measured split or from a measured trunk to a measured trunk.

Exceptions Historical Database Items

In the following tables, the database item **EXTYPE** (or **REASON** for data collection exceptions table) list numerical values associated with exception types. These values are listed because CMS stores exception types with numerical values. CMS then translates these numbers into the text you see in your standard exception reports. To select specific exception types for a custom report, you must enter the numerical value(s) in your **Select rows where:** statement.

Agent Historical Exception Database Items

The Agent Historical Exception table name is agex.

Table A-15: Agent Exception Database Items

Database Item	Description																																																																
ACD	The ACD the agent was logged into.																																																																
EXTYPE	The type of exception that occurred: Numerical <table> <tr> <th>Value</th><th>Type</th></tr> <tr><td>1</td><td>Time Available</td></tr> <tr><td>2</td><td>Time on inbound ACD call (min)</td></tr> <tr><td>3</td><td>Time on inbound ACD call (max)</td></tr> <tr><td>4</td><td>Time in after call work</td></tr> <tr><td>5</td><td>Time on outbound ACW call</td></tr> <tr><td>6</td><td>Time on inbound ACW call</td></tr> <tr><td>7</td><td>Time in AUX work</td></tr> <tr><td>8</td><td>Time on outbound AUX call</td></tr> <tr><td>9</td><td>Time on inbound AUX call</td></tr> <tr><td>10</td><td>Number of outbound ACW calls/agent</td></tr> <tr><td>11</td><td>Number of inbound ACW calls/agent</td></tr> <tr><td>12</td><td>Number of outbound AUX calls/agent</td></tr> <tr><td>13</td><td>Number of inbound AUX calls/agent</td></tr> <tr><td>14</td><td>Login identification</td></tr> <tr><td>15</td><td>Time ACD call spent on hold*</td></tr> <tr><td>16</td><td>Number ACD calls placed on hold*</td></tr> <tr><td>17</td><td>Number ACD calls abandoned while on hold*</td></tr> <tr><td>18</td><td>Time on outbound ACD call (min)</td></tr> <tr><td>19</td><td>Time on outbound ACD call (max)[†]</td></tr> <tr><td>20</td><td>Number calls transferred**</td></tr> <tr><td>21</td><td>Time on external outbound ACW calls[†]</td></tr> <tr><td>22</td><td>Time on external outbound AUX call[†]</td></tr> <tr><td>23</td><td>Time on direct agent call[‡]</td></tr> <tr><td>24</td><td>Number of external outbound ACW calls/agent**</td></tr> <tr><td>25</td><td>Number external outbound AUX calls/agent**</td></tr> <tr><td>26</td><td>Time ACD call spends ringing**</td></tr> <tr><td>27</td><td>Multiple logons</td></tr> <tr><td>30</td><td>Number calls in direct agent queue[‡]</td></tr> <tr><td>31</td><td>Time call waited in direct agent queue[‡]</td></tr> <tr><td>32</td><td>Number calls abandoned from direct agent queue[‡]</td></tr> <tr><td>34</td><td>Number calls outflowed from direct agent queue[‡]</td></tr> </table>	Value	Type	1	Time Available	2	Time on inbound ACD call (min)	3	Time on inbound ACD call (max)	4	Time in after call work	5	Time on outbound ACW call	6	Time on inbound ACW call	7	Time in AUX work	8	Time on outbound AUX call	9	Time on inbound AUX call	10	Number of outbound ACW calls/agent	11	Number of inbound ACW calls/agent	12	Number of outbound AUX calls/agent	13	Number of inbound AUX calls/agent	14	Login identification	15	Time ACD call spent on hold*	16	Number ACD calls placed on hold*	17	Number ACD calls abandoned while on hold*	18	Time on outbound ACD call (min)	19	Time on outbound ACD call (max) [†]	20	Number calls transferred**	21	Time on external outbound ACW calls [†]	22	Time on external outbound AUX call [†]	23	Time on direct agent call [‡]	24	Number of external outbound ACW calls/agent**	25	Number external outbound AUX calls/agent**	26	Time ACD call spends ringing**	27	Multiple logons	30	Number calls in direct agent queue [‡]	31	Time call waited in direct agent queue [‡]	32	Number calls abandoned from direct agent queue [‡]	34	Number calls outflowed from direct agent queue [‡]
Value	Type																																																																
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2	Time on inbound ACD call (min)																																																																
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4	Time in after call work																																																																
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6	Time on inbound ACW call																																																																
7	Time in AUX work																																																																
8	Time on outbound AUX call																																																																
9	Time on inbound AUX call																																																																
10	Number of outbound ACW calls/agent																																																																
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34	Number calls outflowed from direct agent queue [‡]																																																																
LOGID	The login ID of the agent who had the exception.																																																																
ROW_DATE	The date on which the exception occurred.																																																																
ROW_TIME	The time at which the exception occurred.																																																																

Table A-15: Agent Exception Database Items (Contd)

Database Item	Description
SPLIT	The split or skill in which the agent was doing work when the exception occurred.
THRESHOLD	The limit, as a number of occurrences, administered for the exception type. An exception occurs when the agent's activity falls outside of that limit.
TIME	The limit, as a number of seconds, administered for timed exceptions types. An occurrence is logged against the threshold when the agent's activity falls outside of that limit.

- * Available only on System 85 R2V4, Generic 2, and Generic 3.
- † Available only with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.
- ** Available only with Generic 2.1 or later and Generic 3.
- ‡ Available only with Generic 3 switches that have the ASAI or EAS feature.

Split/Skill Historical Exception Database Items

The Split/Skill Historical Exception table name is spex .

Table A-16: Split/Skill Exception Database Items

Database Item	Description																						
ACD	The ACD of the split or skill.																						
EXTYPE	The type of exception that occurred: Numerical <table> <tr> <th>Value</th><th>Type</th></tr> <tr> <td>30</td><td>Number calls waiting</td></tr> <tr> <td>31</td><td>Time call has waited in queue</td></tr> <tr> <td>32</td><td>Number calls abandoned</td></tr> <tr> <td>33</td><td>Number intraflowed-in calls</td></tr> <tr> <td>34</td><td>Number intraflowed-out calls</td></tr> <tr> <td>35</td><td>Number interflowed-out calls</td></tr> <tr> <td>36</td><td>Number calls offered while queue full*</td></tr> <tr> <td>37</td><td>Number calls handled as backup[†]</td></tr> <tr> <td>38</td><td>Number calls transferred**</td></tr> <tr> <td>39</td><td>Average speed of answer (seconds)</td></tr> </table>	Value	Type	30	Number calls waiting	31	Time call has waited in queue	32	Number calls abandoned	33	Number intraflowed-in calls	34	Number intraflowed-out calls	35	Number interflowed-out calls	36	Number calls offered while queue full*	37	Number calls handled as backup [†]	38	Number calls transferred**	39	Average speed of answer (seconds)
Value	Type																						
30	Number calls waiting																						
31	Time call has waited in queue																						
32	Number calls abandoned																						
33	Number intraflowed-in calls																						
34	Number intraflowed-out calls																						
35	Number interflowed-out calls																						
36	Number calls offered while queue full*																						
37	Number calls handled as backup [†]																						
38	Number calls transferred**																						
39	Average speed of answer (seconds)																						
ROW_DATE	The date on which the exception occurred.																						
ROW_TIME	The time at which the exception occurred.																						
SPLIT	The split or skill in which the exception occurred.																						
THRESHOLD	The limit, as a number of occurrences, administered for the exception type. An exception occurs when the split's/skill's activity falls outside of that limit.																						
TIME	The limit, as a number of seconds, administered for timed exceptions types. An occurrence is logged against the threshold when the split's/skill's activity falls outside of that limit.																						

* Available only on System 85 R2V4, Generic 2, and Generic 3.

† Available only with Generic 2.2 switches that have the ASAI Gateway Interface feature and Generic 3 switches that have the ASAI feature.

** Available only with Generic 2.1 or later and Generic 3.

Trunk Group Historical Exception Database Items

The Trunk Group Historical Exception table name is tgex.

Table A-17: Trunk Group Exception Database Items

Database Item	Description
ACD	The ACD of the trunk group.
EXTYPE	The type of exception that occurred: Numerical Value Type 50 Time trunk in use (min) 51 Time trunk in use (max) 52 Number of trunks in use 53 Time any trunk maintenance busy 54 Number of trunks maintenance busy 55 Length of time all trunks busy 56 Number of trunk failures in group 57 Number of failures on a single trunk 58 Audio difficulty on a trunk
EQLOC	The trunk location where the exception occurred.
LOGID	The login ID of the agent reporting audio difficulty.
ROW_DATE	The date on which the exception occurred.
ROW_TIME	The time at which the exception occurred.
THRESHOLD	The limit, as a number of occurrences, administered for the exception type. An exception occurs when the trunk group's activity falls outside of that limit.
TIME	The limit, as a number of seconds, administered for timed exceptions types. An occurrence is logged against the threshold when the trunk group's activity falls outside of that limit.
TRKGRP	The number of the trunk group where the exception occurred.

VDN Historical Exception Database Items

The VDN Historical Exception table name is vdnex. VDN exceptions are available only with the Vectoring feature.

Table A-18: VDN Exception Database Items

Database Item	Description																												
ACD	The ACD of the VDN.																												
EXTYPE	The type of exception that occurred: <table> <tr> <th>Numerical Value</th><th>Type</th></tr> <tr> <td>2</td><td>Time at agent (min)</td></tr> <tr> <td>3</td><td>Time at agent (max)</td></tr> <tr> <td>30</td><td>Number calls in an ACD split/skill queue</td></tr> <tr> <td>32</td><td>Number calls abandoned while in vector</td></tr> <tr> <td>33</td><td>Number calls that flowed into VDN</td></tr> <tr> <td>34</td><td>Number calls that flowed out of VDN</td></tr> <tr> <td>35</td><td>Number calls interflowed out of VDN</td></tr> <tr> <td>37</td><td>Number calls handled by backup split/skill</td></tr> <tr> <td>71</td><td>Time in vector (max)</td></tr> <tr> <td>72</td><td>Number calls forced busy</td></tr> <tr> <td>73</td><td>Number calls disconnected</td></tr> <tr> <td>74</td><td>Number unsuccessful look-ahead interflow attempts</td></tr> <tr> <td>75</td><td>Adjunct routing</td></tr> </table>	Numerical Value	Type	2	Time at agent (min)	3	Time at agent (max)	30	Number calls in an ACD split/skill queue	32	Number calls abandoned while in vector	33	Number calls that flowed into VDN	34	Number calls that flowed out of VDN	35	Number calls interflowed out of VDN	37	Number calls handled by backup split/skill	71	Time in vector (max)	72	Number calls forced busy	73	Number calls disconnected	74	Number unsuccessful look-ahead interflow attempts	75	Adjunct routing
Numerical Value	Type																												
2	Time at agent (min)																												
3	Time at agent (max)																												
30	Number calls in an ACD split/skill queue																												
32	Number calls abandoned while in vector																												
33	Number calls that flowed into VDN																												
34	Number calls that flowed out of VDN																												
35	Number calls interflowed out of VDN																												
37	Number calls handled by backup split/skill																												
71	Time in vector (max)																												
72	Number calls forced busy																												
73	Number calls disconnected																												
74	Number unsuccessful look-ahead interflow attempts																												
75	Adjunct routing																												
ROW_DATE	The date on which the exception occurred.																												
ROW_TIME	The time at which the exception occurred.																												
THRESHOLD	The limit, as a number of occurrences, administered for the exception type. An exception occurs when the VDN activity falls outside of that limit.																												
TIME	The limit, as a number of seconds, administered for timed exceptions types. An occurrence is logged against the threshold when the VDN activity falls outside of that limit.																												
VDN	The VDN for which the exception occurred.																												
VECTOR	The vector number associated with the exception.																												

Vector Historical Exception Database Items

The Vector Historical Exception table name is vecex. Vector exceptions are available only with the Vectoring feature.

Table A-19: Vector Exception Database Items

Database Item	Description														
ACD	The ACD of the vector.														
EXTYPE	The type of exception that occurred: <table><tr><th>Numerical Value</th><th>Type</th></tr><tr><td>30</td><td>Number calls in an ACD split/skill queue</td></tr><tr><td>72</td><td>Number calls forced busy</td></tr><tr><td>73</td><td>Number calls disconnected</td></tr><tr><td>74</td><td>Number unsuccessful look-ahead interflow attempts</td></tr><tr><td>80</td><td>Time in vector (min)</td></tr><tr><td>81</td><td>Time in vector (max)</td></tr></table>	Numerical Value	Type	30	Number calls in an ACD split/skill queue	72	Number calls forced busy	73	Number calls disconnected	74	Number unsuccessful look-ahead interflow attempts	80	Time in vector (min)	81	Time in vector (max)
Numerical Value	Type														
30	Number calls in an ACD split/skill queue														
72	Number calls forced busy														
73	Number calls disconnected														
74	Number unsuccessful look-ahead interflow attempts														
80	Time in vector (min)														
81	Time in vector (max)														
ROW_DATE	The date on which the exception occurred.														
ROW_TIME	The time at which the exception occurred.														
THRESHOLD	The limit, as a number of occurrences, administered for the exception type. An exception occurs when the vector activity falls outside of that limit.														
TIME	The limit, as a number of seconds, administered for timed exceptions types. An occurrence is logged against the threshold when the vector activity falls outside of that limit.														
VECTOR	The vector number for which the exception occurred.														

Malicious Call Trace Historical Exception Database Items

The Malicious Call Trace Historical Exception table name is `mctex`.

Table A-20: Malicious Exception Database Items

Database Item	Description				
ACD	The ACD on which the malicious call was recorded.				
ANI_SID	The billing number or phone number from which the malicious call originated (available only if the switch has ANI/SID service).				
EQLOC	The location of the trunk that carried the malicious call.				
EXTYPE	The type of exception that occurred: <table> <tr> <th>Numerical Value</th><th>Type</th></tr> <tr> <td>90</td><td>Malicious cal</td></tr> </table>	Numerical Value	Type	90	Malicious cal
Numerical Value	Type				
90	Malicious cal				
LOGID	The login ID of the agent reporting the malicious call.				
ROW_DATE	The date on which the malicious call was reported.				
ROW_TIME	The time at which the malicious call was reported.				
SPLIT	The split/skill of the agent reporting the malicious call.				
TKGRP	The number of the trunk group that carried the malicious call.				
VDN	The VDN that carried the malicious call. This database item is only available with 85 R2V4, Generic 2, and Generic 3 switches that have the Call Vectoring feature.				

Data Collection Historical Exception Database Items

The Data Collection Historical Exception table name is linkex.

Table A-21: Data Collection Exception Database Items

Database Item	Description																
ACD	The ACD for which data collection was interrupted.																
DURATION	The length of time for which data collection was off.																
REASON	The reason for the interruption of data collection. The reasons may be as follows: <table> <tr> <th>Numerical Value</th><th>Reason</th></tr> <tr> <td>91</td><td>Data collection started</td></tr> <tr> <td>92</td><td>Data collection of new translations started</td></tr> <tr> <td>93</td><td>Data collection turned off</td></tr> <tr> <td>94</td><td>Data collection busied out</td></tr> <tr> <td>95</td><td>Data collection timed out</td></tr> <tr> <td>96</td><td>Data collection clock was reset</td></tr> <tr> <td>97</td><td>Data collection session down</td></tr> </table>	Numerical Value	Reason	91	Data collection started	92	Data collection of new translations started	93	Data collection turned off	94	Data collection busied out	95	Data collection timed out	96	Data collection clock was reset	97	Data collection session down
Numerical Value	Reason																
91	Data collection started																
92	Data collection of new translations started																
93	Data collection turned off																
94	Data collection busied out																
95	Data collection timed out																
96	Data collection clock was reset																
97	Data collection session down																
ROW_DATE	The date on which data collection was interrupted.																
ROW_TIME	The time at which data collection was interrupted.																

State Names and Row Search Values Cross- Reference

Table A-22: State Names and Row Search Values Cross-Reference

Status Database Items	State Names	Numerical Values for Row Search
WORKMODE	UNKNOWN	0
	UNSTAF	10
	AVAIL	20
	ACD	30
	ACW	40
	AUX	50
	DACD	60
	DACW	70
	OTHER	220
	RING	80
	LOGON	100
	LOGOFF	110
	TRACE ON	120
	TRACE OFF	121
AG_DIR	OUT	1
	IN	2
AG_DEST	PBX	1
	OFF	2
AG_ORIG	BLANK	0
	PHONE	1
	KEYBOARD	2
TKSTATE	UNKNOWN	0
	IDLE	1
	SEIZED	2
	QUEUED	3
	CONN	4
	DABN	5
	MBUSY	6
	FBUSY	7
	FDISC	8
	HOLD	9
ALL_BUSY	YES	1
	NO	0
TK_DIR	IN	2
	OUT	1
TK_QTYPE	MAIN	1
	BACKUP	2

Table A-22: State Names and Row Search Values Cross-Reference

Status Database Items	State Names	Numerical Values for Row Search
TK_PRI	YES	1
	NO	0
PER_CHG	YES	1
	NO	0
SLVL_CHG	YES	1
	NO	0

Call Disposition and Row Search Values Cross- Reference

Table A-23: Call Disposition and Row Search Values Cross-Reference

Status Database Items	State Names	Numerical Values for Row Search
DISPOSITION	CONN	1
	ANS	2
	ABAN	3
	IFLOW	4
	FBUSY	5
	FDISC	6
	OTHER	7

Standard Dictionary Calculations

Calculation Name	Calculation	Description
AGENTS_ON_EXT_CALLS	(ONACWIN + ONAUXIN + ONACWOUT + ONAUXOUT)	Agents on extension calls
AVG_ABANDON_TIME	ABNTIME / ABNCALLS	Average time to abandon
AVG_ABANDON_TIME_SUM	sum(ABNTIME) / sum(ABNCALLS)	Total average abandon time
AVG_ACD_TALK_TIME	ACDTIME / ACDCALLS	Average ACD talk time
AVG_ACD_TALK_TIM_SUM	(sum(ACDTIME) / sum(ACDCALLS))	Total average ACD talk time
AVG_ACW_TIME	ACWTIME / ACDCALLS	Average ACW time
AVG_ACW_TIME_SUM	sum(ACWTIME) / sum(ACDCALLS)	Total average ACW time
AVG_AGENT_ACW_SUM	sum(TOTAL_ACWTIME) / sum(TOTAL_ACDCALLS)	Total average agent ACW time
AVG_AGENT_ACW_TIME	TOTAL_ACWTIME / TOTAL_ACDCALLS	Average ACW time
AVG_AGENT_TALK_SUM	sum(TOTAL_ACDTIME) / sum(TOTAL_ACDCALLS)	Total average agent ACD talk time
AVG_AGENT_TALK_TIME	TOTAL_ACDTIME / TOTAL_ACDCALLS	Average agent ACD talk time
AVG_ANSWER_SPEED	ANSTIME / ACDCALLS	Average speed of answer
AVG_ANSWER_SPEED_SUM	sum(ANSTIME) / sum(ACDCALLS)	Total average answer speed
AVG_CONNECT_TIME	CONNECTTIME / CONNECTCALLS	Average amount of time for call to connect to agent
AVG_CONNECT_TIME_SUM	sum(CONNECTTIME) / sum(CONNECTCALLS)	Total average amount of time for call to connect to agent
AVG_HOLD_TIME	HOLDTIME / HOLDCALLS	Average hold time
AVG_HOLD_TIME_SUM	sum(HOLDTIME) / sum(HOLDCALLS)	Total average hold time
AVG_INB_ACD_TIME_SUM	(sum(TOTAL_ACDTIME-O_ACDTIME)) / INBOUND_ACDCALLS	Average inbound ACD time
AVG_INB_ACW_TIME_SUM	(sum(TOTAL_ACWTIME-O_ACWTIME))/ INBOUND_ACDCALLS	Average inbound ACW time
AVG_OUTB_ACD_SUM	sum(O_ACDTIME) / sum(O_ACDCALLS)	Total outbound average ACD talk time
AVG_OUTB_ACD_TIME	O_ACDTIME / O_ACDCALLS	Outbound average ACD talk time
AVG_OUTB_ACW_SUM	sum(O_ACWTIME) / sum(O_ACDCALLS)	Total outbound average ACW talk time
AVG_OUTB_ACW_TIME	O_ACWTIME / O_ACDCALLS	Outbound average ACW talk time
AVG_POS_STAFF	I_STAFFTIME / (INTRVL * 60)	Average positions staffed

Standard Dictionary Calculations

Calculation Name	Calculation	Description
AVG_POS_STAFF_SUM	$\text{sum}(\text{I\_STAFFTIME}) / \text{sum}(\text{INTRVL} * 60)$	Average positions staffed total
AVG_TALK_TIME_IN	$(\text{ACWINTIME} + \text{AUXINTIME}) / (\text{ACWINCALLS} + \text{AUXINCALLS})$	Extension in calls average talk time
AVG_TALK_TIME_IN_SUM	$\text{sum}(\text{ACWINTIME} + \text{AUXINTIME}) / \text{sum}(\text{ACWINCALLS} + \text{AUXINCALLS})$	Extension in calls total average talk time
AVG_TALK_TIME_OUT	$(\text{ACWOUTTIME} + \text{AUXOUTTIME}) / (\text{ACWOUTCALLS} + \text{AUXOUTCALLS})$	Extension out calls average talk time
AVG_TALK_TIM_OUT_SUM	$\text{sum}(\text{ACWOUTTIME} + \text{AUXOUTTIME}) / \text{sum}(\text{ACWOUTCALLS} + \text{AUXOUTCALLS})$	Extension out calls total average talk time
AVG_TRK_HOLD_IN_SUM	$\text{sum}(\text{INTIME}) / \text{sum}(\text{INCALLS})$	Inbound total average trunk holding time
AVG_TRK_HOLD_OUT_SUM	$\text{sum}(\text{OUTTIME}) / \text{sum}(\text{OUTCALLS})$	Outbound total average trunk holding time
AVG_TRK_HOLD_TIME	$(\text{INTIME} + \text{OUTTIME}) / (\text{INCALLS} + \text{OUTCALLS})$	Average trunk holding time
AVG_TRK_HOLD_TIME_IN	$\text{INTIME} / \text{INCALLS}$	Inbound average trunk holding time
AVG_TRK_HOLD_TIM_OUT	$\text{OUTTIME} / \text{OUTCALLS}$	Outbound average trunk holding time
AVG_VDN_TIME	$(\text{INTIME} / \text{INCALLS})$	Average VDN time
AVG_VDN_TIME_SUM	$\text{sum}(\text{INTIME}) / \text{sum}(\text{INCALLS})$	Average time in VDN total
AVG_VEC_TIME	$\text{INTIME} / \text{INCALLS}$	Average vector time
AVG_VEC_TIME_SUM	$\text{sum}(\text{INTIME}) / \text{sum}(\text{INCALLS})$	Average vector time total
BUSY_DISCONNECT	$(\text{BUSYCALLS} + \text{DISCCALLS})$	Number of calls that were busy and disconnected
CALLS_PER_POS	$(60 * \text{INTRVL} * \text{ACDCALLS}) / \text{I\_STAFFTIME}$	Calls per position
CALLS_PER_POS_SUM	$(\text{sum}(60 * \text{INTRVL}) * \text{sum}(\text{ACDCALLS})) / \text{sum}(\text{I\_STAFFTIME})$	Calls per position total
EXT_CALL_IN	$(\text{ACWINCALLS} + \text{AUXINCALLS})$	Incoming extension calls
EXT_CALL_OUT	$(\text{ACWOUTCALLS} + \text{AUXOUTCALLS})$	Outgoing extension calls
EXT_IN_TIME	$(\text{I\_ACWINTIME} + \text{I\_AUXINTIME})$	Time on incoming extension calls
EXT_OUT_TIME	$(\text{I\_ACWOUTTIME} + \text{I\_AUXOUTTIME})$	Time on outgoing extension calls
INBOUND_ACDCALLS	$(\text{sum}(\text{TOTAL\_ACDCALLS} - \text{O\_ACDCALLS}))$	Total inbound ACD calls
INT_AUXTIME	$\text{I\_STAFFTIME} - \text{I\_AVAILTIME} - \text{I\_ACDTIME} - \text{I\_ACWTIME} - \text{I\_OTHERTIME} - \text{I\_RINGTIME} - \text{I\_DA\_ACDTIME} - \text{I\_DA\_ACWTIME}$	Agent stafftime.

Calculation Name	Calculation	Description
PERCENT_ACD_TIME	$100 * ((I\_ACD\_TIME + I\_ACW\_TIME) / I\_STAFF\_TIME)$	Percent ACD time
PERCENT_ACD_TIME_SUM	$100 * (sum(I\_ACD\_TIME + I\_ACW\_TIME) / sum(I\_STAFF\_TIME))$	Percent ACD time total
PERCENT_ALL_BUSY	$100 * (ALLINUSE\_TIME / SECS\_PER\_DAY)$	Percentage of time all trunks in use
PERCENT_ALL_BUSY_D	$100 * (ALLINUSE\_TIME / d\_secs.SECSPERDAY)$	Percentage of time all trunks in use in the day
PERCENT_ALL_BUSY_M	$100 * (ALLINUSE\_TIME / m\_secs.SECSPERMN)$	Percentage of time all trunks in use in the month
PERCENT_ALL_BUSY_W	$100 * (ALLINUSE\_TIME / w\_secs.SECSPERWK)$	Percentage of time all trunks in use in the week
PERCENT_ALL_BUSY_SUM	$100 * (sum(ALLINUSE\_TIME) / sum(SECS\_PER\_DAY))$	Percentage of time all trunks in use
PERCENT_AL_BSY_SUM_D	$100 * (sum(ALLINUSE\_TIME) / sum(d\_secs.SECSPERDAY))$	Percentage of time all trunks in use in the day
PERCENT_AL_BSY_SUM_M	$100 * (sum(ALLINUSE\_TIME) / sum(m\_secs.SECSPERMN))$	Percentage of time all trunks in use in the month
PERCENT_AL_BSY_SUM_W	$100 * (sum(ALLINUSE\_TIME) / sum(w\_secs.SECSPERWK))$	Percentage of time all trunks in use in the week
PERCENT_AUX_WORK	$100 * (I\_AUX\_TIME / I\_STAFF\_TIME)$	Percent AUX time
PERCENT_AUX_WORK_SUM	$100 * (sum(I\_AUX\_TIME) / sum(I\_STAFF\_TIME))$	Total percent AUX time
PERCENT_CALL_ABAN	$100 * (ABNCALLS / (CALLSOFFERED))$	Percentage of calls abandoned
PERCENT_CALL_ANS	$100 * (ACDCALLS / CALLSOFFERED)$	Percentage of calls offered that were answered
PERCENT_CALL_ANS_SUM	$100 * (sum(ACDCALLS) / sum(CALLSOFFERED))$	Total percent of calls offered that were answered
PERCENT_MBUSY	$100 * (MBUSY\_TIME / (SECS\_PER\_DAY * TRUNKS))$	Percent of time all trunks in use
PERCENT_MBUSY_D	$100 * (MBUSY\_TIME / (d\_secs.SECSPERDAY * TRUNKS))$	Percent of time all trunks busied-out in the day
PERCENT_MBUSY_M	$100 * (MBUSY\_TIME / (m\_secs.SECSPERMN * TRUNKS))$	Percent of time all trunks busied-out in the month
PERCENT_MBUSY_W	$100 * (MBUSY\_TIME / (w\_secs.SECSPERWK * TRUNKS))$	Percent of time all trunks busied-out in the week
PERCENT_MBUSY_SUM_D	$100 * (sum(MBUSY\_TIME) / (avg(d\_secs.SECSPERDAY) * sum(TRUNKS)))$	Percent of time all trunks busied-out in the day

Standard Dictionary Calculations

Calculation Name	Calculation	Description
PERCENT_MBUSY_SUM_M	$100 * (\text{sum}(\text{MBUSYTIME}) / (\text{avg}(\text{m\_secs}.\text{SECSPERMN}) * \text{sum}(\text{TRUNKS})))$	Percent of time all trunks busied-out in the month
PERCENT_MBUSY_SUM_W	$100 * (\text{sum}(\text{MBUSYTIME}) / (\text{avg}(\text{w\_secs}.\text{SECSPERWK}) * \text{TRUNKS}))$	Percent of time all trunks busied-out in the week
PERCENT_MBUSY_SUM	$100 * (\text{sum}(\text{MBUSYTIME}) / (\text{avg}(\text{SECS\_PER\_DAY}) * \text{sum}(\text{TRUNKS})))$	Percent time all trunks in use
PERCENT_SERV_LVL_SPL	$100 * (\text{ACCEPTABLE} / \text{CALLSOFFERED})$	Percent of calls answered in service level for split
PERCENT_SERV_LVL_VDN	$100 * (\text{sum}(\text{ACCEPTABLE}) / \text{sum}(\text{INCALLS}))$	Percent of calls answered within service level for VDN
PERCENT_SLVL_SPL_SUM	$100 * (\text{sum}(\text{ACCEPTABLE}) / \text{sum}(\text{CALLSOFFERED}))$	Percent of total split calls answered in service level
PERCENT_VDN_ABAN	$100 * (\text{sum}(\text{ABNCALLS}) / \text{sum}(\text{INCALLS}))$	Percent of calls abandoned
PERCENT_VDN_ANSCONN	$100 * (\text{sum}(\text{ACDCALLS} + \text{CONNECTCALLS}) / \text{sum}(\text{INCALLS}))$	Percent of calls answered in service level
SECS_PER_DAY	$(24 * 60 * 60)$	Seconds per day
TOTAL_ACDCALLS	$(\text{ACDCALLS} + \text{DA\_ACDCALLS})$	Total ACD calls
TOTAL_ACDTIME	$(\text{ACDTIME} + \text{DA\_ACDTIME})$	Total ACD time
TOTAL_ACWTIME	$(\text{ACWTIME} + \text{DA\_ACWTIME})$	Total ACW time
TOTAL_I_ACDTIME	$(\text{I\_ACDTIME} + \text{I\_DA\_ACDTIME})$	Total interval-based ACD time
TOTAL_I_ACWTIME	$(\text{I\_ACWTIME} + \text{I\_DA\_ACWTIME})$	Total interval-based ACW time

How CMS Supports Call Vectoring and Related Features

This appendix gives an overview of the Call Vectoring Feature, Call Prompting, CALLVISOR Adjunct/Switch Application Interface (ASAI), and Look-Ahead Interflow features on the DEFINITY Communications System Generic 3 and presents examples of vectors that can be administered using the Vectoring feature of the Call Management System (CMS) Release 3 Version 2 (R3V2). The Vectoring feature of CMS enables CMS to work with these Generic 3 features.

Note

You must have the Call Vectoring feature to use the Expert Agent Selection (EAS) feature. The Call Vectoring feature works the same with or without the EAS feature. ***If the EAS feature is administered on the switch, the word skill replaces the word split when administering vectors from CMS.*** Also, you will probably want to configure your call center differently if you are using the EAS feature. See Appendix C, "Call Vectoring and Related System 85/Generic 2 Features", for more information.

With the CMS Vectoring feature, you can:

- Administer vectors and other aspects of the Call Vectoring feature from CMS.
- Generate reports about vectors and Vector Directory Numbers (VDNs).

The CMS Vectoring feature is not part of the standard CMS software; it must be purchased separately. Like the Vectoring feature on CMS, the Call Vectoring, Call Prompting, CALLVISOR ASAI, and Look-Ahead Interflow features are not standard Generic 3 features; these features must be purchased separately.

To use the CMS Vectoring feature, the Call Vectoring feature **must** be administered on the switch. To use the CALLVISOR ASAI and Look-Ahead Interflow switch features, you must have Call Vectoring administered on the switch. Call Prompting does not require Call Vectoring on the switch but does require vectoring on the CMS. You are not required to have the Call Prompting, CALLVISOR ASAI, or Look-Ahead Interflow feature to use the CMS Vectoring feature. However, these features can enhance call-handling capabilities.

For more information about the Call Vectoring, Call Prompting, CALLVISOR ASAI, and Look-Ahead Interflow features, see AT&T 555-230-204 *DEFINITY Communications System Generic 3 Feature Description, Issue 1* and AT&T 555-230-520 *DEFINITY Communications System Generic 3 Call Vectoring/Expert Agent Selection (EAS) Guide, Issue 2*.

Call Vectoring Feature

Vectors and VDNs Call Vectoring is a highly flexible way of processing incoming and internal calls. Software components called vectors and Vector Directory Numbers (VDNs) provide this capability.

Vectors A **vector** is a set of commands that specifies the type of processing or treatment a call receives. Call treatment includes: queuing calls to ACD splits/skills, giving caller feedback (such as ringing or music) or checking the status of backup splits/skills if calls cannot be answered immediately, playing announcements, routing calls to internal or external destinations, and more. This treatment can change automatically based on time of day and day of week, how long a call has waited, or changing traffic or staffing conditions. Standard CMS reports can be used to track vector-related call processing.

You can use the ACD Administration: Vector Contents window shown in Figure B-1 to administer vectors on the switch from CMS.

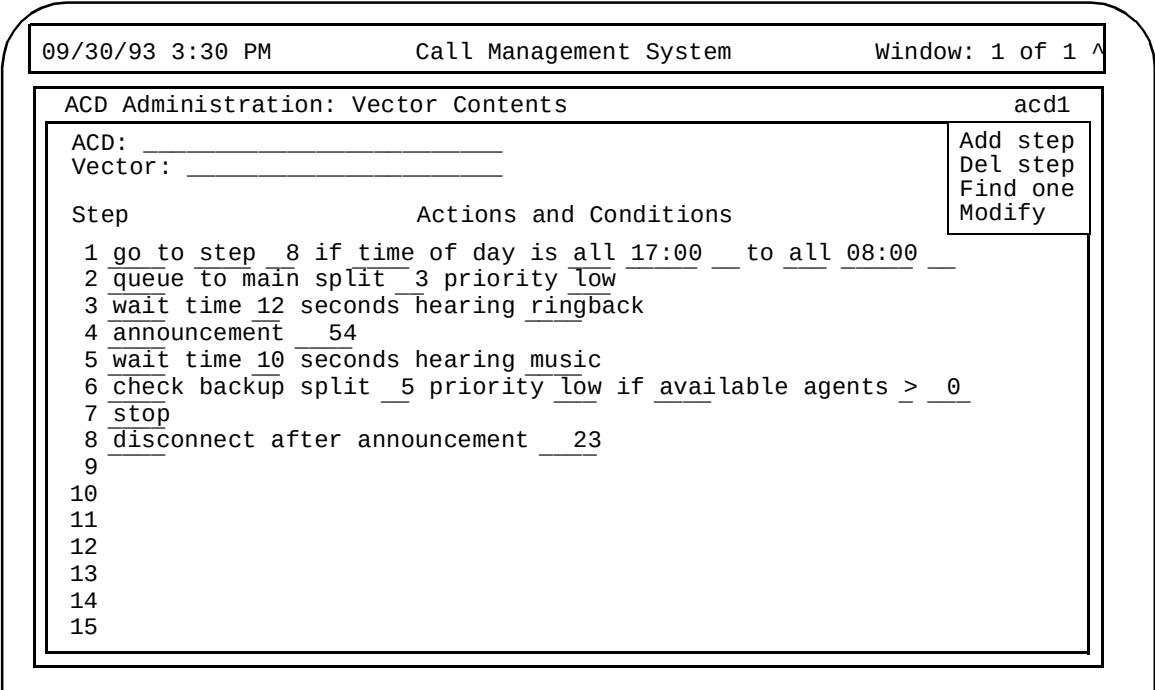


Figure B-1: CMS Vector Contents Window With Sample Vector

A vector may have up to 15 commands (up to 32 commands for Generic 3 Version 2) administered as vector steps. See Chapter 9 for more information about the Vector Contents window.

VDNs

A **VDN** is a special extension number that provides access to a vector. A VDN is also called a “soft” extension number because, unlike a regular extension number, no hardware is assigned to a VDN. Each VDN is assigned to one vector; however, several VDNs may be assigned to the same vector. VDNs can be reassigned to different vectors or unassigned while still being retained in switch memory. Standard CMS reports can be used to track calls to VDNs by type and purpose.

Calls reach a vector in one of the following ways:

- **Through a Direct Inward Dial (DID) Trunk Group and a VDN**

For a call on a Direct Inward Dial (DID) trunk group, the final digits of a DID number are administered as a VDN. The Central Office (CO) passes these digits to the switch, which either immediately processes the digits or adds or deletes a digit as needed. The switch then connects the trunk to the vector assigned to the VDN. Thus, for DID trunk groups, the final digits dialed by the caller **are** the VDN, plus or minus a digit.

- **Through Megacom and a VDN**

For 1-800 and 1-900 service using AT&T Megacom trunk groups, the AT&T network determines a call's origin and assigns Dialed Number Identification Service (DNIS) digits to the call. The CO passes the DNIS digits to the switch over a DID trunk group. These same digits are assigned in the switch as a VDN. When the switch receives the DNIS digits, it recognizes them as a VDN and connects the call to the assigned vector. Therefore, with Megacom, the digits outpulsed by the Central Office (#4ESS) must match the VDN administered in the switch. The actual # dialed doesn't necessarily correspond to the digits sent by the CO to the PB4.

- **Through an Automatic-In Trunk Group and a VDN**

An automatic-in trunk group (also known as an attendant-completing trunk group) is assigned to send calls to a specific VDN. When a call is placed to that trunk group's phone number, the Central Office (CO) seizes a trunk to the switch. The switch then connects the call to the VDN the trunk group is assigned to and the vector associated with the VDN begins processing the call. Thus, for automatic-in trunk groups, the number dialed by the caller may not have the same final digits as the VDN.

- **Through an Internally Dialed VDN**

Like dialing an internal personal extension, a VDN may be dialed from a station connected to the switch. In this case, only the VDN digits are dialed. The call is processed by the vector the VDN is assigned to.

- **Through a Listed Directory Number (LDN) and a VDN**

A VDN can be assigned as the night destination for an LDN.

Vector Control of ACD Calls

On a Generic 3, you must specify whether a split is vector-controlled or not. For vector-controlled splits, call-treatment parameters are assigned on a VDN or vector basis. (With EAS, all ACD hunt groups must be vector-controlled.) For splits that are not vector-controlled, call-treatment parameters are assigned on a split basis. As Figure B-2 shows, a system can have both vector-controlled splits and non-vector-controlled splits.

Vector-Controlled Splits

Automatic-in trunk groups are assigned to VDNs and each VDN is assigned to a vector. ACD calls (and other incoming calls) are directed to vectors that specify the order and conditions for call treatment. Call treatment is based on the vector and the conditions specified in the vector.

Splits Not Vector-Controlled

Call-treatment parameters are assigned to a particular ACD split. ACD calls go directly to a split queue and are given the treatment assigned to that split.

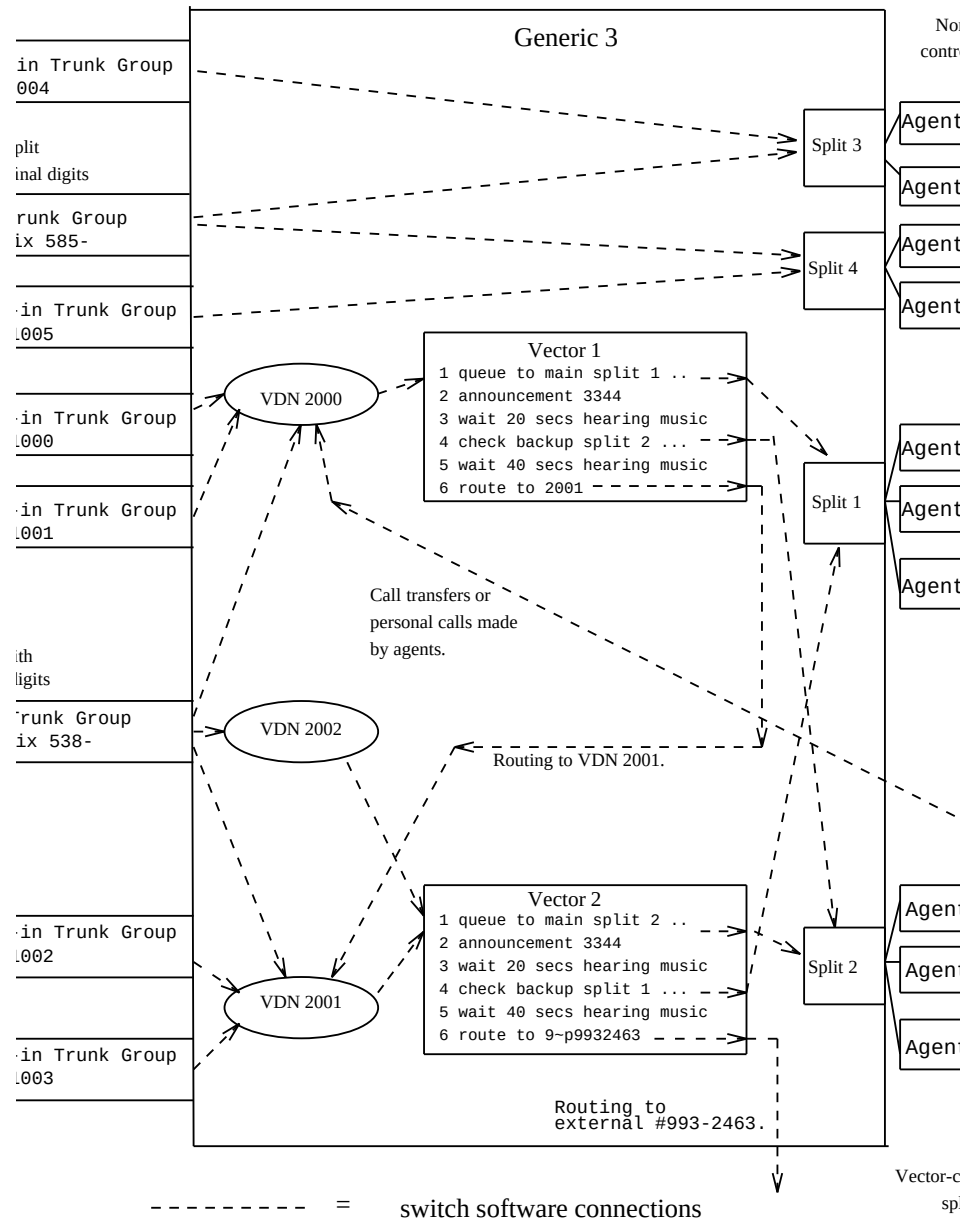


Figure B-2: Generic 3 Configuration With Vector-Controlled and Non-Vector-Controlled Splits

Answer Supervision in a Vectoring Environment

Answer supervision is a signal sent from the switch to the serving Central Office (CO) that tells the CO to begin recording toll charges for a call. AT&T ACD software can delay sending answer supervision (while a call waits in queue) so that the ACD owner/operator or caller can avoid some toll charges.

With Call Vectoring, the desire to delay answer supervision can influence the choice and order of call treatments specified in a vector. Answer supervision is sent when a call is answered or just before the caller hears a recorded announcement or music. Answer supervision is also sent when a call is disconnected (except with ISDN trunks).

The type of incoming trunk also influences when answer supervision is sent. For an auto-in trunk, a wait step with silence triggers answer supervision for the call. However, for a dial-repeating trunk, a wait step with silence does *not* trigger answer supervision. Therefore, when trunk routing to a vector (via the VDN) is changed, the effect on answer supervision should be considered. See the description of the “wait” command later in this appendix.

How Vectors Are Processed

The Call Vectoring software processes the commands in a vector (administered as vector steps) sequentially. That is, Step 1 is processed first, Step 2 second, and so forth. The “go to step” and “go to vector” commands are exceptions. These commands provide conditional or unconditional branching (movement) to a step other than the next sequential step.

Conditional branching means that a vector command specifies a condition that must be met before the command is executed. If the specified condition is not met, vector processing skips the command and processes the next vector step (branching does not occur). If the specified condition is met, vector processing branches to the step (in the same vector) or vector specified in the command. Unconditional branching means that a vector command does not specify a condition and, therefore, branching always occurs.

Conditional branching allows call treatment to change automatically and dynamically based on one or more of the following conditions:

- Time of day
- Day of week
- Number of calls in queue
- Time the oldest call in queue has waited
- Number of staffed agents
- Number of available agents.

For example, a vector can be set up to give different call treatments based on time of day and day of week. During normal business hours, calls may be queued to an ACD split. After business hours, the same vector may play an announcement and disconnect calls or direct calls to a voice-mail or messaging system. A vector can also be set up to send calls to a different split if no agents are staffed or available in the original destination split.

The “go to vector” command can be used to chain two or more vectors together. This allows you to create a chain of vectors that has well over the step limit (15 for Generic 3 Version 1, 32 for Generic 3 Version 2) for a single vector.

The number of steps vector processing will execute is limited to 1000. When this limit is reached, processing of vector steps stops, however any previously established call treatment continues and calls that are in queue remain in queue. This step-execution limit enables vector processing to recover from a vector that contains an endless loop.

Vector processing stops automatically after the last step in a vector is processed. If the calling party disconnects (hangs up) while the call is being processed in a vector, vector processing and any previously established call treatment ends.

Caller Feedback

The feedback a caller hears while the call is processed in a vector depends on how the call originated.

For internal and non-CO (DNIS, DID or tie trunk) calls, the calling party hears silence until one of the following occurs:

- A “wait” command with music or ringback is processed.
- An announcement is played.
- A “busy” command is processed.
- The call is sent to an answering position and the telephone begins to ring (alert).

For CO calls, the calling party hears CO ringback until one of the following occurs:

- An announcement is played
- A “wait” command with music is processed
- The call is answered.

Vector Commands

Vector commands specify the type of processing or treatment a call receives. Note that the following commands can be administered from CMS only if the Call Vectoring feature has been purchased for both the switch and CMS.

- queue to main split
- check backup split
- go to step
- go to vector
- wait
- announcement
- stop
- busy
- disconnect
- route to number
- messaging split
- adjunct routing (only available if the switch has the CALLVISOR ASAI feature)
- converse (Generic 3 Version 2).

The “Queue to Main Split” Command

This command queues calls to the specified split (the word split is replaced by the word skill if the EAS feature is administered on the switch) at the specified priority level. The “queue to main split” command has the following format:

`queue to main split xxx priority xxxx`

If no other calls are in queue and an agent is available, the call is immediately distributed to the agent. If other calls are in queue, the call remains in queue until:

- Calls ahead of it in queue are answered and an agent becomes available
- The caller hangs up (abandons the call)
- A subsequent vector command causes the call to be removed from queue.

Priority levels are like layers of calls. All calls in one layer are served before any calls in the layer below are served. There are four levels of priority: low, medium, high, and top. Priority levels allow calls that arrive on different VDNs to be queued to the same split at different priorities. This capability can be used to provide different levels of service for different call types.

On Generic 3, a call can queue to as many as three splits simultaneously. To queue a call to more than one split, a vector must contain more than one “queue to main split” command or “check backup split” command or a combination of “queue to main split” and “check backup split” commands. A call remains queued (to as many as three splits) until the call is answered, a vector command removes the call from queue, or the caller hangs up.

Vector processing skips a “queue to main split” command if:

- The split's queue is full. That is, the administered queue length has already been reached.
- The call is already queued to three different splits.
- A queue is not assigned to the split and no agents are available.

If vector processing encounters a “queue to main split” command that specifies a split the call is already queued to but a different priority level, the call is requeued at the new priority level.

The “Check Backup Split” Command

This command checks the status of a backup split (the word split is replaced by the word skill if the EAS feature is administered on the switch) for possible call completion. When call completion is not possible, queuing at the specified priority is attempted. Queuing or call completion is attempted only if the backup split meets the conditions specified in the command. The conditions and command format are as follows:

- check backup split xxx priority xxxx if unconditionally
Check the specified backup split and queue the call at the specified priority level unconditionally.
- check backup split xxx priority xxxx if available agents > xxxx
Check the specified backup split and queue the call at the specified priority level if the number of available agents is greater than (>) the number specified.
- check backup split xxx priority xxxx if staffed agents > xxxx
Check the specified backup split and queue the call at the specified priority level if the number of staffed agents is greater than the number specified. Note, however, that staffed agents may currently be on ACD calls, in after-call-work, or in AUX work and, therefore, not available to take the call.
- check backup split xxx priority xxxx if calls queued > xxxx
Check the specified backup split and queue the call at the specified priority level if the number of queued calls is less than (<) the number specified. Only calls that were queued at the specified priority level or higher are considered when vector processing checks the specified split's queue.
- check backup split xxx priority xxxx if oldest call waiting > xxxx
Check the specified backup split and queue the call at the specified priority level if the oldest call in queue has waited less than (<) the number of seconds specified. Unlike the number of queued calls condition, for the oldest call waiting condition, vector processing considers **all** calls in the specified split's queue.

Vector processing checks the backup split only once. If the specified condition is met and an agent is available, the call is connected to the agent. If the condition is met but no agents are available, the call is queued to the split at the specified priority.

Vector processing skips the command and continues with the next vector command if:

- The specified condition is not met.
- The split's queue is full. That is, the administered queue length has already been reached.
- The call is already queued to three different splits.
- A queue is not assigned to the split and no agents are available.

If vector processing encounters a “check backup split” command that specifies a split the call is already queued to but at a different priority level, the call is requeued at the new priority level if the specified condition is met.

The “Go To Step” Command

This command allows conditional or unconditional branching to a later or an earlier step in a vector. The conditions for branching and command format are as follows:

- go to step xx if unconditionally

Vector processing always branches to the specified step in the vector. Unconditional branching is often used to create a loop by branching to an earlier step in the vector. One example of this type of loop is a delay announcement that repeats. Processing continues until the call is answered, the caller abandons, or the 1000-step processing limit is reached.

- go to step xx if available agents in split xxx is $\leq$ (or $>$) xxxx

Vector processing branches to the specified step if the number of available agents in the specified split is less than ($<$) or greater than ($>$) the number specified.

- go to step xx if staffed agents in split xxx is $\leq$ (or $>$) xxxx

Vector processing branches to the specified step if the number of agents logged into the specified split is less than (or greater than) the number specified.

- go to step xx if calls queued in split xxx is $\leq$ (or $>$) xxxx prf xxxx

Vector processing branches to the specified step if the number of calls queued to the specified split (at the specified priority or higher) is less than (or greater than) the number specified.

- go to step xx if oldest call waiting in split xxx is $\leq$ (or $>$) xxxx

Vector processing branches to the specified step if the time (in seconds) that the oldest call has waited in the specified split queue is less than (or greater than) the time specified.

- go to step xx if time of day is xxx xx:xx to xxx xx:xxxx xx

Vector processing branches to the specified step if the test for time of day and day of week succeeds. This command is often used to provide alternate call treatment when an ACD split (or other answering destination) is unstaffed. Instead of specifying a range of days in the week, you may enter **all** in the blanks. For example, you may want the “go to step” command to branch to the alternate call treatment every day after 5:00PM.

Note

The time may be specified as am/pm or in 24-hour notation (also known as “military” time). The equivalent of 4:30AM in 24-hour notation is 04:30. The equivalent of 4:30PM in 24-hour notation is 16:30.

Vector processing tests for the condition specified in the “go to step” command. If the test succeeds, vector processing continues at the step specified in the command. Calls remain in queue or continue to receive the treatment that was established before the “go to step” command was processed. If the test fails, vector processing continues with the next step in the vector (branching does not occur).

See the Call Prompting feature description in this appendix for information about the “if digits equal” condition of the “go to step” command.

The “Go To Vector” Command

This command allows conditional or unconditional branching to another vector. Vector processing continues at Step 1 of the specified vector. The “go to vector” command can be used to link two or more vectors. The conditions for branching and command format are as follows:

- go to vector xx if unconditionally

Vector processing always branches to the specified vector.

- go to vector xx if available agents in split xxx is $\leq$ (or $>$) xxxx

Vector processing branches to the specified vector if the number of available agents in the specified split is less than ($<$) or greater than ($>$) the number specified.

- go to vector xx if staffed agents in split xxx is $\leq$ (or $>$) xxxx

Vector processing branches to the specified vector if the number of agents logged into the specified split is less than (or greater than) the number specified.

- go to vector xx if calls queued in split xxx is $\leq$ (or $>$) xxxx prf xxxx

Vector processing branches to the specified vector if the number of calls queued to the specified split (at the specified priority or higher) is less than (or greater than) the number specified.

- go to vector xx if oldest call waiting in split xxx is $\leq$ (or $>$) xxxx

Vector processing branches to the specified vector if the time (in seconds) that the oldest call has waited in the specified split queue is less than (or greater than) the time specified.

- go to vector xx if time of day is xxx xx:xx xx to xxx xx:xxxx xx

Vector processing branches to the specified vector if the test for time of day and day of week succeeds. This command is often used to provide alternate call treatment when an ACD split (or other answering destination) is unstaffed. Instead of specifying a range of days in the week, you may enter **all** in the blanks. For example, you may want the “go to vector” command to branch to the alternate call treatment everyday after 5:00PM.

Note

The time may be specified as am/pm or in 24-hour notation (also known as “military” time). The equivalent of 4:30AM in 24-hour notation is 04:30. The equivalent of 4:30PM in 24-hour notation is 16:30.

Vector processing tests for the condition specified in the “go to vector” command. If the test succeeds, vector processing continues at Step 1 of the vector specified in the command. Calls remain in queue or continue to receive the call treatment that was established before the “go to vector” command was processed. If the test fails, vector processing continues with the next step in the vector (branching does not occur).

See the Call Prompting feature description in this appendix for information about the “if digits equal” condition of the “go to vector” command.

The “Wait” Command

This command delays vector processing for the specified amount of time while callers hear silence, ringing (also called ringback), or music. The “wait” command has the following format:

wait time xxx seconds hearing xxxxxxxx

The allowed values for wait times are even numbers between 0 and 998 seconds. If a wait time of 0 seconds is specified, caller feedback and processing of the next vector command begin immediately.

The “wait” command is typically used to provide caller feedback while a call waits in a split queue. If an agent becomes available before the specified wait time expires, caller feedback (silence, ringing, or music) stops and the call is connected to the agent.

If not already returned for an incoming call, answer supervision is sent to the serving switch just before a “wait with music” command is processed.

Table B-1 describes the feedback an incoming-trunk caller receives for the different types of “wait” commands.

Table B-1: Caller Feedback for the Wait Command

WAIT TYPE	TRUNK TYPE	DISPOSITION IF ANSWER SUPERVISION HAS NOT BEEN SENT	DISPOSITION IF ANSWER SUPERVISION HAS BEEN SENT
Silence	DID	Caller hears silence.	Caller hears silence.
	Automatic-in	Caller hears ringback from the Central Office (CO).	Caller hears silence.
Ringback	DID	Caller hears switch ringback.	Caller hears ringback.
	Automatic-in	Caller hears CO ringback.	Caller hears ringback.
Music	DID	Answer supervision is sent and the caller hears music.	Caller hears music.
	Automatic-in	Answer supervision is sent and the caller hears music.	Caller hears music.

For DID-trunk calls, callers hear silence, not ringback, until a “wait” command is processed. As a result, a caller might think the call did not get through. Therefore, vectors that process DID-trunk calls, should contain a “wait with ringback,” a “wait with music,” or an “announcement” command.

If a “wait” command is the last step in a vector (or is followed by a “stop” command), caller feedback continues beyond the specified wait time until the call is answered or the caller abandons the call. However, CMS vector tracking of the call ends as soon as the specified wait interval expires.

The “Announcement” Command

This command plays the announcement assigned to the specified announcement extension. The “announcement” command has the following format:

announcement xxxxxx

Callers always hear the announcement from the beginning, which means that a call may have to wait in an announcement queue if the announcement is not ready to play. Callers hear the previously established call treatment (if any) until the announcement starts. If the announcement queue is full, vector processing retries the “announcement” command indefinitely. If the requested announcement is not administered or recorded (integrated announcement board only), vector processing skips the “announcement” command and continues with the next vector command.

If the call is in a split queue, the call remains in queue while the announcement plays. If the call is still in queue after the announcement ends, the caller hears silence until another “announcement” command, a “wait with ringback” command, or a “wait with music” command is processed. If the call connects to a station while the announcement is playing, the announcement stops and the caller hears ringback.

Answer supervision, if not previously sent, is sent at the beginning of an announcement.

The “Stop” Command

This command stops processing of subsequent vector steps; however, any previously established call treatment continues. That is, calls queued to a split remain in queue and caller feedback specified in a “wait” command continues. For a Generic 3 Version 2 switch, if a call reaches a stop step and is not queued, it is disconnected.

The “stop” command is typically used to separate a vector step that should only be reached by way of a “go to step” command from the rest of the vector. See Vector 4 in the *Sample Vectors* section of this appendix.

Note Use caution when administering vectors that contain “stop” commands. If a “stop” command is processed before a call is answered or queued to a split, the call will be dropped for all Generic 3 releases.

The “Busy” Command

This command ends vector processing and sends a busy signal. For non-CO trunk calls, the busy signal is sent whether answer supervision has been sent or not. For CO (auto-in) trunk calls, if answer supervision has not been sent (by a previous vector command), the CO ignores the busy signal and continues giving the caller CO ringback. Non-CO trunks are dropped approximately 45 seconds after the busy signal is sent.

The “Disconnect” Command

This command disconnects the call the vector is processing. Any previously established call treatment ends and the call is removed from vector processing and from the switch. As an option, this command can specify an announcement that plays before a call is disconnected.

Disconnect With Announcement

If the call is connected to a station while the announcement is playing, the announcement stops and the caller hears ringing. Also, because vector processing stops when the call connects to a station, the disconnect portion of the command is not processed.

If answer supervision has not already been sent, the switch sends answer supervision just before the announcement plays.

Disconnect Without Announcement

For incoming-trunk calls (except ISDN trunks), if answer supervision has not already been sent, the switch sends answer supervision before disconnecting a call. For ISDN trunks, answer supervision is not sent.

The “Route To Number” Command

This command routes the call to the specified destination. The “route to number” command has the following format:

`route to number xxxxxxxxxxxxxxxxxxxx`

The x's in the command shown above represent the destination number, which may contain as many as 16 characters.

The following are valid destinations:

- An internal extension or VDN
- The attendant
- A remote extension or VDN
- An external number.

The destination number can also include special codes. Each of the following special codes counts as two digits in the maximum 16-digit destination number:

- ~ p (pause)

This code tells the switch to wait 1.5 seconds before sending the digits that follow. It is typically used to wait for dial tone on outgoing-trunk calls.

- ~ w (wait)

This code tells the switch to wait 4 to 10 seconds before sending the digits that follow. It is used when a longer wait for dial tone is needed on outgoing-trunk calls.

- ~ m (mark)

This code allows a # or * digit to be sent as part of the destination number.

- ~ s (suppress)

This code should precede any security code, such as a password or authorization code, that is sent as part of the destination number. It prevents the security code from appearing on a station with display capabilities by replacing each digit of the security code with an s.

Vector processing stops if the call routes successfully. That is, if the switch connects the call to an internal station or attendant or seizes an outgoing trunk. Vector processing skips the “route to number” command and continues with the next step in the vector if the call does not route successfully.

Calls routed by a “route to number” command will forward if the Call Forwarding feature is assigned to the destination number. However, calls will not go to coverage if the Call Coverage feature is assigned to the destination number.

If a call is queued to a split when a “route to number” command is processed, the call is removed from the split queue if the routing succeeds.

See the Call Prompting feature description in this appendix for information about the “if digits equal” condition of the “route to number” command.

The “Messaging Split” Command

This command sends a call to the specified messaging split (AUDIX or Message Center) (the word split is replaced by the word skill if the EAS feature is administered on the switch) so that the caller can leave a message for the extension specified in the command. The “messaging split” command has the following format:

messaging split xxx for extension xxxxx

If an extension is not specified or “none” is specified, the message is left for the VDN used to access the vector.

Vector processing ends (if queued, the call is removed from queue and any previously established call treatment ends) and the caller hears ringback if the call is queued to the messaging split or if the call is connected to a Message Center agent or an AUDIX voice port.

Vector processing skips a “messaging split” command and continues with the next vector command if:

- The queue assigned to the specified messaging split is full.
- The link to the AUDIX is down or all AUDIX voice ports are out of service.
- The messaging split is DCS-AUDIX and all DCS trunks are busy.

The “Adjunct Routing” Command

This command is only available if the Call Vectoring and CALLVISOR ASAI features are administered on the switch. The “adjunct routing” command is used to send a message to an ASAI adjunct processor that is requesting routing information. For more information about this command, see the CALLVISOR Adjunct/Switch Application Interface (ASAI) feature description in this appendix.

The “Converse” Command

This command is available on the Generic 3 Version 2 switch. The “converse” command integrates Voice Response Units (VRUs) and the Call Vectoring feature. That is, the “converse” command allows voice-response scripts to be executed while, for example, a call waits in queue. This command also allows data to be passed between the switch and a VRU or from the VRU through the switch to an ASAI adjunct processor. The “converse” command has the following format:

converse on split xxx priority xxxx passing xxxxxxx and xxxxxxx

The “converse” command can pass any of the following information from the switch to a VRU:

- An administered string of up to six characters including the digits 0 through 9 and the characters * and #. The # character, if used, must be the first and only character passed to the VRU (e.g., “digits” is an actual parameter).
- ANI—For internal and DCS calls, the extension of the calling party is passed to the VRU. For incoming ISDN PRI calls with ANI (BN) provided to Generic 3, the calling party number/billing number (CPN/BN) is passed to the VRU (e.g., “ani” is an actual parameter).
- VDN—The VDN extension is passed to the VRU. If multiple VDNs are accessed, normal VDN override rules determine which VDN is passed to the VRU.
- Collected digits (only if the Call Prompting feature is administered on the switch)—The most recently collected set of digits is passed to the VRU.
- Queue position—The queue position of the call (in a non-converse split) is passed to the VRU.

Sample Vectors

This section shows examples of vectors that can be administered using the Vector Contents window and describes how the vectors work. See Chapter 9 for information about how to use the Vector Contents window to add a new vector or to copy, modify, or delete the contents of an existing vector.

Vector 1

The simplest vectors have only one step. Figure B-3 shows a vector that plays an announcement and then disconnects calls.

09/30/93 3:30 PMCall Management SystemWindow: 1 of 1 ^

ACD Administration: Vector Contentsacd1

ACD: _____
Vector: _____

Add step
Del step
Find one
Modify

StepActions and Conditions

1 disconnect after announcement 4200
2

Figure B-3: Vector 1—Information Announcement

Vector 2

Figure B-4 shows a simple vector that queues calls to an ACD split and plays an announcement if a call waits in queue for more than 12 seconds.

Step	Actions and Conditions
1	queue to main split 3 priority low
2	wait time 12 seconds hearing ringback
3	announcement 5400
4	wait time 0 seconds hearing music
5	

Figure B-4: Vector 2—Queue to Main Split With Announcement

Step 1 queues calls to split 3 at low priority. Step 2 delays vector processing for 12 seconds while callers hear ringing. Step 2 serves two purposes. First, it provides the same feedback (ringing) for every caller. Without this step, if a call has to wait in queue, different callers hear different feedback (depending on whether the call is internal or external and the type of trunk on which the call arrives). Second, the 12 second wait interval gives agents in split 3 time to become available before the announcement plays (Step 3).

If the call is still in queue after the announcement plays, Step 4 provides music until the call is answered. Music is more appropriate than ringback for this “wait” command because ringing may confuse a caller after hearing an announcement.

Note

To insure that CMS tracks calls until they are answered, use a longer wait time for Step 4. The maximum wait time is 998 seconds.

Vector 3

ACD splits are staffed to handle the average or typical amount of call traffic expected for a particular period of time. During periods of unexpectedly heavy call traffic, callers may have to wait too long for service, causing an increase in abandoned calls. One way to overcome this problem is to queue calls to one or more backup splits when callers have to wait for service from the main split.

Figure B-5 shows a vector that queues calls to a backup split if calls wait for approximately 30 seconds in the main split's queue.

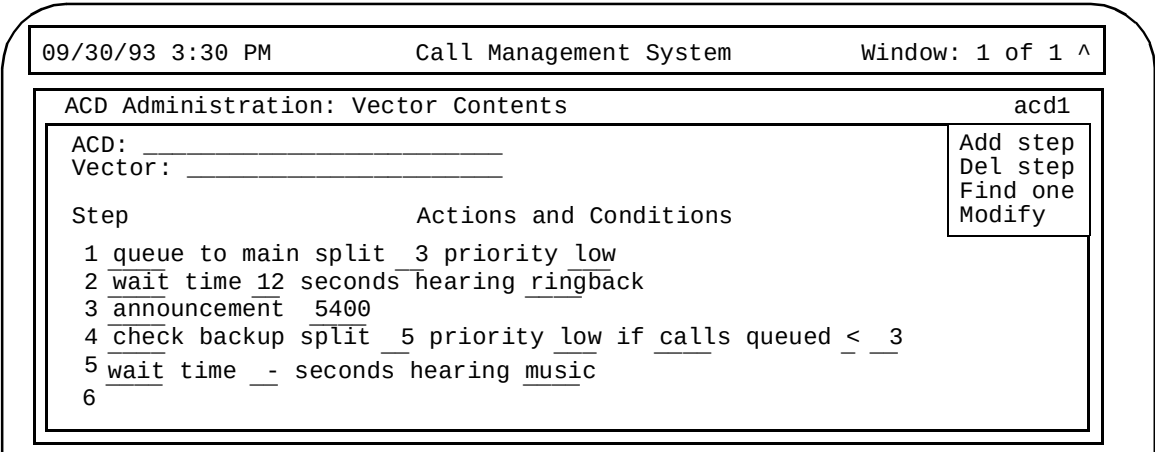


Figure B-5: Vector 3—Multiple-Split Queuing

Vector 3 adds a “check backup split” command (Step 4) to Vector 2. Step 4 queues calls to backup split 5 if split 5 has fewer than three calls in queue. That is, if a call waits in split 3's queue for approximately 30 seconds (12-second wait interval plus the announcement play interval) and there are fewer than three calls in split 5's queue, the call remains queued to split 3 and is also queued to split 5. The call remains queued to both splits 3 and 5 until it is answered or the caller hangs up (abandons the call).

Vector 4

Vectors 1 through 3 are examples of vectors that are processed sequentially. The steps in these vectors are processed in the same order that they appear in the vectors. Figure B-6 shows a vector that has conditional branches.

09/30/93 3:30 PM
Call Management System
Window: 1 of 1 ^

ACD Administration: Vector Contents

ACD: _____

Vector: _____

Step	Actions and Conditions
1	go to step 8 if time of day is all 17:00 to all 08:00
2	go to step 9 if calls queued in split 3 > 19 pri low
3	queue to main split 3 priority low
4	wait time 12 seconds hearing ringback
5	announcement 5400
6	wait time 0 seconds hearing music
7	stop
8	disconnect after announcement 4200
9	disconnect after announcement 4201
10	

acd1

 Add step
 Del step
 Find one
 Modify

Figure B-6: Vector 4—Conditional Branching

Step 1 tests for time of day and day of week. Between 08:00 (8:00AM) and 17:00 (5:00PM) every day, Steps 2 through 6 are processed. Steps 2 through 6, which provide normal business-hours call treatment, are the same as Vector 2. After business hours, between 17:00 and 08:00 every day, vector processing branches to Step 8, which plays an announcement and disconnects the call. This announcement would probably ask callers to call back during business hours.

Step 2 tests split 3 for the number of queued calls. The “calls queued” condition for this step is set to one less than the administered queue length for split 3. Consequently, when split 3’s queue is full, vector processing branches to Step 9, which plays an announcement and disconnects the call. This announcement would probably tell callers that their call cannot be taken at this time and ask them to call back in a few minutes when the line is not busy.

Step 7, the “stop” command, separates business-hours treatment from after-hours treatment. Without this step, calls that are queued for more than approximately 988 seconds would be disconnected. With Step 7, calls can only reach Step 8 or 9 if the condition specified in Step 1 or 2 is met.

Vector 5

Figure B-7 shows a vector with a repeating delay announcement.

09/30/93 3:30 PM	Call Management System	Window: 1 of 1 ^
ACD Administration: Vector Contents		acd1
ACD: _____ Vector: _____		Add step Del step Find one Modify
Step	Actions and Conditions	
1	go to step 8 if time of day is all 17:00 to all 08:00	
2	go to step 9 if calls queued in split 3 > 19 pri low	
3	queue to main split 3 priority low	
4	wait time 12 seconds hearing ringback	
5	announcement 5400	
6	wait time 20 seconds hearing music	
7	go to step 5 if unconditionally	
8	disconnect after announcement 4200	
9	disconnect after announcement 4201	
10		

Figure B-7: Vector 5—Repeating Delay Announcement

Vector 5 is similar to Vector 4 except Step 7 has been changed from a “stop” command to an unconditional “go to step” command, and the wait interval in Step 6 has been changed to 20 seconds. Step 7 causes vector processing to branch to Step 5 unconditionally, creating a loop that repeats Steps 5 through 7 until the call is answered or the caller abandons the call.

This vector does not require a “stop” command because Step 7 always directs vector processing back to Step 5 and calls cannot “escape” from this loop. Calls can only reach Step 8 or 9 if the condition specified in Step 1 or 2 is met.

Call Prompting

The Call Prompting feature provides flexible call handling based on information collected from a caller. Call Prompting uses special vector commands to collect caller-entered touch-tone digits and uses the collected digits to determine call treatment.

See the Call Vectoring Feature description in this appendix for information about VDNs, vectors, and other vector commands. If the switch has the Call Vectoring or Call Prompting features, the CMS must have the Vectoring feature.

Vector Commands

Call Prompting adds the following vector commands:

- collect digits
- route to digits.

Call Prompting adds the “if digits equal” condition to the following vector commands:

- go to step
- go to vector
- route to number.

The “Collect Digits” Command

This command collects and stores up to 16 touch-tone digits entered by a caller. The “collect digits” command can also specify an announcement, which explains the caller's digit-entry options and the purpose of each option. The “collect digits” command has the following format:

collect xx digits after announcement xxxxxx

The caller may start entering digits while the announcement is playing or up to ten seconds after the announcement stops. Once digit-entry starts, the caller has up to ten seconds to enter each additional digit. If the caller does not enter a digit within ten seconds, digit collection stops (whether digit entry is complete or not) and the next step in the vector is processed. If the caller begins entering digits while the announcement is playing, the announcement stops.

If the caller makes a mistake while entering digits, entering an asterisk (*) erases the entered digits and restarts the digit collection process. The announcement does not play again when the digit collection process is restarted.

See the CALLVISOR ASAI description in this appendix for an example of a vector that uses the “collect digits” command to send caller-entered digits to an adjunct processor or host computer. Collected digits can also be sent to a station with display capabilities.

Variable-Length Digit Strings

When the number of digits the caller could enter varies, the “collect digits” command should specify the largest possible number of digits and callers should be told to enter a pound sign (#) after the last digit. For example, the announcement could tell the caller to enter a 5-digit extension number or, for operator assistance, enter a zero followed by a pound sign. The “collect digits” command for this vector should specify five digits.

The pound sign tells the switch that the caller has finished entering digits. If the caller enters digits and a pound sign (or enters the number of digits specified in the command), the next step in the vector is processed immediately. If the caller does not enter the number of digits specified in the command and does not enter a pound sign, vector processing waits ten seconds and then processes the next step in the vector.

Dialing Ahead

If the caller enters more than the number of digits specified for a “collect digits” command, the switch saves the additional digits for a later “collect digits” command. This allows frequent callers to dial ahead and avoid listening to one or more announcements. If the vector does not have another “collect digits” command, the extra digits are ignored.

The Announcement

The “collect digits” command can specify an extension number associated with an announcement. The announcement should explain the caller's digit-entry options and the purpose of each option. Furthermore, depending on how the vector is designed, the announcement may also include information for:

- Rotary telephone users
- Entering the pound sign (#) to stop digit collection
- Entering the asterisk (*) to restart digit collection
- Dialing ahead.

Delays Associated with the “Collect Digits” Command

During periods of heavy call traffic, callers may have to wait for a touch-tone receiver (used to collect digits). The caller will not hear the “collect digits” announcement until a touch-tone receiver is available. Callers may also have to wait if an announcement port is not immediately available. While waiting, the caller continues to hear the treatment (silence, music, or ringback) that was in effect before the “collect digits” command was

processed. Therefore, it is a good idea to place a “wait 0 seconds with ringback” command before a “collect digits” command. See Vector 1 in the *Sample Vectors* section of this feature description.

The “Go To Step” Command

Call Prompting adds the “if digits equal” condition to the “go to step” command described in the Call Vectoring Feature section of this appendix. Vector processing branches to the specified step in the vector if the digits collected by the last “collect digits” command match the digits specified in the “go to step” command. The “if digits equal” condition can specify as many as 16 digits. However, the number of possible matches should be restricted to avoid an excessive wait time and avoid impacting the occupancy on the switch processor.

The “go to step” command has the following format:

`go to step xx if digits equal xxxxxxxxxxxxxxxx`

Calls remain in queue or continue to receive the treatment that was established before the “go to step” command. If the digits specified in the “go to step” command do not match the digits collected by the last “collect digits” command, vector processing continues with the next step in the vector (branching does not occur).

See the Call Vectoring Feature description in this appendix for information about other “go to step” command conditions.

The “Go To Vector” Command

Call Prompting adds the “if digits equal” condition to the “go to vector” command described in the Call Vectoring Feature section of this appendix. Vector processing branches to Step 1 of the specified vector if the digits collected by the last “collect digits” command match the digits specified in the “go to vector” command. The “if digits equal” condition can specify as many as 16 digits. However, the number of possible matches should be restricted to avoid an excessive wait time and avoid impacting the occupancy on the switch processor.

The “go to vector” command has the following format:

`go to vector xxx if digits equal xxxxxxxxxxxxxxxx`

Calls remain in queue or continue to receive the treatment that was established before the “go to vector” command. If the digits specified in the “go to vector” command do not match the digits collected by the last “collect digits” command, vector processing continues with the next step in the vector (branching does not occur).

See the Call Vectoring Feature description in this appendix for information about other “go to vector” command conditions.

The “Route To Number” Command

Call Prompting adds the “if digit equals” condition to the “route to number” command described in the Call Vectoring Feature section of this appendix. This command routes the call to the specified destination if the digit specified in the “if digit equals” condition matches the digit collected by the last “collect digits” command. However, the number of possible matches should be restricted to avoid an excessive wait time and avoid impacting the occupancy on the switch processor.

The “route to number” command has the following format:

route to number xxxxxxxxxxxxxxxxxx if digit equals x

Vector processing stops if the call routes successfully. That is, if the switch connects the call to an internal station or attendant or seizes an outgoing trunk. Vector processing skips the “route to number” command and continues with the next step in the vector if the call does not route successfully or the last “collect digits” command collected more than one digit, no digits, or a digit that does not match the digit specified in the “route to number” command.

The “if digit equals” condition can only be used to route calls based on a single-digit comparison. A combination of “go to step” or “go to vector” and “route to number” commands is required to route calls based on a multidigit comparison.

Note

The “route to number” command to a station or a hunt group extension will follow forwarding if active for the destination but will not follow call coverage.

The “Route To Digits” Command

This command routes the call to the destination specified by the digits collected by the last “collect digits” command. The “route to digits” command has the following format:

route to digits with coverage y/n

The “route to digits” command enables the switch to route a call based on caller-entered digits. The “with coverage” parameter specifies whether the Call Coverage feature applies to the routed call or not. Calls routed to internal extensions go to coverage if the “with coverage” parameter is set to y (yes) and the Call Coverage feature is assigned and applies. Calls routed to internal extensions do not go to coverage if the “with coverage” parameter is set to n (no).

If the “with coverage” parameter is set to y and the destination is an internal extension, vector processing stops as soon as the command is processed. If the destination is outside the switch or the “with coverage” parameter is set to no, vector processing stops if the call routes successfully; that is, if the switch connects the call to an internal station or attendant or seizes an outgoing trunk. Vector processing skips the “route

to digits” command and continues with the next step in the vector if the call does not route successfully or the last “collect digits” command collected no digits.

Sample Vectors

This section shows examples of Call Prompting vectors that can be administered using the Vector Contents window and describes how the vectors work. See Chapter 9 for information about how to use the Vector Contents window to add a new vector or to copy, modify, or delete the contents of an existing vector.

Vector 1

Figure B-8 shows a vector that routes incoming calls to the desired destination without attendant assistance.

The screenshot displays the 'ACD Administration: Vector Contents' window for 'acd1'. The window title bar shows the date and time '09/30/93 3:30 PM', the application name 'Call Management System', and the window status 'Window: 1 of 1 ^'. Inside the window, there are fields for 'ACD:' and 'Vector:', both followed by blank lines. Below these is a table with two columns: 'Step' and 'Actions and Conditions'. The table contains five rows of configuration steps. To the right of the table is a vertical menu with four options: 'Add step', 'Del step', 'Find one', and 'Modify'.

Step	Actions and Conditions
1	wait time 0 seconds hearing ringback
2	collect 5 digits after announcement 400
3	route to digits with coverage (y/n) yes
4	route to number 0
5	

Figure B-8: Vector 1—Automated Attendant

Step 1 provides caller feedback in case a touch-tone register to collect caller-entered digits or the announcement specified in Step 2 is not immediately available. Step 2 plays an announcement and then collects up to five touch-tone digits from the caller. The announcement tells callers to enter the 5-digit extension of the person they want to talk to or wait for an attendant.

Step 3 routes the call to the destination specified by the digits that were collected in Step 2. Because the coverage parameter is set to yes, if assigned to the destination extension, Call Coverage applies. If the caller enters a valid extension (Step 2), vector processing ends as soon as Step 3 is processed. If the caller does not enter digits or enters an invalid extension, vector processing skips Step 3.

If Step 3 fails, Step 4 routes the call to a local attendant. Step 4 accommodates callers who do not have touch-tone service or who need information or assistance.

Vector 2

Figure B-9 shows a vector that gives callers the option of leaving a message or waiting to talk to a company representative.

09/30/93 3:30 PM
Call Management System
Window: 1 of 1 ^

ACD Administration: Vector Contents

ACD: _____

Vector: _____

Step	Actions and Conditions
1	go to step 9 if calls queued in split 10 > 19 pri low
2	queue to main split 10 priority low
3	wait time 10 seconds hearing ringback
4	collect 1 digits after announcement 4000
5	go to step 9 if digits equal 1
6	wait time 10 seconds hearing music
7	announcement 5400
8	go to step 6 if unconditionally
9	messaging split 12 for extension 4500
10	disconnect after announcement 2300
11	

acd1

 Add step
 Del step
 Find one
 Modify

Figure B-9: Vector 2—Queue to Split With Option to Leave a Message

Step 1 tests split 10 for the number of queued calls. The “calls queued” condition for this step is set to one less than the administered queue length for split 10. Consequently, when split 10’s queue is full, vector processing branches to Step 9, which allows the caller to leave a message.

Step 2 queues calls to main split 10 at low priority, and Step 3 provides caller feedback if an agent is not immediately available. If a call remains in queue for ten seconds, Step 4 plays an announcement and then collects caller-entered digits. The announcement might say, “A customer representative is not available. If you are using a touch-tone telephone and would like to leave a message, press the digit 1.”

Step 5 tests for caller-entered digits and vector processing branches to Step 9 if the caller entered the digit 1. If no digits were entered, or if a digit other than 1 was entered, Steps 6 through 8 are processed. These steps provide music and a repeating announcement while a call waits in queue.

Calls reach Step 9 if split 10’s queue is full (the condition specified in Step 1) or if the caller entered the digit 1 (Steps 4 and 5). Step 9 sends calls to a messaging split (either AUDIX or Message Center) so that callers can leave a message. If the messaging split command fails, Step 10 plays an

announcement explaining that the messaging service is not available and disconnects the call.

CALLVISOR Adjunct/Switch Application Interface (ASAI)

The CALLVISOR ASAI feature is designed for large telemarketing or call-center operations that require optimum efficiency in managing high volumes of incoming and outgoing calls as well as call transfers and conferences. It provides an Integrated Services Digital Network (ISDN) based interface between the DEFINITY Generic 3 and one or more adjunct processors or host computers. The CALLVISOR ASAI feature enables the adjunct/host to initiate, receive, and control calls or stations on behalf of ACD agents or other switch users.

CALLVISOR ASAI Applications

The following are a few of the many CALLVISOR ASAI applications.

- **Data Screen Delivery**

The switch can pass network information such as Automatic Number Identification (ANI) and Dialed Number Identification Service (DNIS) and switch information such as caller-entered digits collected by the Call Prompting feature and agent extension numbers to an adjunct/host. The adjunct/host uses this information to display the proper data-terminal screen.

- **Data Screen Transfer**

The switch can notify an adjunct/host when a voice call is transferred. This enables the adjunct/host to transfer the corresponding data-terminal screen.

- **Adjunct Routing**

If the switch has the Call Vectoring feature, a vector can be set up to send network or switch information to an adjunct/host and request call-routing information from the adjunct/host (see the sample CALLVISOR ASAI vector presented later in this description). The adjunct/host responds with an internal or external number.

- **Direct Agent Calling**

The adjunct/host can route or transfer an incoming or outgoing call to a specific agent, and CMS tracks the call as an ACD call.

- **Supervisor Assist**

If requested by an agent, the adjunct/host can initiate a call (tell the switch to place a call) to a split supervisor. CMS tracks the call as a supervisor-assist call.

- Voice Processor Integration

The switch can send ANI, DNIS, or selected-agent information to a speech-processing adjunct. The speech processor can integrate this information with information the speech processor collects and send it to the adjunct/host for data-screen delivery or call routing.

- ViewFirst Dialing

The adjunct/host can initiate a call on behalf of an agent. The agent may have previewed a data-terminal screen and used the data-terminal keyboard to tell the adjunct/host to begin the call.

- AutoPace Dialing

The adjunct/host can initiate calls on behalf of a group of agents. The switch classifies calls, notifies the adjunct/host of each classification, and sends only answered calls to the agents.

- Agent Work Mode Control

The adjunct/host can log agents into and out of splits and change agent work modes.

Sample CALLVISOR ASAI Vector

Figure B-10 shows an example of a vector that sends a message to an ASAI adjunct processor that is requesting routing information.

09/30/93 3:30 PM

Call Management System

Window: 1 of 1 ^

ACD Administration: Vector Contents

acd1

ACD: _____
Vector: _____

Add step
Del step
Find one
Modify

Step	Actions and Conditions
1	wait time 0 seconds hearing ringback
2	collect 5 digits after announcement 2500
3	adjunct routing link extension 3500
4	wait time 10 seconds hearing ringback
5	route to number 5400
6	

Figure B-10: CALLVISOR ASAI Vector

Step 1 provides caller feedback in case a touch-tone register to collect caller-entered digits or the announcement specified in Step 2 is not immediately available. Step 2 plays an announcement and then collects up to five touch-tone digits from the caller.

Step 3 sends the digits collected in Step 2 and incoming-call information to the adjunct/host. The adjunct/host uses this information (and possibly other information such as agent availability) to choose the appropriate destination. Then, the adjunct/host sends the selected destination to the switch.

The wait time in Step 4 specifies the amount of time the switch waits for a routing response from the adjunct/host. If the adjunct/host responds within 10 seconds, vector processing ends and the switch delivers the call to the adjunct/host-selected destination. If the adjunct/host does not respond within 10 seconds, vector processing continues with the next step in the vector.

Step 5 provides a backup destination in case the adjunct/host does not respond within 10 seconds. This backup destination might be a VDN associated with a vector that provides the appropriate call treatment.

Look-Ahead Interflow

The Look-Ahead Interflow feature enables ACD calls to be intelligently interflowed (redirected) from one switch to another. The key word here is intelligently. Two switches that have the Call Vectoring and ISDN—PRI features (in addition to Look-Ahead Interflow) can “talk” to each other and determine if conditions are appropriate for interflowing a call. If conditions at the switch that would receive the call are not acceptable, the interflow request can be rejected.

The interflow capability has been available for several years, but before Look-Ahead Interflow was introduced, the decision to interflow a call could only be based on conditions at the sending switch (the switch the call is currently at). This could result in a call interflowing from a busy split to an even busier split.

With Look-Ahead Interflow, the decision to interflow a call (at the sending switch) and to accept or reject the call (at the receiving switch) can be based on any combination of the following conditions:

- Time of day
- Day of week
- Number of calls in queue
- Time the oldest call in queue has waited
- Number of staffed agents
- Number of available agents.

One or more conditional “go to step” commands in the sending vector determine if conditions are appropriate for interflowing a call. If conditions are appropriate, the sending switch queries the receiving switch to determine if it can accept the call.

As with the sending vector, the receiving vector contains one or more conditional “go to step” commands that determine if conditions are appropriate for accepting a call. If conditions are appropriate, the receiving vector accepts the interflow request and the sending vector routes the call to the receiving switch. If conditions are not appropriate, the receiving vector rejects the interflow request and processing continues at the sending vector.

The sending vector uses a “route to number” command to interflow calls to the receiving switch. The destination of the “route to number” command is the private-network telephone number of the receiving switch.

To accommodate the rejection of an interflow request, the sending vector should provide alternate call treatment such as an information announcement or a message-taking service.

Sample Look-Ahead Interflow Vectors

The following example describes how a company might use the Look-Ahead Interflow feature to balance the call load between two offices.

Figure B-11 shows a Look-Ahead Interflow sending vector.

09/30/93 3:30 PM Call Management System Window: 1 of 1 ^

ACD Administration: Vector Contents acd1

ACD: _____
Vector: _____

Step	Actions and Conditions
1	wait time 0 seconds hearing ringback
2	queue to main split 4 priority low
3	go to step 5 if oldest call waiting in split 4 < 30
4	route to number 9-p5551234
5	wait time 10 seconds hearing ringback
6	announcement 5400
7	wait time 0 seconds hearing music
8	

Add step
Del step
Find one
Modify

Figure B-11: Look-Ahead Interflow Sending Vector

Steps 1 and 2 provide caller feedback (ringing) and queue calls to split 4 at low priority.

Step 3 tests split 4 and branches to Step 5 if the oldest call has waited less than 30 seconds. Steps 5 through 7 provide a 10-second delay, an announcement, and music (the normal processing for calls waiting in split 4's queue).

If the oldest call in split 4's queue has waited 30 seconds or more (the condition specified in Step 3 is not met), Step 4 queries the receiving vector to determine if it can accept the call and, if accepted, interflows the call.

Figure B-12 shows a Look-Ahead Interflow receiving vector.

09/30/93 3:30 PM	Call Management System	Window: 1 of 1 ^
ACD Administration: Vector Contents		acd1
ACD: _____ Vector: _____		Add step Del step Find one Modify
Step	Actions and Conditions	
1	go to step 9 if staffed agents in split 2 < 1	
2	go to step 9 if oldest call waiting in split 2 > 5	
3	go to step 9 if calls queued in split 2 > 19 pri low	
4	queue to main split 2 priority medium	
5	wait time 12 seconds hearing ringback	
6	announcement 5400	
7	wait time 20 seconds hearing music	
8	go to step 6 if unconditionally	
9	busy	
10		

Figure B-12: Look-Ahead Interflow Receiving Vector

Steps 1, 2, and 3 test split 2 and branch to Step 9 if the specified conditions are met. That is, interflow requests are rejected (Step 9) if split 2 is unstaffed, if the oldest call in queue has waited more than five seconds, or if more than 19 calls are in queue. The “calls queued” condition in Step 3 is set to one less than the administered queue length for split 2. Consequently, when split 2's queue is full, interflow requests are rejected.

If the conditions specified in Steps 1 through 3 are not met, Step 4 accepts the call and queues it to split 2 at medium priority. Step 5 delays vector processing for 12 seconds while callers hear ringing. This gives the agents in split 2 time to answer the call before the delay announcement plays (Step 6). Steps 6 through 8 provide music and a repeating delay announcement.

Step 9 rejects interflow requests. Vector processing branches to this step if split 2 is unstaffed, if the oldest call in queue has waited more than 5 seconds, or if the more than 19 calls are in queue (the conditions specified in Steps 1 through 3).

CMS Reporting for the Look-Ahead Interflow Feature

CMS collects and reports information about agents, splits, VDNs, vectors, and trunks. The effect the Look-Ahead Interflow feature has on this information is described in Chapter 4 and Chapter 5 and in Appendix A of this manual. The CMS database items **LOOKATTEMPTS** and **LOOKFLOWCALLS** collect information about the Look-Ahead Interflow feature.

LOOKATTEMPTS collects information about Look-Ahead Interflow attempts. That is, interflow requests that are accepted by the receiving switch, interflow requests that are rejected by the receiving switch, and unsuccessful routing attempts (a “route to number” command that fails due to resource failure, for example, no trunk available).

LOOKFLOWCALLS collects information about Look-Ahead Interflow calls that route successfully.

How CMS Supports Call Vectoring and Related Features

This appendix gives an overview of the Call Vectoring Feature, The Look-Ahead Interflow Feature, and CallVisor™ ASAI Gateway Interface (hereafter called The ASAI Gateway Interface Feature) features on the DEFINITY Communications System Generic 2 and System 85 and presents examples of vectors that can be administered using the Vectoring feature of Release 3/V2 Call Management System (CMS).

Note

See Appendix E for information on G2.2 EAS.

The Vectoring feature of CMS enables CMS to work with the Call Vectoring, Look-Ahead Interflow, and ASAI Gateway Interface features on the Generic 2 (Call Vectoring and Look-Ahead Interflow are also available on the Release 2 Version 4 System 85).

With the Vectoring feature of the CMS, you can:

- Administer vectors and other aspects of the Call Vectoring, Look-Ahead Interflow, and ASAI Gateway Interface features on the System 85/Generic 2.
- Generate reports about vectors and Vector Directory Numbers (VDNs).

The Vectoring feature of CMS is not part of the standard CMS software; it must be purchased separately. Like the Vectoring feature on CMS, the Call Vectoring, Look-Ahead Interflow, and ASAI Gateway Interface features are not standard System 85/Generic 2 features; these features must be purchased separately.

To use the Vectoring feature on CMS, the Call Vectoring feature **must** be administered on the switch (System 85/Generic 2). The Look-Ahead Interflow, and ASAI Gateway Interface features use vectors and, therefore, Call Vectoring must be administered on the switch to use these features. However, the Look-Ahead Interflow, and ASAI Gateway Interface features are **not** required to use the Vectoring feature of CMS.

For more information about the Call Vectoring, Look-Ahead Interflow, and ASAI Gateway Interface features, refer to *DEFINITY Communications System Generic 2 and System 85 Feature Descriptions* (555-104-301).

Call Vectoring Feature

Vectors and VDNs

Call Vectoring is a highly flexible way of processing incoming ACD and non-ACD calls. Software components called vectors and Vector Directory Numbers (VDNs) provide this capability.

Vectors

A **vector** is a set of commands that specifies the treatment for specific incoming calls. Call treatment includes: queuing calls to ACD splits, giving caller feedback (such as ringing or music) or checking the status of backup splits if calls cannot be answered immediately, playing announcements, routing calls to internal or external destinations, and more. This treatment can change automatically based on time of day and day of week, how long a call has waited, or changing traffic or staffing conditions. Standard CMS reports can be used to track vector-related call processing.

A vector can be created in CMS using the ACD Administration: Vector Contents window (see Chapter 9). As shown in Figure C-1, a vector may have up to 15 commands administered as vector steps.

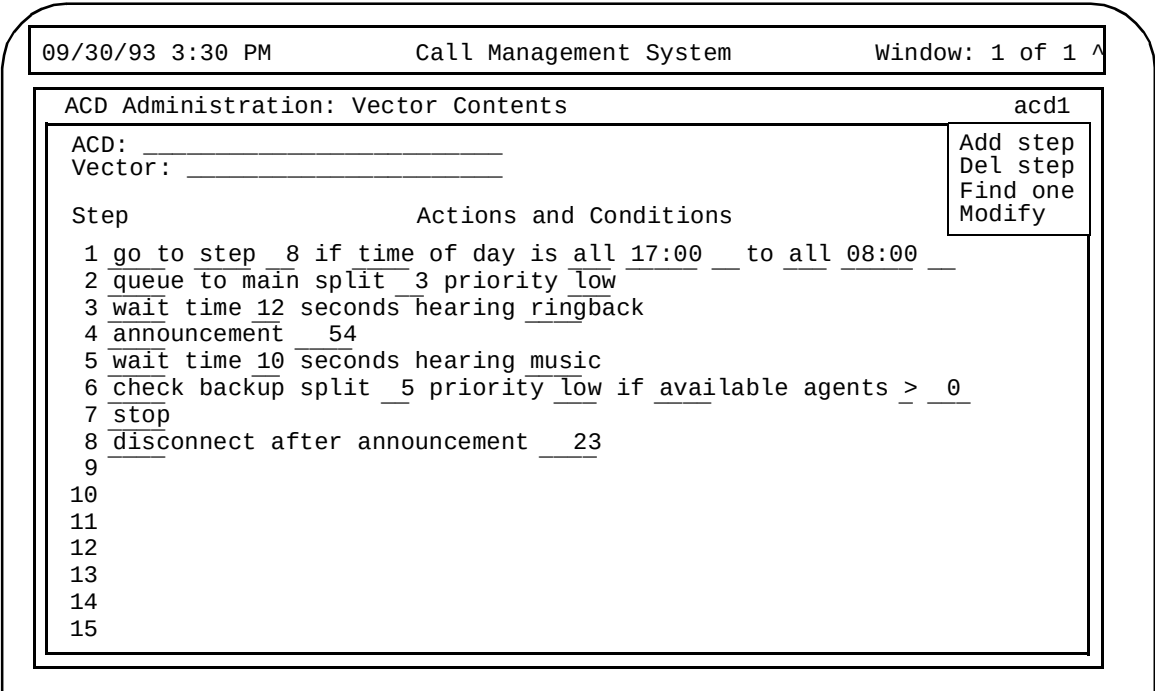


Figure C-1: CMS Vector Contents Window With Sample Vector

You can also create a vector with one of the following switch administration tools:

- On a System 85, the Maintenance and Administration Panel (MAAP), the Visual Maintenance and Administration Panel (VMAAP), the System Management Terminal (SMT), or Centralized System Management (CSM).
- On a Generic 2, the DEFINITY Manager II, III, or IV.

VDNs

A **VDN** is a special extension number that provides access to a vector. A VDN is also called a “soft” extension number because, unlike a regular extension number, no hardware is assigned to a VDN. Standard CMS reports can be used to track calls to VDNs by type and purpose.

Calls reach a vector in one of the following ways:

- **Through a Direct Inward Dial (DID) Trunk Group and a VDN**

For a call on a Direct Inward Dial (DID) trunk group, the final digits of a DID number are administered as a VDN. The Central Office (CO) passes these digits to the switch, which either immediately processes the digits or adds or deletes digits as needed. The switch then connects the trunk to the vector assigned to the VDN. Thus, for DID trunk groups, the final digits dialed by the caller **are** the VDN, plus or minus a digit.

- **Through Megacom and a VDN**

For 1-800 and 1-900 service using AT&T Megacom trunk groups, the AT&T network determines a call's origin and assigns Dialed Number Identification Service (DNIS) digits to the call. The CO passes the DNIS digits to the PBX over a DID trunk group. These same digits are assigned in the PBX as a VDN. When the PBX receives the DNIS digits, it recognizes them as a VDN and connects the call to the assigned vector. Therefore, with Megacom, the DNIS assigned to a call by the AT&T network must match the VDN administered in the PBX.

- **Through an Automatic-In Trunk Group and a VDN**

An automatic-in trunk group (also known as an attendant-completing trunk group) is assigned to send calls to a specific VDN. When a call is placed to that trunk group's phone number, the Central Office (CO) seizes a trunk to the PBX. The PBX then connects the call to the VDN the trunk group is assigned to and the vector associated with the VDN begins processing the call. Thus, for automatic-in trunk groups, the number dialed by the caller may not have the same final digits as the VDN.

- **Through an Internally Dialed VDN**

Like dialing an internal personal extension, a VDN may be dialed from a voice terminal connected to the PBX. In this case, only the VDN digits are dialed. The call is processed by the vector the VDN is assigned to.

VDNs can be reassigned to different vectors or deactivated while still being retained in memory in the PBX.

Vector Control of ACD Calls

On a System 85/Generic 2 with the ACD and Call Vectoring features, all ACD calls are processed by vectors. Call-treatment parameters that were assigned on a split basis (for ACD without Call Vectoring) are assigned on a VDN or vector basis. Instead of being assigned to a particular split, call treatments such as announcements, wait times, intraflow, and interflow are specified within vectors.

Without Call Vectoring, automatic-in trunk groups and call-treatment parameters are assigned to a particular ACD split. ACD calls go directly to a split queue and are given the treatment assigned to that split. Call treatment is based on the split and parameters assigned to the split.

With Call Vectoring, automatic-in trunk groups are assigned to VDNs and each VDN is assigned to a vector. ACD calls (and other incoming calls) are directed to vectors that specify the order in which and the conditions under which treatments are given. Call treatment is based on the vector and treatments specified in the vector. See Figure C-2.

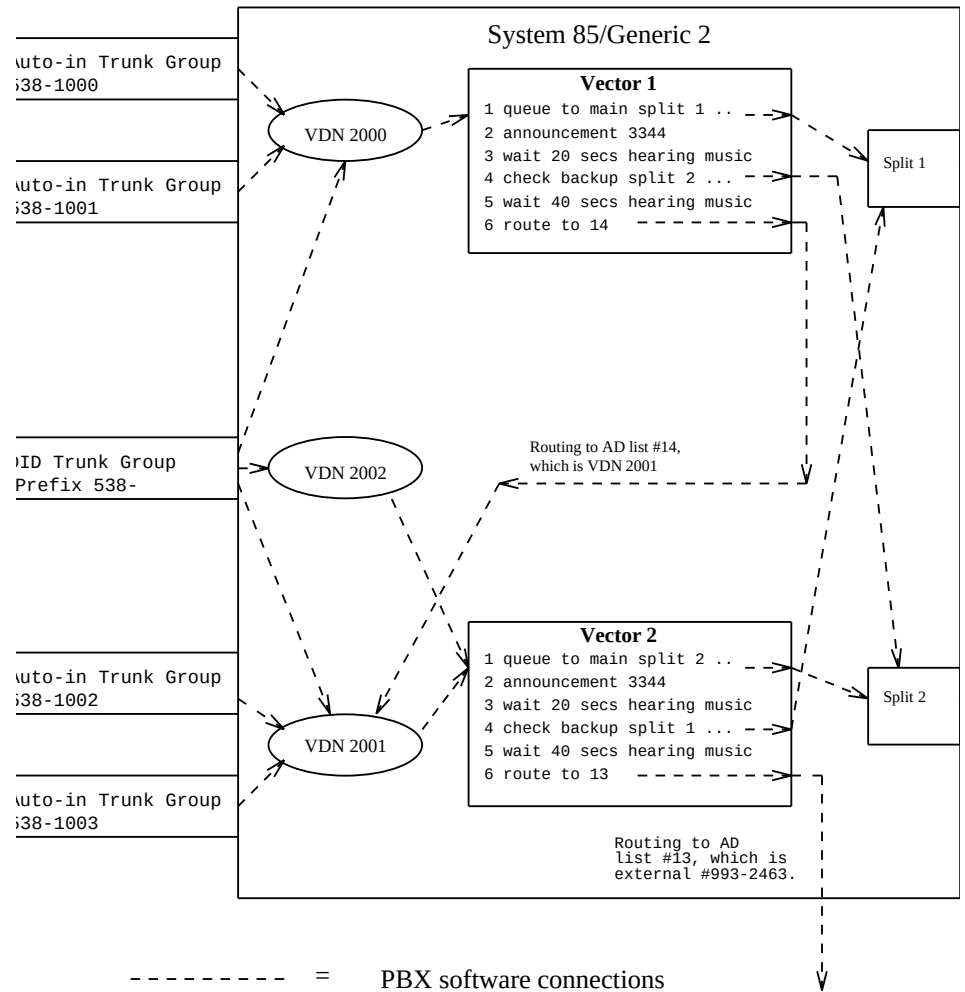


Figure C-2: System 85/Generic 2 Configuration for ACD With Call Vectoring

Increased Flexibility of Call Handling

Conditional branches allow the Call Vectoring feature to change a call's treatment automatically and dynamically based on one or more of the following conditions:

- Time of day
- Day of week
- Number of calls in queue
- Time the oldest call in queue has waited
- Number of staffed agents
- Number of available agents.

For example, a vector can be set up to give different call treatments based on time of day and day of week. During normal business hours, calls may be queued to an ACD split. After business hours, the same vector may play an announcement and disconnect calls or direct calls to a voice-mail or messaging system.

Without Call Vectoring, ACD splits can be assigned inflow and outflow levels that are based on the number of calls in queue. These assigned levels determine whether calls intraflow (redirect) from one local split to another or not. In addition to number of calls in queue, with Call Vectoring the decision to intraflow calls can be based on oldest call wait time, number of staffed or available agents, or any combination of these conditions.

Answer Supervision in a Vectoring Environment

Answer supervision is a signal sent from the PBX to the serving Central Office (CO) that tells the CO to begin recording toll charges for a call. However, while a call waits in queue, AT&T ACD software can delay sending answer supervision so that the ACD owner/operator or caller can avoid excess toll charges. The caller hears CO ringback until answer supervision is sent.

With Call Vectoring, the desire to delay answer supervision can influence the choice and order of call treatments specified in a vector. Answer supervision is sent when a call is answered or before the caller hears a recorded announcement or music. Answer supervision is also sent when a call is disconnected.* The type of trunk from the CO also influences the triggering of answer supervision. For an auto-in trunk, a wait step with silence triggers answer supervision for the call. On the other hand, a wait step with silence on a dial-repeating trunk does *not* trigger answer supervision. Therefore, when trunk routing to a vector (via the VDN) is changed, the effect on answer supervision should be considered. See the description of the “wait” command in this appendix.

Vector Commands

Vector commands specify the treatment for specific incoming calls. Note that the following commands are available in CMS only if the Call Vectoring feature has been purchased for both the PBX and CMS.

- queue to main split
- wait
- announcement
- check backup split
- go to step
- go to vector
- stop
- busy
- disconnect
- route to number

The “Queue to Main Split” Command

This command queues calls to the specified split at the specified priority level. The “queue to main split” command has the following format:

queue to main split **xx** priority **xxxxxx**

* Except with ISDN trunks.

If no other calls are in queue and an agent is available, the call is immediately distributed to the agent. If other calls are in queue, the call remains in queue until:

- Calls ahead of it in queue are answered and an agent becomes available
- The caller abandons (hangs up)
- A subsequent vector command causes the call to be removed from queue.

Priority levels are like layers of calls. All calls in one layer are served before any calls in the layer below are served. There are four levels of priority: low, medium, high, and top. Priority levels allow calls that arrive on different VDNs to be queued to the same split at different priorities. This capability can be used to provide different levels of service for different call types.

A vector may contain more than one “queue to main split” command. However, for System 85/Generic 2, calls are not allowed to queue to more than one split at a time. Therefore, when vector processing encounters a second “queue to main split” command, the call is removed from the first split's queue and queued to the split specified in the second command.



Calls will queue to a split even if the split is unstaffed. To prevent calls from queuing to an unstaffed split, a vector can be set up to provide alternate treatment when the split is unstaffed.

The “Wait” Command

This command delays vector processing for a specific amount of time while callers hear silence, ringing (also called ringback), or music. The “wait” command has the following format:

wait time xx seconds hearing xxxxxx

The allowed values for wait times are even numbers between 2 and 998 seconds. Beginning with Generic 2.2, the allowed values are even numbers between 0 and 998 seconds. If a wait time of 0 seconds is specified, caller feedback and processing of the next vector command begin immediately.

If not already returned for an incoming call, answer supervision is sent to the serving switch just before a “wait with music” command is processed.

Table C-1 describes the feedback an incoming-trunk caller receives for the different types of “wait” commands.

Table C-1: Caller Feedback for the Wait Command

WAIT TYPE	TRUNK TYPE	DISPOSITION IF ANSWER SUPERVISION HAS NOT BEEN SENT	DISPOSITION IF ANSWER SUPERVISION HAS BEEN SENT
Silence	DID	Caller hears silence.	Caller hears silence.
	Automatic-in	Caller hears ringback from the Central Office (CO).	Caller hears silence.
Ringback	DID	Caller hears PBX ringback.	Caller hears ringback.
	Automatic-in	Caller hears CO ringback.	Caller hears ringback.
Music	DID	Answer supervision is sent and the caller hears music.	Caller hears music.
	Automatic-in	Answer supervision is sent and the caller hears music.	Caller hears music.

For DID-trunk calls, callers hear silence, not ringback, until a “wait” command is processed. As a result, a caller might think the call did not get through. Therefore, for vectors that process DID-trunk calls, place a “wait with ringback,” a “wait with music,” or an “announcement” command early in the vector (perhaps after a “queue to main split” command).

If a “wait” command is the last step in a vector (or is followed by a “stop” command), caller feedback continues beyond the specified wait interval until the call is answered or the caller abandons the call.

Note

If a “wait” command is the last step in a vector (or is followed by a “stop” command), the specified wait interval can affect the data CMS collects for a vector. When the specified wait interval expires, the PBX sends a message to CMS indicating that processing of vector steps has finished. If the specified wait interval is short (for example, two seconds), the PBX could send CMS the message indicating that processing has finished before the call is answered.

The “Announcement” Command

This command plays the specified announcement. The “announcement” command has the following format:

announcement xxx

For System 85 and DEFINITY Generic 2.1, the range of announcement numbers is 16 through 99. For DEFINITY Generic 2.2, the range is 1 through 255.

If the call is in a split queue, the call remains in queue while the announcement plays. After the announcement completes, if the call is still in queue, the caller hears silence until another “announcement” command, a “wait with ringback” command, or a “wait with music” command is processed. If the call connects to an agent's terminal while the announcement is playing, the announcement stops and the caller hears ringback.

Answer supervision, if not previously sent, is sent at the beginning of an announcement.

After an “announcement” command is processed, the caller may not hear the announcement for several seconds. The reason is that each announcement plays only for calls currently queued to it, and once an announcement starts playing, new calls that queue to the announcement must wait until it ends and begins again. The caller hears the previous treatment (if any) until the announcement starts.

The “Check Backup Split” Command

While a call is queued to a main split, this command checks the status of a backup split for possible queuing of a call. The status of the backup split can be checked for any of the following conditions:

- Number of available agents
- Number of staffed agents
- Number of queued calls
- Amount of time the oldest call in queue has waited.

The “check backup split” command is always conditional and can specify only one of the conditions listed above. However, a vector may contain more than one “check backup split” command.

If the condition specified in a “check backup split” command is met, vector processing removes the call from the queue it is currently in and queues the call to the backup split. If the condition is not met, the backup split is checked every two seconds until:

- The specified condition is met, or
- The call is answered at the main split, or
- A subsequent vector command (for example, a “route to number” command) stops backup-split checking, or
- The caller abandons the call.

Note

Although it is unlikely, if none of the events listed above occurs before a “check backup split” command is processed 1000 times (approximately 35 minutes), the PBX disconnects the call.

The “check backup split” command has the following format:

- check backup split xx priority xxxx if available agents > xxxx

Check the specified backup split and queue the call if the number of available agents is greater than (>) the number specified.

- check backup split xx priority xxxx if staffed agents > xxxx

Check the specified backup split and queue the call if the number of staffed agents is greater than the number specified. Note, however, that staffed agents may currently be on ACD calls, in after-call-work, or in AUX work and, therefore, not available to take the call.

- check backup split xx priority xxxx if calls queued < xxxx

Check the specified backup split (for calls queued at the specified priority level or higher) and queue the call if the number of queued calls is less than (<) the number specified.

- check backup split xx priority xxxx if oldest call waiting < xxxx

Check the specified backup split (for calls queued at the specified priority level or higher) and queue the call if the oldest call in queue has waited less than the number of seconds specified.

Note

Calls will queue to a split even if it is unstaffed. If an unstaffed split that has no calls in queue is checked for oldest call wait time, the “check backup split” command will always succeed and queue calls to the split, no matter what wait time is specified.

Whenever a “check backup split” command checks for number of queued calls or oldest call wait time, the priority level specified in the command serves two purposes. It is used to check the status of the backup split and, if the specified condition is met, to queue calls to the backup split. When checking the status of the backup split, only those calls queued at the specified priority level or higher are considered.

The “Go To Step” Command

This command allows conditional or unconditional branching to a later or an earlier vector step. The conditions for branching are:

- Time of day and day of week
- Number of staffed agents
- Number of available agents
- Number of queued calls
- Amount of time the oldest call in queue has waited.

When a “go to step” command contains one of the conditions listed above, vector processing tests for that condition. If the test succeeds, vector processing continues at the step specified in the command. Calls remain in queue or continue to receive the treatment that was established before the “go to step” command. If the test fails, vector processing continues with the next step in the vector (branching does not occur).

The “go to step” command has the following format:

- go to step **xx** if unconditionally
Vector processing always branches to the specified step in the vector. Unconditional branching is often used to create a loop by branching to an earlier step in the vector. One example of this type of loop is a delay announcement that repeats. Processing continues until the call is answered, the caller abandons, or the “go to step” command is processed 1000 times.
- go to step **xx** if available agents in split **xx** is $\leq$ (or $>$) **xxxx**
Vector processing branches to the specified step if the number of available agents in the specified split is less than (or greater than) the number specified.
- go to step **xx** if staffed agents in split **xx** is $\leq$ (or $>$) **xxxx**
Vector processing branches to the specified step if the number of agents logged into the specified split is less than (or greater than) the number specified. This command is often placed before a “queue to main split” command to test whether a split is staffed or not before queuing calls to the split.

- go to step **xx** if calls in split **xx** is $\leq$ (or $>$) **xxxx** priority **xxxx**

Vector processing branches to the specified step if the number of calls queued to the specified split (at the specified priority level or higher) is less than (or greater than) the number specified.

- go to step **xx** if oldest call waiting in split **xx** is $\leq$ (or $>$) **xxxx** priority **xxxx**

Vector processing branches to the specified step if the time (in seconds) that the oldest call has waited in the specified split queue (at the specified priority level or higher) is less than (or greater than) the time specified.

Note

A “go to step” command that tests for number of queued calls or oldest call wait time only considers calls queued at the specified priority level or higher. If calls are queued at low and higher priority levels, a “go to step” command should specify low priority to insure that all calls in the specified queue are considered.

- go to step **xx** if time of day is **xxx xx:xx xx** to **xxx xx:xx xx**

Vector processing branches to the specified step if the test for time of day and day of week succeeds. This command is often used to provide alternate call treatment when an ACD split (or other answering destination) is unstaffed. Instead of specifying a range of days in the week, you may enter **all** in the blanks. For example, you may want the “go to step” command to branch to the alternate call treatment everyday after 5:00 PM.

Note

The time may be specified as am/pm or in 24-hour notation (also known as “military” time). The equivalent of 4:30 AM in 24-hour notation is 04:30. The equivalent of 4:30 PM in 24-hour notation is 16:30.

The “Go To Vector” Command

The “go to vector” command is available beginning with DEFINITY Generic 2.2. This command allows conditional or unconditional branching to another vector. Vector processing continues at Step 1 of the specified vector. The conditions for branching are:

- Time of day and day of week
- Number of staffed agents

- Number of available agents
- Number of queued calls
- Amount of time the oldest call in queue has waited.

When a “go to vector” command contains one of the conditions listed above, vector processing tests for that condition. If the test succeeds, vector processing continues at the vector specified in the command. Calls remain in queue or continue to receive the treatment that was established before the “go to vector” command, except backup-split scanning. Backup-split scanning (checking a backup split every two seconds based on the condition specified in the command) stops when a “go to vector” command is processed. If the test fails, vector processing continues with the next step in the vector (branching does not occur).

For all conditions except time of day and day of week, if the call is not queued, and no split is specified, the test for the condition fails and vector processing continues with the next step in the vector.

The “go to vector” command has the following format:

- go to vector xx if unconditionally
Vector processing always branches to the specified vector.
- go to vector xx if available agents in split xx is ≤ (or >) xxxx
Vector processing branches to the specified vector if the number of available agents in the specified split is less than (or greater than) the number specified.
- go to vector xx if staffed agents in split xx is ≤ (or >) xxxx
Vector processing branches to the specified vector if the number of agents logged into the specified split is less than (or greater than) the number specified.
- go to vector xx if calls queued in split xx is ≤ (or >) xxxx priority xxxx
Vector processing branches to the specified vector if the number of calls queued to the specified split (at the specified priority level or higher) is less than (or greater than) the number specified.
- go to vector xx if oldest call waiting in n split xx is ≤ (or >) xxxx priority xxxx
Vector processing branches to the specified vector if the time (in seconds) that the oldest call has waited in the specified split queue (at the specified priority level or higher) is less than (or greater than) the time specified.

Note

A “go to vector” command that tests for number of queued calls or oldest call wait time only considers calls queued at the specified priority level or higher. If calls are queued at low and higher priority levels, a “go to vector” command should specify low priority to insure that all calls in the specified queue are considered.

- go to vector xx if time of day is xxx xx:xx xx to xxx xx:xx xx

Vector processing branches to the specified vector if the test for time of day and day of week succeeds. This command is often used to provide alternate call treatment when an ACD split (or other answering destination) is unstaffed. Instead of specifying a range of days in the week, you may enter **all** in the blanks. For example, you may want the “go to vector” command to branch to the alternate call treatment everyday after 5:00 PM.

Note

The time may be specified as am/pm or in 24-hour notation (also known as “military” time). The equivalent of 4:30 AM in 24-hour notation is 04:30. The equivalent of 4:30 PM in 24-hour notation is 16:30.

The “Stop” Command

This command stops processing of subsequent vector steps. However, any previously established call treatment continues. That is, calls queued to a split remain in queue, backup-split checking continues, retrying of “route to number” destinations continues, and caller feedback specified by a “wait” command continues.

A typical use of the “stop” command is to separate a vector step that should only be reached by way of a “go to step” command from the rest of the vector. See Vector 4 in the *Sample Vectors* section of this appendix.

All CMS vector tables stop receiving data when a “stop” command is processed. However, split and VDN tables continue to receive data. Therefore, the call processing time shown in the vector reports can differ from the processing time in the VDN reports. Also, the number of answered and abandoned calls can differ in the vector and VDN reports. Therefore, a wait command followed by a stop command should always specify a wait time of 998 seconds to ensure consistency of information on VDN, split and vector reports.

The “Busy” Command

This command sends a busy signal and ends vector processing. The PBX does not send answer supervision when this command is processed. For DID-trunk calls, the busy signal is sent whether answer

supervision has been sent or not. For auto-in trunk calls, if answer supervision has not been sent (by a previous vector command), the CO ignores the busy signal and continues giving the caller CO ringback. If the busy signal continues for 20 seconds, the PBX disconnects the call and, for non-ISDN calls, sends answer supervision.

The “Disconnect” Command

This command disconnects the call the vector is processing. Any call treatment previously established by the vector ends and the call is removed from vector processing and from the PBX. As an option, this command can specify an announcement that plays before a call is disconnected.

Disconnect With Announcement

If a call is connected to an agent's terminal while the announcement is playing, the announcement stops and the caller hears ringing. Also, because vector processing stops when the call connects to the agent's terminal, the disconnect portion of the command is not processed.

If answer supervision has not already been sent, the PBX sends answer supervision before the announcement plays.

Disconnect Without Announcement

For incoming-trunk calls (except ISDN trunks), if answer supervision has not already been sent, the PBX sends answer supervision before disconnecting a call. For ISDN trunks, answer supervision is not sent.

The “Route To Number” Command

This command routes the call to the specified destination. The “route to number” command has the following format:

route to number xxx

The destination specified in the “route to number” command (the x's in the command shown above) is an Abbreviated Dial (AD) group list item. For System 85 and Generic 2.1, the range of list item numbers for the Call Vectoring group list is 1 through 95. Beginning with Generic 2.2, the range is: 1 through 95, 101 through 195, 201 through 295, 301 through 395, 401 through 495.

Because an AD group list item contains the destination number, the number can be changed from a voice terminal if, when the group list is administered, that voice terminal's extension is assigned as the “controlling extension.”

Vector processing skips a “route to number” command and continues with the next step in the vector if:

- The list item specified in the “route to number” command is empty (does not contain a destination number).

- The destination is a local extension and no call appearance is available.
- The destination is a VDN and the call would route to the same vector, or the VDN is not assigned to a vector.
- The destination is outside the PBX and a trunk or Originating Register is not available, or the destination is unknown.

If the “route to number” command is the last step in the vector or is followed by a “stop” step, vector processing treats the step as a “stop” step (for a VDN) or retries the step every 2 seconds (for a local extension or an outside destination).

If a call is routed to a destination other than another VDN, CMS stops tracking that call when it connects to the number.

If a call is queued to a split when a “route to number” command is processed, the call is removed from the split queue if the routing succeeds.

How Vectors Are Processed

The Call Vectoring software processes the commands in a vector (administered as vector steps) sequentially. That is, Step 1 is processed first, Step 2 second, and so forth. The “go to step” and “go to vector” commands are exceptions. These commands provide conditional or unconditional branching, which directs vector processing to a step other than the next sequential step.

With conditional branching, the command specifies a condition that must be met before the command is executed. If the specified condition is not met, vector processing skips the command and processes the next vector step (branching does not occur). If the specified condition is met, vector processing branches to the step (in the same vector) or vector specified in the command. With unconditional branching, the command does not specify a condition and, therefore, branching always occurs.

The “go to vector” command can be used to chain two or more vectors together. This allows you to create a chain of vectors that has well over the 15-step limit for a single vector.

Vector processing stops automatically after the last step in a vector is processed.

Sample Vectors

This section shows examples of vectors that can be administered using the Vector Contents window and describes how the vectors work. See Chapter 9 for information about how to use the Vector Contents window to add a new vector or to copy, modify, or delete the contents of an existing vector.

Vector 1

The simplest vectors have only one step. Figure C-3 shows a vector that plays an announcement and then disconnects calls.

09/30/93 3:30 PM

Call Management System

Window: 1 of 1 ^

ACD Administration: Vector Contents

acd1

ACD: _____

Vector: _____

Step

Actions and Conditions

1 disconnect after announcement 42

2

Add step

Del step

Find one

Modify

Figure C-3: Vector 1—Information Announcement

Vector 2

Figure C-4 shows a simple vector that queues calls to an ACD split and plays an announcement if a call waits in queue for more than 12 seconds.

09/30/93 3:30 PM

Call Management System

Window: 1 of 1 ^

ACD Administration: Vector Contents

acd1

ACD: _____
Vector: _____

Add step
Del step
Find one
Modify

Step	Actions and Conditions
1	queue to main split 3 priority low
2	wait time 12 seconds hearing ringback
3	announcement 54
4	

Figure C-4: Vector 2—Queue to Main Split With Announcement

Step 1 queues calls to split 3 at low priority. Step 2 delays vector processing for 12 seconds while callers hear ringing. Step 2 serves two purposes. First, it provides the same feedback (ringing) for every caller. Without this step, if a call has to wait in queue, different callers hear different feedback (depending on whether the call is internal or external and the type of trunk on which the call arrives). Second, the 12 second wait interval gives agents in split 3 time to become available to answer a call before the announcement plays.

If a call is still in queue after 12 seconds, Step 3 plays an announcement, which explains that all agents are busy and asks the caller to keep waiting.

Vector 3

ACD splits are staffed to handle the average or typical amount of call traffic expected for a particular period of time. During periods of unexpectedly heavy call traffic, callers may have to wait too long for service, causing an increase in abandoned calls. One way to overcome this problem is to check the status of one or more backup splits when callers have to wait too long for service from the main split.

Figure C-5 shows a vector that checks a backup split if a call waits in the main split's queue for approximately 30 seconds (the sum of the wait time specified in Steps 2 and 4 and the time it takes to play announcement 54).

The screenshot shows a window titled "Call Management System" with a timestamp "09/30/93 3:30 PM" and "Window: 1 of 1". The main content area is titled "ACD Administration: Vector Contents" and shows the configuration for "acd1".

ACD: _____
 Vector: _____

Step	Actions and Conditions
1	queue to main split 3 priority low
2	wait time 12 seconds hearing ringback
3	announcement 54
4	wait time 10 seconds hearing music
5	check backup split 5 priority low if available agents > 0
6	

On the right side of the table, there is a vertical menu with the following options: Add step, Del step, Find one, and Modify.

Figure C-5: Vector 3—Check Backup Split

Vector 3 adds a "wait with music" command and a "check backup split" command to Vector 2 (Steps 1 through 3). Step 4 delays vector processing for ten seconds while callers hear music. Music is more appropriate than ringback for this "wait" command because ringing may confuse a caller after hearing an announcement.

If a call is still unanswered after ten seconds, Step 5 checks backup split 5. If an agent in split 5 is available, the call is removed from split 3's queue (the main split) and queued to split 5 (the backup split) at low priority. Because calls are only queued to split 5 if an agent is available, a call that reaches this vector step is immediately distributed to an agent.

Vector 4

Vectors 1 through 3 are examples of vectors that are processed sequentially. The steps in these vectors are processed in the same order as they appear in the vectors. Figure C-6 shows a vector that has a conditional branch.

09/30/93 3:30 PM
Call Management System
Window: 1 of 1 ^

ACD Administration: Vector Contents
acd1

ACD: _____
Vector: _____

Step	Actions and Conditions	Add step Del step Find one Modify
1	go to step 8 if time of day is all 17:00 __ to all 08:00 __	
2	queue to main split 3 priority low	
3	wait time 12 seconds hearing ringback	
4	announcement 54	
5	wait time 10 seconds hearing music	
6	check backup split 5 priority low if available agents > 0	
7	stop	
8	disconnect after announcement 23	
9		

Figure C-6: Vector 4—Conditional Branching

Vector 4 adds a “go to step” command (Step 1), a “stop” command (Step 7), and a “disconnect after announcement” command (Step 8) to Vector 3 (Steps 2 through 6). Step 1 tests for time of day and day of week.

Between 08:00 (8:00 AM) and 17:00 (5:00 PM) every day, the test fails and Steps 2 through 6, which provide the normal business-hours call treatment, are processed. Between 17:00 and 08:00 every day, the test succeeds and vector processing branches to Step 8. Step 8 plays an announcement and disconnects the call.

Step 7, the “stop” command, separates business-hours treatment from after-hours treatment. Without this step, although unlikely, calls could reach Step 8 during business hours. With Step 7, calls can only reach Step 8 by way of the “go to step” command (Step 1).

Vector 5

Figure C-7 shows a vector with a repeating delay announcement.

The screenshot displays the 'ACD Administration: Vector Contents' window for 'acd1'. It includes fields for 'ACD:' and 'Vector:', and a table with columns 'Step' and 'Actions and Conditions'. A menu on the right offers 'Add step', 'Del step', 'Find one', and 'Modify'. The vector steps are as follows:

Step	Actions and Conditions
1	queue to main split 3 priority low
2	wait time 12 seconds hearing ringback
3	announcement 54
4	wait time 20 seconds hearing music
5	go to step 3 if unconditionally
6	

Figure C-7: Vector 5—Repeating Delay Announcement

Vector 5 adds a “wait with music” command (Step 4) and an unconditional “go to step” command (Step 5) to Vector 2. Step 4 delays vector processing for 20 seconds while callers hear music. Step 5 causes vector processing to unconditionally branch to Step 3, creating a loop that repeats Steps 3 and 4 until the call is answered or the caller abandons the call.

The ASAI Gateway Interface Feature

The Adjunct/Switch Application Interface (ASAI) Gateway Interface feature (called the Integrated Telemarketing Gateway Interface for DEFINITY Generic 2.1) is designed for large telemarketing or call-center operations that require optimum efficiency in managing high volumes of incoming and outgoing calls as well as call transfers and conferences. The ASAI Gateway Interface is a hardware and software package that provides a two-way gateway between the PBX and call-center software running on a host computer. This gateway enables the call-center software to monitor and control certain incoming, outgoing, and internal calls. The gateway software runs on an AT&T 3B2 computer.

A special ISDN—PRI link is required between the PBX and the 3B2. The PBX and 3B2 communicate by exchanging messages over the D (signaling) channel of the ISDN—PRI link. The gateway software acts as an interpreter between the PBX and the host computer; It translates

messages from the PBX into a form the host computer can understand and vice versa.

Figure C-8 shows an example of an ASAI Gateway Interface configuration. The ASAI Gateway Interface is called a two-way gateway because information travels through the gateway in two directions: from the PBX to the call-center software and from the call-center software to the PBX.

Call Management Services

The ASAI Gateway Interface provides incoming call management, outgoing call management, and transfer/conference management.

Incoming Call Management

Incoming call management enables the call-center software to monitor and control certain incoming calls. The PBX sends call notification and other information about a call through the gateway to the call-center software.

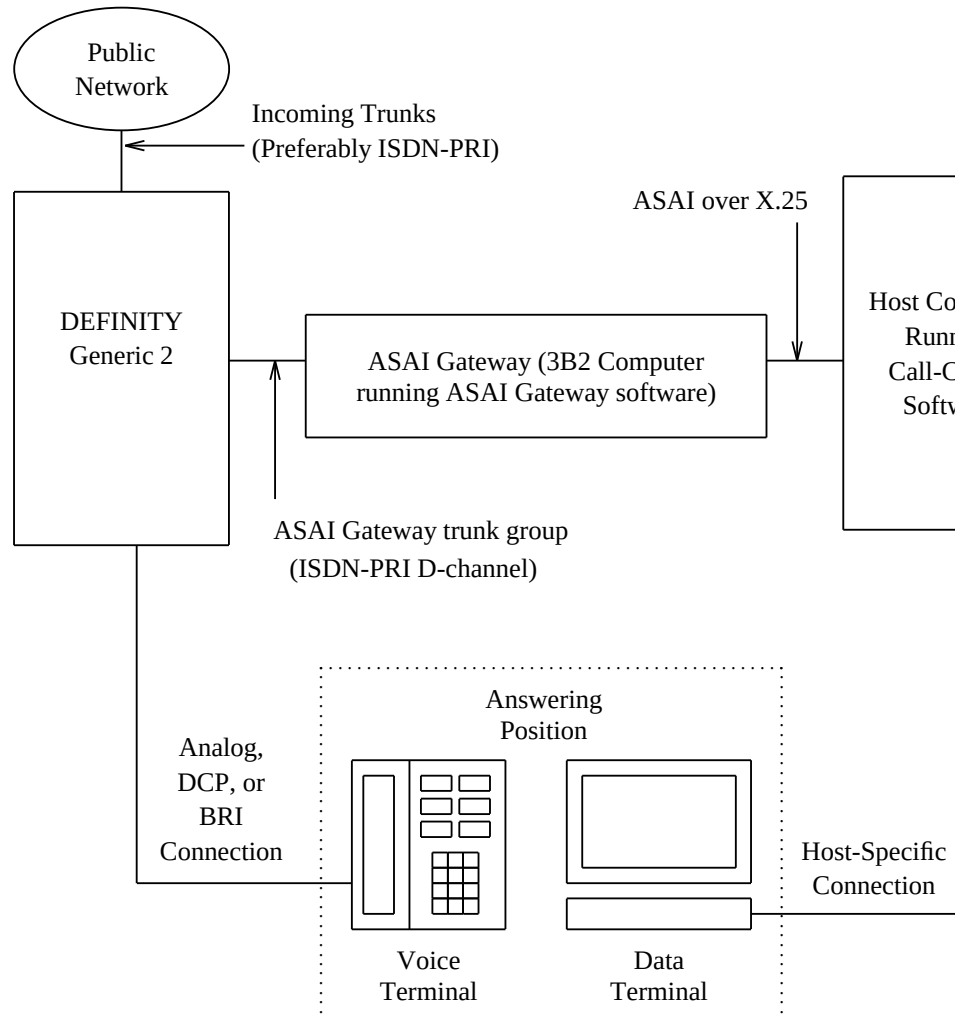


Figure C-8: ASAI Gateway Interface Configuration

Depending on the type of incoming trunks and the available network services, the PBX can receive Automatic Number Identification (ANI) and Dialed Number Identification Service (DNIS) from the public network and send it through the gateway to the call-center software. ANI is the calling party's 10-digit billing number. DNIS is the dialed number, typically the VDN associated with the call. To receive ANI and DNIS, the incoming trunks (from the AT&T network) must be ISDN—PRI. Furthermore, *Megacom* 800 service and INFO-2 service are required to receive ANI.

The call-center software uses this information to determine how to handle the call and to retrieve information from a customer database. For example, calls from foreign language-speaking customers can be sent to a multilingual agent or split. Then, the call-center software sends call-handling information through the gateway back to the switch.

The call-handling information specifies one of the following destinations for the incoming call:

- A VDN (Vector Directory Number). The vector associated with a VDN can be set up to process calls in many different ways, for example, calls can be queued to a local ACD split or routed to an internal or external destination.
- A specific ACD agent. Even though this type of call does not go through the ACD software, the call can be tagged as an ACD call and tracked by CMS.
- An internal extension number.
- A private-network number.
- A public-network number.

Information retrieved from a customer database, such as a customer account or catalog order form, can be delivered to the same destination as the incoming call. The database information is sent to the agent's data terminal and the incoming call is sent to the agent's voice terminal. The call-center software can coordinate the timing of these events so that the database information arrives at the same time as (or before) the voice call.

For incoming calls, the PBX uses a vector to send call information through the gateway to the call-center software and, depending on the call-handling information received from the call-center software, may use another vector to deliver the incoming call to an answering position.

Sample ASAI Gateway Interface Vector

Figure C-9 shows an example of a vector that routes incoming call information to the gateway. In general, this vector should be as short as possible and commands that return answer supervision (for example, “wait with music” and “announcement” commands) should be avoided.

Step	Actions and Conditions
1	route to number 20
2	route to number 25
3	disconnect after announcement 23
4	

Figure C-9: ASAI Gateway Interface Vector

Step 1 routes incoming call information to the gateway. (The number 20 is the Abbreviated Dialing list item that stores the digits used to access a trunk to the gateway.) If Step 1 fails, vector processing moves on to Step 2.

Step 2 routes the incoming call to a VDN (stored in AD list item 25) associated with a vector that queues calls to a local ACD split or routes calls to an internal or external destination. Steps 2 provides alternate call treatment if the gateway or the gateway trunk group cannot be accessed. The vector associated with Step 2 should be set up to handle any call scenario. However, if Step 2 fails, Step 3 plays an announcement and disconnects the call.

Outgoing Call Management

Outgoing call management enables the call-center software to monitor and control certain outgoing calls. Instructions for placing a call are sent from the call-center software through the gateway to the PBX. Information about the call's progress is sent from the PBX through the gateway to the call-center software. Outgoing calls can be initiated by an agent or by the call-center software. For all types of outgoing calls, the call-center software can deliver database (called party) information to the agent who handles the call and the PBX can identify the agent to the call-center software.

Transfer/Conference Management

Transfer/conference management enables the call-center software to monitor an incoming or outgoing call and, if requested, transfer the call and the associated database information (the information displayed on an agent's data-terminal screen) from one answering position to another. An answering position can also conference with another answering position with or without caller (or called party) involvement.

The Look-Ahead Interflow Feature

The Look-Ahead Interflow feature enables ACD calls to be intelligently interflowed (redirected) from one PBX to another. The key word here is intelligently. Two PBXs that have the Call Vectoring and ISDN—PRI features (in addition to Look-Ahead Interflow) can “talk” to each other and determine if conditions are appropriate for interflowing a call. If conditions at the PBX that would receive the call are not acceptable, the interflow request can be rejected.

The interflow capability has been available for several years, but before Look-Ahead Interflow was introduced, the decision to interflow a call could only be based on conditions at the sending PBX (the PBX the call is currently at). This could result in a call interflowing from a busy split to an even busier split.

With Look-Ahead Interflow, the decision to interflow a call (at the sending PBX) and to accept or reject the call (at the receiving PBX) can be based on any combination of the following conditions:

- Time of day
- Day of week
- Number of calls in queue
- Time the oldest call in queue has waited
- Number of staffed agents
- Number of available agents.

One or more conditional “go to step” commands in the sending vector determine if conditions are appropriate for interflowing a call. If conditions are appropriate, the sending PBX queries the receiving PBX to determine if it can accept the call.

As with the sending vector, the receiving vector contains one or more conditional “go to step” commands that determine if conditions are appropriate for accepting a call. If conditions are appropriate, the receiving vector accepts the interflow request and the sending vector routes the call to the receiving PBX. If conditions are not appropriate, the receiving vector rejects the interflow request and processing continues at the sending vector.

The sending vector uses a “route to number” command to interflow calls to the receiving PBX. The destination of the “route to number” command is the private-network address of the receiving PBX.

To accommodate the rejection of an interflow request, the sending vector should provide alternate call treatment such as an information announcement or a message-taking service.

Sample Look-Ahead Interflow Vectors

The following example describes how a company might use the Look-Ahead Interflow feature to balance the call load between two offices.

Sending Vector

Figure C-10 shows a Look-Ahead Interflow sending vector.

Step	Actions and Conditions
1	wait time 0 seconds hearing ringback
2	queue to main split 4 priority low
3	go to step 5 if oldest call waiting in split 4 < 30
4	route to number 10
5	wait time 10 seconds hearing ringback
6	announcement 54
7	wait time 998 seconds hearing music
8	

Figure C-10: Look-Ahead Interflow Sending Vector

Steps 1 and 2 provide caller feedback (ringing) and queue calls to split 4 at low priority. The 0-second wait interval is available beginning with Generic 2.2.

Step 3 tests split 4 and branches to Step 5 if the oldest call has waited less than 30 seconds. Steps 5 through 7 provide a 10-second delay, an announcement, and music (the normal processing for calls waiting in split 4's queue).

If the oldest call in split 4's queue has waited 30 seconds or more (the condition specified in Step 3 is not met), Step 4 queries the receiving

vector to determine if it can accept the call and, if accepted, interflows the call. The destination specified in the “route to number” command (10) is the Abbreviated Dialing list item that contains the private-network address of the receiving PBX.

Receiving Vector

Figure C-11 shows a Look-Ahead Interflow receiving vector.

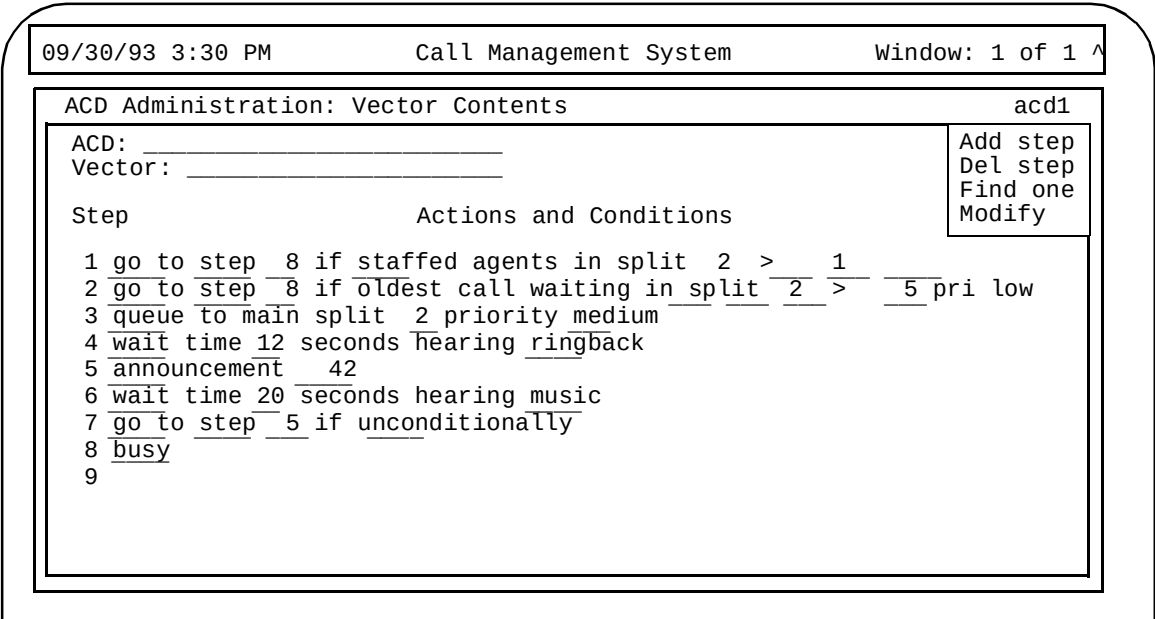


Figure C-11: Look-Ahead Interflow Receiving Vector

Steps 1 and 2 test split 2 and branch to Step 8 if the specified conditions are met. That is, interflow requests are rejected (Step 8) if split 2 is unstaffed or if the oldest call in queue has waited more than five seconds. If the conditions specified in Steps 1 and 2 are not met, Step 3 accepts the interflowed call and queues it to split 2 at medium priority.

Step 4 delays vector processing for 12 seconds while callers hear ringing. This gives the agents in split 2 time to answer the call before the delay announcement plays (Step 5). Steps 5 through 7 provide music and a repeating delay announcement.

Step 8 rejects the interflow request. Vector processing branches to this step only if split 2 is unstaffed or the oldest call in queue has waited more than 5 seconds (the conditions specified in Steps 1 and 2).

CMS Reporting for the Look-Ahead Interflow Feature

CMS collects and reports information about agents, splits, VDNs, vectors, and trunks. The effect the Look-Ahead Interflow feature has on this information is described in Chapter 4 and Chapter 5 and in Appendix A of this manual. The CMS database items **LOOKATTEMPTS** and **LOOKFLOWCALLS** collect information about the Look-Ahead Interflow feature.

LOOKATTEMPTS collects information about Look-Ahead Interflow attempts. That is, interflow requests that are accepted by the receiving PBX, interflow requests that are rejected by the receiving PBX, and unsuccessful routing attempts (a “route to number” command that fails due to resource failure, for example, no trunk available).

LOOKFLOWCALLS collects information about Look-Ahead Interflow calls that route successfully.

What a Switch Does

A **switch** is an electronic device that processes dialed phone numbers and connects these calls to the proper destinations. The telephone company switch in your local area is called a **Central Office (CO)**. A switch at a private company or organization also processes internal and external phone calls. Throughout this appendix, the term switch is used to refer to a company or organization's switch. This appendix describes basic ACD capabilities for the following AT&T switches:

- DEFINITY Communications System Generic 3
- DEFINITY Communications System Generic 1
- DEFINITY Communications System Generic 2
- System 85 R2V4 (Release 2 Version 4).

Trunks, Trunk Groups, and Extensions

Incoming calls to a company first pass through the CO and then pass to the company switch over **trunks** (telephone lines that carry calls between two switches, between a CO and a switch, or between a CO and a phone)*.

The CO receives dialed digits from the caller, processes the digits, and seizes a trunk that is assigned those digits. After the CO seizes a trunk, it sends a continuing transmission to the destination phone or switch, and no other calls can be sent over that trunk until the current call disconnects.

Since a trunk can carry only one call at a time, **trunk groups** are usually created for incoming calls to a switch. A trunk group is a group of trunks that is assigned to the same digits. With a trunk group, the CO receives the digits of a dialed phone number and checks the trunk group assigned to that number to see if any of the trunks are available. The CO then seizes an available trunk. As many simultaneous calls can be made over a trunk group as there are trunks in that trunk group. A trunk group, therefore, can carry multiple calls for the same phone number. When a trunk group carries incoming calls (that is, calls made outside the company's switch location) to the switch, the switch then connects the calls to their proper destinations within the company.

*Trunks can carry incoming calls, outgoing calls, or both. However, the Automatic Call Distribution (ACD) feature and the Call Management System are primarily concerned with incoming calls.

The switches previously listed, in addition to connecting outside calls to the proper destinations, are also like private COs for company employees. That is, employee phones are connected to a switch by telephone lines called **extensions**. Extensions are then assigned 3- 4- or 5-digit numbers within the switch software, and these numbers become the employee phone numbers for internal (intra-company) calls.

Direct Inward Dial Processing

Extension numbers may also serve as the final digits of employee phone numbers for incoming calls. That is, the CO may assign only a 2- 3- or 4-digit prefix to a trunk group. Then, when a 7-digit employee phone number is dialed, the call is processed as follows:

10. The CO processes the prefix of the dialed number, then seizes a trunk in the trunk group that is assigned that prefix.
11. The CO passes the remaining digits of the dialed number to the switch.
12. The switch recognizes the remaining digits as an employee extension number and sends the call to that extension.

This kind of processing is called **Direct Inward Dialing (DID)**. With DID processing, incoming trunks do not connect the CO directly to an employee's phone; instead, the incoming trunks are pooled by the switch, and this pool of trunks is then shared by employee phones.

As an example of DID processing, say that Employee A has the external phone number 538-1000 and the extension number 1000. Employee B has the phone number 538-9999 and the extension number 9999. The steps in completing calls to Employees A and B might be as follows:

1. Employee A's client dials 538-1000.
2. The CO serving Employee A's company identifies the digits 538- (the common prefix for all phone numbers to that company) and seizes Trunk 1 in the trunk group assigned the digits 538.
3. The CO passes the digits 1000 to the switch at Employee A's company.
4. The switch identifies the digits 1000 as Employee A's extension number and sends the call to Employee A's extension.

5. Employee A's phone rings and Employee A answers.
6. Meanwhile, Employee B's client dials 538-9999.
7. The CO identifies the digits 538- and seizes Trunk 2 in the trunk group assigned the digits 538.
8. The CO passes the digits 9999 to the switch.
9. The switch identifies the digits 9999 as Employee B's extension number and sends the call to Employee B's extension.
10. Employee B's phone rings and Employee B answers.

While Employees A and B continue to talk, Trunks 1 and 2 in the 538-trunk group will not accept any more calls, so another call beginning with the digits 538 will seize yet another trunk in the trunk group.

Automatic-In Processing

Besides DID, **automatic-in** processing can also be used. With automatic-in processing, the CO processes all of the digits of an incoming call. The CO then seizes a trunk from the trunk group, but, since processing is complete, the call connects directly to a destination identified in the switch software. That destination can be a phone, a **queue** (in which callers wait to be answered in the order in which their call was received), or special treatment like an announcement.

The Attendant

Incoming calls can also go to a switch **attendant**. A switch attendant is a person who manually routes calls to their proper destinations using an attendant console (which is like a call switchboard). Normally an attendant serves as an internal operator who transfers calls to the proper extensions. Often, a switch will have more than one attendant, and all of the switch's attendants will answer calls directed to the **attendant queue**, which holds calls until an attendant is available. The attendant queue receives internal calls made from employee extensions, and also receives incoming calls through DID processing and automatic-in processing. Attendant call handling varies, depending on the company's needs. However, if the attendant has an automatic-in number, it will normally be the number published in the phone book, and the DID number will most likely be used by off-site employees who only know the attendant's extension number.

Centralized Attendant Service (CAS) is a switch feature that enables attendants to be consolidated at one private-network location. The

attended location is called the CAS main and each unattended location is called a CAS branch. At branch locations, calls requiring attendant services route by way of Release Link Trunks to the main location.

Figure D-1 illustrates a switch that has an attendant and extensions, and uses both DID and automatic-in call processing.

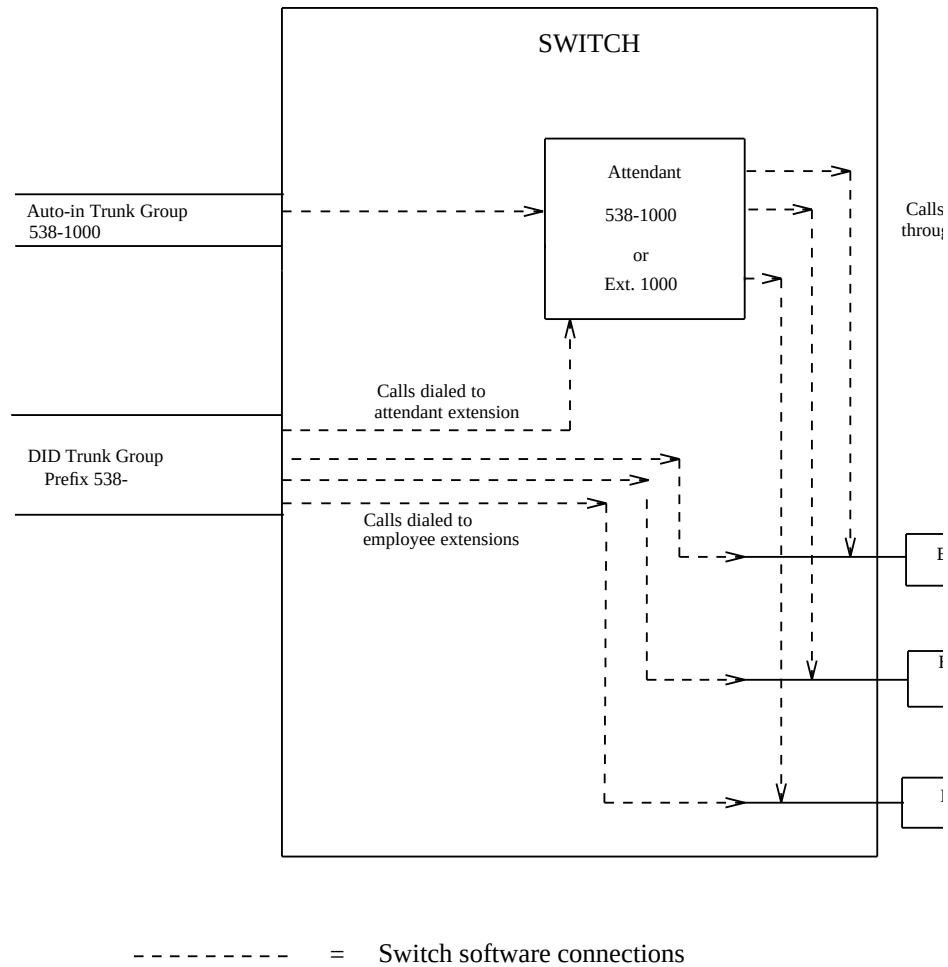


Figure D-1: Typical Call Processing on a Switch — Without an ACD

What the ACD Does

If the company operates a high-volume call-answering center (for example, a catalogue sales center, a reservations center, or a customer service center), certain trunk groups carry large numbers of calls with one or a few specific purposes. A trunk group might carry calls for a 1-800 nationwide reservations number, a local customer service number, or a regional sales number. A group of extensions called a **split** (also known as a hunt group) can be established to answer calls that arrive on these

high-call-volume trunk groups. An employee who answers split calls is called an **agent**.

Automatic Call Distribution (ACD) is a switch feature that automatically distributes incoming calls to voice terminals in a split. Table D-1 shows maximum split and agent capacities for various AT&T switches.

Table D-1: Maximum Split and Agent Capacities

	Switch							
Maximum Capacity	G1.1	G3	G3i	G3r	G3V2	S85 R3V4	G2.1	G2.2
ACD Splits	99	32	99	255	255	60	60	60
Agents per System	500	150	500	3000	5200	1024	1024	2048
Agents per Split	200	150	200	999	5200	1024	1024	1024

Maintaining trunks from the CO to the switch and hiring agents to answer calls costs money. However, if customers who call to purchase goods or services have difficulty reaching agents and, therefore, stop trying to get through, the call center will lose revenue. Call center management needs, therefore, to determine how many trunks and agents will minimize costs and maximize the ability of customers to get through. Management can then set up and maintain the ACD accordingly.

Table D-2 shows the documents that describe the ACD feature for various AT&T switches and the tools that are used to administer an ACD (that is, add, change, or remove splits, trunk groups, agents, announcements, etc.).

Table D-2: Switch Documentation and Administration Tools

Switch	Document	Administration Tool
System 85 R2V4	AT&T 555-104-301, <i>DEFINITY Communications System Generic 2 and System 85 Feature Descriptions</i>	Maintenance and Administration Panel (MAAP), System Management Terminal (SMT), Visual Maintenance and Administration Panel (VMAAP), Centralized System Management (CSM), DEFINITY Manager II and IV

Table D-2: Switch Documentation and Administration Tools

Switch	Document	Administration Tool
Generic 2	AT&T 555-104-301, <i>DEFINITY Communications System Generic 2 and System 85 Feature Descriptions</i>	DEFINITY Manager II, III, and IV
Generic 1 and Generic 3	AT&T 555-200-201, <i>DEFINITY Communications System, Generic 1 and Generic 3 Feature Descriptions, Issue 2</i>	DEFINITY Manager I and IV

Note

Some ACD administration can be performed using the CMS.

Automatic-In Processing of ACD Calls

Through switch administration, each automatic-in trunk group is assigned to an ACD split. All calls that come in on an automatic-in trunk group are directed to the assigned split. Then the ACD software distributes the calls to the agent extensions assigned to the split.

For Generic 2/System 85, once trunk groups have been initially assigned to splits, CMS can be used to reassign trunk groups to different splits. (See Chapter 9, "ACD Administration".)

DID Processing of ACD Calls

For Generic 2/System 85, DID extensions can be assigned to a split. These extensions are called **associated extensions**. An associated extension is not an agent extension; it is, instead, a dummy extension in the switch software that sends internal calls and incoming DID calls (if the switch has DID trunk groups) to a split. ACD software distributes these calls to the agent extensions assigned to the split.

For Generic 3/Generic 1, one extension, called a hunt group extension, can be assigned to a split as a DID extension.

Note

For DID processing, trunk groups are not assigned to the split. The creation of associated extensions is sufficient to send calls arriving over DID trunk groups to the appropriate split.

Each split can receive incoming calls through DID processing, automatic-in processing, or both. Automatic-in trunk groups carry calls only to the split, whereas DID trunk groups carry calls to any extension identified in the switch software, not just a split. The mixture of ACD and non-ACD call traffic on a DID trunk group makes precise measurement of ACD call traffic extremely difficult. Call traffic on automatic-in trunk groups is much easier to monitor and control because all call traffic goes only to the assigned split. For these reasons, high-volume numbers (that is, published numbers and numbers advertised to customers) are usually automatic-in trunk group numbers. Associated extension numbers are usually used for internal calls and by off-site employees who know the extension number(s) and simply add the company DID prefix. Figure D-2 illustrates an example of call processing on a switch with an ACD.

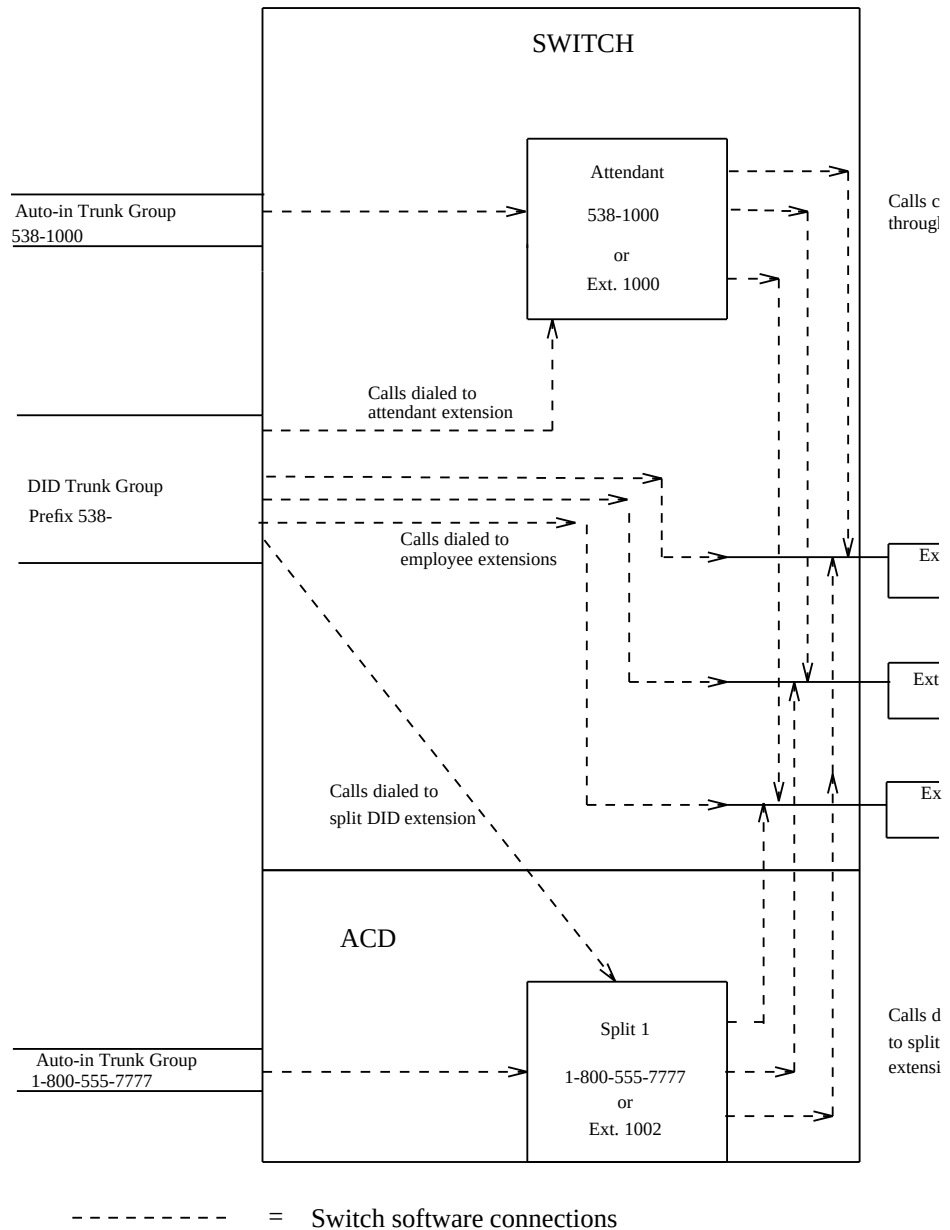


Figure D-2: Call Processing on a Switch With an ACD

Split Queues

When a call arrives at a split, the ACD software checks to see if an agent is available to handle the call. If an agent is not available (that is, all agents are busy), the call enters the split's queue.

Note

On Generic 2/System 85 every call enters the split's queue. However, if an agent is available, calls do not wait in queue. On Generic 3 calls queue only if there is room in the queue and no agents are available. If all agents are in AUX or unstaffed, calls do not queue. For a nonvectoring switch, if the queue is full, the call hears a busy tone or the call goes to coverage.

A **split queue** is a holding area for calls waiting to be answered in the order in which they were received. When a call is put in queue, the caller may hear one or two delay announcements, music, and/or silence, depending on the treatment assigned for the split. (Treatment of calls in queue is assigned through switch administration.) After a call reaches the head of the queue, it connects to the next available extension.

Note

For System 85 R2V4, Generic 2, and Generic 3 switches with the Call Vectoring feature, all call treatment including routing, queuing, announcements, and music is specified by call vectors.

For Generic 3, if the queue is full, vector processing continues with the next step.

Priority and Nonpriority Split Queues

In a non-vectoring switch, each split can have two queues: a **nonpriority queue** and a **priority queue**. A split always has a nonpriority queue, which collects the bulk of calls to a split. But a split can also have a priority queue, which collects high-priority calls. The ACD distributes all calls in the priority queue before it distributes any calls in the nonpriority queue. Therefore, the priority queue, if one exists, must be empty before the ACD will resume distributing calls in the nonpriority queue.

For Generic 2/System 85, automatic-in trunk groups and/or DID extensions are assigned to the appropriate queue (nonpriority or priority) at the same time they are assigned to the split. Also, for Generic 2/System 85, multiple DID extensions and automatic-in trunk groups can be assigned to the nonpriority queue, and multiple automatic-in trunk groups may be assigned to the priority queue. However, only one DID extension can be assigned to the priority queue.

Any calls made to a split using the priority DID extension number or the priority trunk group phone numbers will be placed in the priority queue if no agents are available. Calls using numbers of nonpriority DID extensions or trunk groups will be placed in the nonpriority queue if no agents are available.

For Generic 3/Generic 1, priority queuing may be assigned in a COR. A split may also be assigned **Priority Queuing on Intraflow**, which means that calls to that split, if rerouted to another local split, will enter the destination split's priority queue.

As an example of priority/nonpriority queuing to a split in Generic 2/System 85, say that an airlines reservations center uses Split 1 for the Western Region. Call processing to the split may be set up as follows:

- **Automatic-In Trunk Groups**

- Trunk group 24, with the number 1-800-538-1000, carries Split 1 calls that regular customers throughout the region make. Trunk group 24 is given nonpriority status.
- Trunk group 25, with the number 538-1001, carries Split 1 calls that customers within the local area code make. Trunk group 25 is given nonpriority status.
- Trunk group 26, with the number 538-1002, is a local number that travel agents use. Trunk group 26 is given priority status.

- **DID Extensions**

- DID extension number 1003 is used by airline employees who want to make reservations. They may use this number internally or they can add the prefix 538- when they dial externally. Extension 1003 is given nonpriority status.
- DID extension number 1004 is used only by airline executives to make reservations. Extension 1004 is assigned priority status.

Note

The first DID (associated) extension that is assigned to a nonpriority queue is called the Queue Directory Number (QDN). The DID extension that is assigned to a priority queue is called the Priority Queue Directory Number (PQDN).

Split Queue Size for Generic 2/ System 85

The number of calls that can queue to a split is limited only by the switch's total number of physical trunks and software connections. Call redirection can be established through switch administration or from CMS using the Split Parameters window (see Chapter 9, "ACD Administration").

Note

If the switch and CMS have the Call Vectoring feature, the number of calls that can queue to a split can be limited through vector administration using either a switch administration tool or CMS.

Split Queue Size for Generic 3/ Generic 1

Queue size is established through switch administration. Calls arriving after the administered queue limit is reached receive a busy signal or go to the split's busy coverage if administered. However, through switch administration, calls can be redirected to a local or remote destination (see Intraflow and Interflow in this appendix).

Announcements for Calls in a Split Queue

When a call enters a split queue, the caller hears ringing until the call is connected to an agent or an announcement. Depending on the treatment assigned to a split, the caller may hear one or two announcements, music, and/or silence. An **announcement** is a recorded message that provides information such as the destination the call has reached or a company's business hours, or tries to persuade the caller to stay on the line.

Announcements are recorded on an announcement device connected to the switch. Announcements and **delay time** are assigned to splits through switch administration. Delay time is the amount of time a call must wait in a split queue before receiving an announcement. If a call connects to an agent before the delay time passes, the caller does not hear the announcement. If a call connects to an agent while an announcement is playing, the announcement stops. After the first announcement plays, the caller hears music or silence until the second announcement plays or the call connects to an agent. The type of caller feedback (music or silence) is also assigned to a split through switch administration.

Note

For Generic 2, System 85 R2V4, and Generic 3 with the Call Vectoring feature, announcement capabilities are more flexible than those described in this section. See Appendix B for G3 vectoring. See Appendix C for G2, System 85 vectoring.

The Generic 1 and Generic 3 switches support both internal and external announcement devices.

Generic 2/ System 85

The announcement delay time can be from 2 to 30 seconds. For System 85 and Generic 2.1, as many as 60 unique first announcements can be created. As many as 255 announcements can be created for a Generic 2.2. Each split may have its own unique first announcement; however, the second announcement must be the same for all splits.

Announcement Queuing

Calls are always connected to the beginning of an announcement. If the announcement is not available after the announcement delay time expires, calls enter an announcement queue. When the announcement starts, all calls in the announcement queue receive the announcement simultaneously. The announcement queue can hold up to 255 calls.

Generic 3/ Generic 1

The announcement delay time can be from 0 to 99 seconds. A 0-second delay time causes a **forced announcement**, which means callers always hear the entire first announcement, whether an agent is available or not. A second announcement can be administered to recur each time the announcement delay time expires.

Announcement Queuing

External and internal announcement units are available. Queuing for external announcements works like Generic 2/System 85 announcement queuing except the announcement queue can hold up to 150 calls and only five calls can simultaneously receive an announcement.

Queuing for internal announcements is quite different. Internal announcements are delivered to a 16-channel announcement board, and a call receives an announcement only when it connects to one of the 16 announcement channels. Therefore, all calls wait in a single queue to access a channel on the announcement board regardless of the split announcement they are waiting to receive. The queue can hold up to 50

calls and as many as five calls can connect to a channel simultaneously. (For Generic 3r - the queue can hold up to 300 calls and as many as 255 calls can connect to a channel simultaneously.) The same announcement can be delivered over multiple channels. This means that if all 50 calls in queue are waiting for the same announcement, that announcement could be played simultaneously to all 50 calls. Announcements are delivered on demand, so a call that connects to a channel receives an announcement immediately and does not have to wait for the announcement to finish and start again.

As an example of internal announcement queuing, say the calls identified by asterisks (*) in the following list are waiting for the first Split 1 announcement, and Port 3 becomes available:

Queued Calls	Announcement Channels
1. A*	Busy—Channel 1
2. B	Busy—Channel 2
3. C*	Busy—Channel 3
4. D	Busy—Channel 4
5. E	Busy—Channel 5
6. F*	Busy—Channel 6
7. G	Busy—Channel 7
8. H	Busy—Channel 8
9. I*	Busy—Channel 9
10.IJ*	Busy—Channel 10
11.IK	Busy—Channel 11
	Busy—Channel 12
	Busy—Channel 13
	Busy—Channel 14
	Busy—Channel 15
	Busy—Channel 16

With Port 3 available, Call A (the first call in queue) and up to four other calls waiting in queue for the Split 1 announcement immediately connect to Channel 3, as shown in the following queue:

Queued Calls	Announcement Channels
1. B	Busy—Channel 1
2. D	Busy—Channel 2
3. E	ACFIJ —Channel 3: Split 1 announcement
4. G	Busy—Channel 4

Queued Calls	Announcement Channels

5. H	Busy—Channel 5
6. K	Busy—Channel 6
	Busy—Channel 7
	Busy—Channel 8
	Busy—Channel 9
	Busy—Channel 10
	Busy—Channel 11
	Busy—Channel 12
	Busy—Channel 13
	Busy—Channel 14
	Busy—Channel 15
	Busy—Channel 16

All calls remaining in queue then move to higher positions in the queue. Notice that the second call in the queue (Call B) moves up to the first position. When this call connects to the next available channel, up to four other calls waiting for the same announcement will also connect to that channel.

If a Generic 3/Generic 1 announcement queue is full, the system will continue to try every ten seconds to connect a call to the proper announcement until the call connects to an agent, connects to an announcement, or enters the announcement queue.

Answer Supervision and Abandoned Calls

Answer Supervision

Answer supervision is a signal sent by the switch to the serving Central Office (CO). This signal tells the CO that an incoming call has been answered and that the CO should begin tracking toll charges for the call (if they apply). Answer supervision is sent immediately before a call connects to an agent's voice terminal, to music, or to an announcement.

Abandoned Calls

An abandoned call is a call that reaches a call center, but does not connect to an agent because the caller hangs up. A caller can abandon from vector processing, from a queue or from ringing. Abandoned calls represent lost sales or lost good will. Adequate split staffing and effective

use of announcements can reduce the number of abandoned calls. Splits should be staffed so that calls do not have to wait in queue for an unreasonable amount of time, and an announcement should persuade the caller to wait until someone answers the call.

Abandoned Call Search

If answer supervision is sent before a caller abandons, ghost calls can occur. A ghost call is a call that is sent to an agent after the caller hangs up. Ghost calls occur because, after a caller hangs up, some COs wait 2 to 25 seconds before sending a disconnect signal to the switch. Ghost calls are a problem because they waste agents' time, and they can delay or prevent other calls from connecting to an agent.

To minimize this problem, Abandoned Call Search can be assigned as a switch-wide feature on Generic 2/System 85 and assigned to specific trunk groups on Generic 3/Generic 1. With Abandoned Call Search, the switch checks the incoming trunk before delivering an ACD call to an agent. If the trunk is on-hook at the CO (the call has been abandoned), the switch releases the trunk and does not deliver the call. If a call is still in progress on the trunk, the switch delivers the call to an agent.

Intraflow and Interflow

ACD calls can be redirected to another split or other local or remote destinations. Redirecting calls to a local destination is called **intraflow**. Redirecting calls to a destination outside the switch is called **interflow**. Intraflow and interflow are set up differently for Generic 2/System 85 and Generic 3/Generic 1.



If Call Vectoring is active on a Generic 2, System 85 R2V4, or Generic 3, redirection of calls differs significantly from the following intraflow/interflow descriptions. See Appendix B and Appendix C.

Generic 2/ System 85

As many as three intraflow destinations and one interflow destination can be assigned to a split through switch administration and operations on the split supervisor's voice terminal.

Any local extension number can be an intraflow destination including a Queue Directory Number (QDN) or Priority QDN of an ACD split (including AUDIX and Message Center splits), a local attendant, or a Centralized Attendant Service (CAS) attendant.

Note If more than one intraflow destination is assigned, only the last destination can be a QDN, PQDN, local attendant or CAS attendant.

Calls are interflowed outside of the switch using the Automatic Alternate Routing (AAR), Automatic Route Selection (ARS), or World Class Routing (WCR) feature. Consequently, an interflow destination must be a telephone number that can be processed by one of these call-routing features.

ACD splits can be set up to intraflow/interflow calls unconditionally or when preassigned thresholds are met. Unconditional intraflow/interflow redirects all calls (even calls already waiting in queue) to the intraflow/interflow destination. Unconditional intraflow/interflow is normally used to redirect calls when a split is not staffed.

Threshold intraflow/interflow limits the number of calls that can enter a split queue. Outflow (also called overflow) and inflow thresholds can

be assigned through switch or CMS administration. An outflow threshold is the number of calls in queue that will trigger intraflow/interflow. An inflow threshold is the number of calls in queue at a destination split that will prevent intraflowed calls from entering the destination split's queue.

When a split's outflow threshold is reached, the switch redirects the call at the head of the queue. This is usually the **oldest call waiting in that split's queue**. If the call intraflows to another ACD split, it could become the last call in that split's queue, resulting in a long wait time. One way to reduce this wait time is to redirect calls to priority queues whenever possible. For example, if the destination is another split, and that split has a priority QDN, the priority QDN should be used for intraflow.

When a split's inflow threshold is reached, intraflowed calls cannot enter the queue. If the original split (the split that intraflowed the call) is assigned more than one intraflow destination, the switch tries the next intraflow destination. If none of the destinations assigned to the original split can accept the call, the call remains in the original split's queue. Therefore, if possible, the last destination should always accept calls. That is, the last destination should be an ACD split, a local attendant, or a CAS attendant.

If an interflow destination is specified, it must be the last destination. Interflow always succeeds if a trunk is available to route the call. If no trunk is available, the call remains in queue at the original split.

Note

Unconditional and threshold intraflow/interflow cannot be used simultaneously for the same split.

Setting Up Intraflow/Interflow

To set up intraflow/interflow, the appropriate **dial access codes** must be administered on the switch. A voice terminal user dials a dial access code to activate or cancel a switch feature. For quick dialing, a dial access code can be assigned to a key on a voice terminal. The split supervisor activates intraflow/interflow by dialing the appropriate access code (or pressing the appropriate voice terminal key) followed by the destination extension or telephone number.

The intraflow/interflow activation procedure must be repeated for each destination. The switch checks intraflow/interflow destinations in the same order in which they were activated.

The following types of intraflow/interflow can be used for a split:

1. Threshold intraflow (using the Call Forwarding—Busy and Don't Answer feature)
2. Unconditional intraflow (using the Call Forwarding—Follow Me feature)
3. Threshold interflow (using Overload Balancing)
4. Unconditional interflow (using Overload Balancing)
5. Unconditional interflow (using the Call Forwarding—Follow Me feature in a multiple switch network). The destination for this type of interflow should be an AUDIX split or a Message Center split.

The following types of intraflow/interflow may be used together:

- Types 1 and 3
- Types 2 and 4
- Types 2 and 5.

If the Call Forwarding—Follow Me feature is used to set up interflow, the maximum number of destinations is three—the interflow destination and two intraflow destinations.

Using CMS to Set Up Intraflow

Intraflow can also be set up and activated from the CMS. The Split Parameters window (see Chapter 9, "ACD Administration") can be used to:

- Specify the type of intraflow: all (unconditional), conditional (calls intraflowed according to the assigned outflow threshold), or none.
- Specify up to three intraflow destinations.
- Specify the outflow threshold of the original split and the inflow threshold of the destination split.

Using the Timetable function of CMS (see Chapter 6, "Timetables and Shortcuts"), intraflow can be activated automatically according to the specified schedule.

Note

CMS cannot be used to set up or activate interflow. The supervisor must activate interflow manually when needed.

Generic 3/ Generic 1

As many as three intraflow destinations **OR** one interflow destination can be established for a split through switch administration. Intraflow uses the Call Coverage feature to redirect ACD calls to a coverage path that contains one, two, or three of the following internal destinations:

- An extension
- An ACD split (including AUDIX and Message Center splits) or Hunt Group*
- An attendant group
- An announcement followed by a forced disconnect.

Call Forwarding may be used to intraflow calls unconditionally.

Interflow destinations are the same as those listed above for intraflow (plus the CAS attendant), except interflow destinations are external (outside) the switch.

If a split is assigned more than one intraflow destination, the switch tries each destination in the order in which it was assigned. If no destination can accept the call, the switch leaves the call in the original split's queue. If an interflow destination is specified and activated, the switch tries only that destination, even if intraflow is also active. If the interflow destination cannot accept the call, the caller hears a busy signal.

ACD splits can be set up to intraflow calls unconditionally. Unconditional intraflow redirects all calls to the specified destination. Unconditional intraflow is normally used to redirect calls when a split is not staffed.

Splits can also be set up to intraflow calls when one or both of the following criteria are met:

- Don't Answer
Calls redirect if not answered within the assigned Don't Answer Interval (1 to 99 ringing cycles).
- Busy
Calls redirect when the split's queue is full; that is, when the number of calls in queue equals the administered queue length.
- No Agents Staffed or All Agents in AUX Mode
Call redirect if there are no agents staffed or if all agents are in the AUX work mode.

*The term "Hunt Group" refers to groups of extensions that receive distributed calls. The term "split" refers to a hunt group that is measured by CMS.

If an intraflow destination has a queue, that queue may be assigned an inflow threshold. The inflow threshold, which is established through switch administration, is the length of time the oldest call in queue has waited. Once the inflow threshold is reached, that queue does not accept intraflowed calls and the switch tries the next specified destination.

Through switch administration, a split can be assigned Priority Queuing on Intraflow, which allows intraflowed calls to enter the priority queue at the destination split.

The following types of intraflow/interflow can be used for a split:

1. Don't Answer Time Interval intraflow (using the Call Coverage feature)
2. Busy intraflow (using the Call Coverage feature)
3. Unconditional intraflow (using the Call Forwarding—All feature)
4. Unconditional interflow (using the Call Forwarding—All feature).

Note

When calls are intraflowed using the Call Coverage feature, CMS only reports inflowed and outflowed calls if the call queues to the original split. For example, a call that covers using the busy criterion will not be recorded as in/outflowed; calls that queue before covering using the don't answer criterion are recorded as in/outflowed calls.

Setting Up Intraflow/Interflow

At any one time, a split can have either intraflow or interflow active, but not both. However, both conditional (Call Coverage) and unconditional (Call Forwarding) intraflow can be simultaneously active for a split. In this case, unconditional intraflow is first invoked for the split's incoming calls. Then, after the switch forwards a call to the unconditional destination, the switch uses the conditional intraflow criteria to determine whether to redirect the call to the next destination. Thus, when unconditional and conditional intraflow are used together, the conditional intraflow criteria are applied to the forwarded-to destination, not to the original split.

This combination of unconditional and conditional intraflow allows Dialed Number Identification Service (DNIS) numbers to appear on agent display voice terminals. In this case, the DNIS number is actually a dummy split extension (that is, the split extension has no assigned agent extensions). The intraflow destinations are the real splits (with staffed agents). With such a configuration, CMS will count incoming calls for the DNIS number (that redirected via unconditional intraflow to real splits) as outflows. CMS will also count the calls to the destination splits as ACD calls and inflowed calls. And regardless of the split where calls actually connect to agents, the agents will see the DNIS (dummy split) number on their display terminals.

The intraflow criteria and destinations are assigned through switch administration. The intraflow criteria then remain active, and intraflow occurs either unconditionally or whenever the criteria are met. Also through switch administration, console permissions and the Call Forwarding dial access code are assigned. Unconditional intraflow or interflow can be activated by entering the Call Forwarding dial access code from a station with console permission, the split's extension, and the interflow destination number.

Note

With Generic 3/Generic 1, the split supervisor cannot establish conditional intraflow from a voice terminal. Furthermore, CMS cannot be used to set up or activate intraflow/interflow.

Night Service for Generic 3/Generic 1

Generic 3 and Generic 1 offer an alternative form of call routing called Night Service. Night Service redirects all calls to one of the following internal destinations:

- An ACD split
- An extension
- An attendant group
- An announcement with forced disconnect.

The following types of Night Service are available:

- **Hunt Group (Split) Night Service**

Hunt Group Night Service redirects all calls arriving at a split to a destination connected to the local switch. The Night Service destination for the split must be assigned through switch administration. Also, the Night Service feature and the specific split number must also be assigned to a key on the split supervisor's voice terminal, a split agent's voice terminal, or both. The split supervisor or the agent can then activate Night Service for the split simply by pressing the Night Service key.

- **Trunk Group Night Service**

Trunk Group Night Service redirects all calls arriving over a split's assigned trunk groups to a local destination. This Night Service destination for the trunk group(s) must be assigned through switch administration. Also, the Night Service feature and the specific trunk group number must also be assigned to a key on a split supervisor's voice terminal, an agent's voice terminal, or both. The supervisor or agent can then activate Trunk Group Night Service for the split simply by pressing a key.

Trunk Group Night Service by itself does not guarantee that all calls to a split will be redirected. Calls from local extensions and DID calls will still connect to the split.

Note

Trunk Group Night Service and Hunt Group Night Service can both be active at the same time. If the Trunk Group Night Service is active, its destination will be used for calls that come in over the trunk group even if they go to a split that has a night service destination assigned.

- **System Night Service**

System Night Service redirects all calls arriving over **all trunk groups** to the Night Service destination. System Night Service overrides any Hunt Group Night Service set up for an individual split. If Trunk Group Night Service is active for a particular trunk group, System Night Service does not affect that trunk group.

Note

When any type of Night Service becomes effective, calls already in a split's queue are not redirected. To avoid dissatisfied callers, agents should continue to staff the split until the queue is empty.

How Calls Are Distributed to Agents

ACD calls are delivered to agents according to the type of call distribution (also known as hunting) that is assigned to their split. The following types of call distribution can be assigned to a split through switch administration:

- Direct
- Circular
- Most Idle Agent (MIA) (also called Uniform Call Distribution (UCD))
- Expert Agent Distribution (EAD).

Note

Some types of call distribution are not available with some versions of switch software.

Direct

ACD software searches for an available agent in the order that extensions were assigned to the split (through switch administration), starting with the first extension assigned to the split. This type of call distribution is most useful when management wants to maximize the number of calls to the most effective agents. Agents are rank ordered from most to least effective and then are assigned to the split in that order. Direct call distribution is called Direct Department Calling (DDC) for Generic 3/Generic 1 switches. For Generic 3 Version 2 switches that have the Expert Agent Selection feature, DDC cannot be assigned to skills.

Circular

ACD software searches for an available agent in the order that extensions were assigned to the split, starting with the agent after the last agent who handled an ACD call. This type of call distribution is useful in maintaining a balanced workload among all agents. Circular distribution is not available on Generic 3/Generic 1 switches.

Most Idle Agent (Or Uniform Call Distribution)

ACD software searches for the agent extension that has been idle (waiting) the longest and distributes the call to that extension if the agent is available to handle an ACD call. This type of call distribution, which is sometimes called "true ACD," ensures a high degree of equity in agent workloads even when call-handling times vary. For Generic 3/Generic 1, MIA distribution is called Uniform Call Distribution (UCD).

ACD software determines which agent extension has been idle the longest by maintaining an ordered list (queue) of agents who are eligible to receive the next ACD call. Eligible agents enter the queue at the bottom and progress toward the top. The agent at the top of the eligible-agent queue (the agent who has been in queue the longest) receives the next ACD call unless the agent is not available at the time the call is to be distributed. If the agent at the top of the queue is not available, the ACD software checks the availability of the next agent in queue until an available agent is found.

Generic 2/System 85 switches use different criteria to determine if an agent is eligible to receive an ACD call than do Generic 1 and Generic 3 switches. These differences are described below.

Generic 2/ System 85

Two types of MIA distribution are available. For both types, agents are added to the bottom of the eligible-agent queue at the completion of login and when they complete an ACD call* and any associated After Call Work (ACW).

Agents progress toward the top of the eligible-agent queue as long as they remain staffed and available, in the AUX state, or on an AUXIN extension call (agent states, also called agent work modes, are described later in this section). If an agent is in the AUX state or is on an AUXIN extension call, the agent is marked as unavailable to take an ACD call, but remains in queue moving toward the top of the queue.

*An ACD call that rings at an agent extension is considered completed even if the caller abandons the call before the agent answers.

The difference between the two types of MIA distribution is whether agents maintain their place in queue while on an AUXOUT extension call (made from the AUX state or from the available state) or not. Agents either maintain their place in queue or are placed at the bottom of the eligible-agent queue when they complete an AUXOUT call. The type of MIA distribution is assigned on a per split basis through switch administration.

Generic 2 switches that have the Expert Agent Selection feature have a single eligible-agent queue for each skill tens group. Agents are placed at the bottom of the eligible-agent queue when they complete an ACD call for any skill.

Generic 1/Generic 3

When an agent completes an ACD call*, the agent is added to the bottom of the eligible-agent queue for the split or skill (skills apply only to Generic 3 Version 2 switches with the Expert Agent Selection feature) associated with the call. Agents progress toward the top of the eligible-agent queue as long as they remain staffed and in ACW, available or on AUXIN or AUXOUT extension calls from the available state, or on an ACD call for another split or skill. If an agent is in ACW, is on an AUXIN or AUXOUT extension call from the available state, or is on an ACD call for another split or skill, the agent is marked as unavailable to take an ACD call, but remains in queue moving toward the top of the queue. Agents in the AUX state are not in the eligible-agent queue. They are returned to the bottom of the queue when they press AI, MI, or ACW while in the AUX state.

Agents in multiple splits or with multiple skills are placed in multiple eligible-agent queues and progress in each queue independent of activity in another split or skill.

Note

This operation is different from Generic 2 switches with the Expert Agent Selection feature. For Generic 2, the agent who has been idle (waiting) the longest for any ACD call in the skill tens group receives the next call. The agent *with the proper skill* who has been idle the longest for any ACD call in the skill tens group receives the call. For Generic 3 Version 2, the agent who has been idle the longest for the skill associated with the call receives the next call.

Expert Agent Distribution

The Expert Agent Distribution is only available with Generic 3 Version 2 switches that have the Expert Agent Selection feature. This method of call distribution adds a layer of processing on top of the MIA processing. This additional layer of processing sorts the agents in the eligible-agent

queue into primary and secondary skill groups, in effect, creating two eligible-agent queues for each skill. ACD software searches for an available agent extension in the primary skill group before searching the secondary skill group. An ACD call will only be distributed to an available agent in the secondary skill group if no agents are available in the primary skill group. The MIA call distribution processing works in other aspects the same as described above.

How Agents Handle Calls

An agent can receive split calls and, in most cases, personal calls that are not related to a split. Calls dialed to a split and then distributed to an agent's extension are called **ACD calls**. Calls dialed directly to an individual agent using the agent's extension number (such as internal calls and DID extension calls) are called **extension-in (EXT-IN) calls**. Outgoing calls the agent makes are called **extension-out (EXT-OUT) calls**. EXT-IN and EXT-OUT calls are considered **non-ACD calls**.

Note The capability of a voice terminal to receive EXT-IN calls or to make EXT-OUT calls can be restricted through switch administration.

ACD calls are only distributed to "available" agent extensions. To be considered available, an agent must first staff an agent extension and then select a call answering mode (automatic in or manual in).

Staffing an Agent Extension on Generic 3/ Generic 1 (Without EAS)

To staff an agent extension on Generic 3/Generic 1, an agent must dial a login access code or press an assigned **LOGIN** key on the agent's voice terminal. The agent must then dial a split number and login ID. The required login ID length, the login dial access code, and, if desired, the **LOGIN** keys on agent voice terminals must be set up through switch administration. The split number may also be assigned to the **LOGIN** key or another key for faster agent login.

Staffing an Agent Extension on Generic 2/ System 85 (Without EAS)

To staff a split extension on Generic 2/System 85, an agent must press one of two keys on the voice terminal for that agent's extension:

- **STAFFED**

The STAFFED key notifies the ACD that an agent is preparing to receive calls on the extension. However, to actually receive calls, the agent will still have to press another key, the AUTO-IN or MANUAL-IN key, both of which are described later in this appendix.

Note

CMS does not gather any data on an agent that staffs an extension with the STAFFED key.

- **LOGIN**

The LOGIN key tells the ACD that the agent is going to begin logging in. After the agent logs in, the extension is considered staffed and CMS begins to gather data on that agent's activity.

Note

Logging in is required for CMS data collection.

For Generic 2/System 85, the login ID, a four-digit number, must be entered twice.

Dial access codes for ACD staffing and/or login must be assigned through switch administration. Also using switch procedures, the STAFFED key or LOGIN key can be assigned on each agent voice terminal. An agent can then press a key or enter the appropriate dial access code to staff or log into an agent extension.

Note

An agent cannot get ACD calls on an extension for which CMS gathers data unless the agent presses the LOGIN key. Therefore, when an extension is assigned to CMS data collection, the agent's voice terminal normally has only the LOGIN key. Conversely, when an extension is **not** assigned to CMS data collection, the agent's voice terminal normally has only the STAFFED key.

Staffing Multiple Splits

An agent can log in from any extension assigned to a split. For Generic 3/Generic 1, an agent can log into as many as three splits. To the switch and CMS, each login counts toward the maximum number of agent members that can be measured. That is, if four agents are each logged into three splits, the agent member count is 12. For Generic 2/System 85, an agent can log into only one split.

Call Answering Modes

Immediately after an extension becomes staffed, the agent is in the **auxiliary work (AUX-WORK)** state, which is considered non-ACD work. The agent is not yet available to receive ACD calls. To become available for ACD calls, the agent must press one of two keys to select a call answering mode:

- **MANUAL-IN**

The MANUAL-IN key tells the ACD that the agent extension is available for an ACD call. The ACD then sends a call to that agent's extension according to the established call distribution method. After the agent finishes the call, the agent is considered to be in an **After-Call-Work (ACW)** state and is not considered available for another split call. If the agent presses MANUAL-IN again, the agent becomes available for another split call. The manual-in mode is most effective when an agent must perform call-related tasks immediately after finishing each call.

- **AUTO-IN**

Like the MANUAL-IN key, the AUTO-IN key tells the ACD that the agent is available for split calls. However, after an agent finishes a call, the ACD considers the agent to be available again and sends the agent another call according to the established call distribution method. The agent does not have to press any keys to receive another call. This type of call answering increases the number of calls that agents can answer in a given period of time, especially if agents have to do little or no call-related work when calls have been completed.

The MANUAL-IN and AUTO-IN dial access codes and the associated keys on each agent's voice terminal must be assigned through switch administration.

Ringling Versus Zip Tone for Incoming Calls

When a call arrives at a voice terminal, the agent may hear ringing or **zip tone** (beeping), depending on how the voice terminal is administered. Ringing is recommended when an agent answers calls using the handset. Thus, when a call connects to the agent's voice terminal, the voice terminal rings, and the agent picks up the handset to answer the call.

Zip tone is recommended when the agent uses a headset to answer calls. (Zip tone can also be used with a handset, but the agent must hold the handset and listen for incoming zip tone.) When a call connects to an agent's voice terminal, the agent will hear one of the three types of zip tone on the headset:

- One burst of zip tone—For calls dialed directly to the split (or agent extension on Generic 3/Generic 1)
- **On Generic 2/System 85 only.** Two bursts of zip tone—For calls intraflowed from another split.
- **On Generic 2/System 85 only.** Three bursts of zip tone—For calls interflowed from another location.

Then, without pushing any keys, the agent immediately greets the caller.

Ringing (called "manual answer" in switch administration) or zip tone (called "automatic answer" in switch administration) can be established on a per-voice terminal basis through switch administration.

Auxiliary Work and After-Call-Work

To temporarily prevent ACD calls from arriving at an agent's voice terminal, an agent can press one of two keys:

- **AUXWORK**

The Auxiliary Work (AUXWORK) key temporarily stops ACD calls from arriving at the agent's voice terminal. The agent normally presses this key before doing non-ACD-related work, taking breaks, or doing personal business. Instead of unstaffing the extension or logging off, an agent can press this button, which places the agent in the auxiliary-work state.

To begin receiving calls again, the agent presses the MANUAL-IN or AUTO-IN button. The AUX-WORK button (or the dial access code, if no button is available) must be assigned through switch administration.

On Generic 3/Generic 1, if an agent is normally logged into more than one split, an AUXWORK button for each split may be assigned. Then, when the agent presses the AUXWORK button for a particular split, the agent will not receive calls from that split. However, the agent will still be available for calls from the other splits the agent is logged into.

Also, if an agent is logged into three splits or skills and the agent receives an ACD call for one split/skill, the agent is unavailable for calls for other splits/skills.

- **ACW**

The After-Call-Work (ACW) button is only available for voice terminals connected to the Generic 3/Generic 1. This button temporarily stops calls from arriving at the agent's voice terminal. On a System 85/G2, an agent can press MANUAL while on an ACD call and the system will put the agent in ACW upon completion of the call. An agent who is in Auto-In mode presses this button during a call so that when the call is finished, the agent will not receive another ACD call and can, instead, do ACD call-related work, such as filling out a form, completing data entry, or making an outgoing call to get information. The lamp indicator next to the ACW button lights when the agent is in after-call-work.

When in the manual-in mode, an agent automatically enters ACW when the agent completes a call. However, if the agent needs to get out of Auto-In mode or the auxiliary work state to do additional call-related work, the agent can press this button (or enter a dial access code, if no button is available).

If an agent is logged into more than one split, pressing the ACW button makes the agent unavailable for calls in all splits. CMS considers the agent to be in AUX-WORK for all splits other than the split in which the agent is currently in ACW.

Other Voice Terminal buttons Used by Agents

This section describes other buttons that can be assigned to an agent's voice terminal.

- **CALL APPEARANCE** buttons

Agents use these buttons to place and answer calls. Two status lamps (red and green) are adjacent to each call appearance button. The red lamp lights when an agent presses an appearance button to make or answer a call. The green lamp flashes to alert an agent to an incoming call.

Except with multiple call-handling, incoming ACD calls always arrive at the first appearance. However, voice terminals may have additional appearances to provide expanded functionality for agents. For example, on a second appearance, an agent can more readily transfer and place calls since the line will be free of ACD calls. On a two-appearance voice terminal on Generic 3/Generic 1, the second appearance can only be used to originate (place) calls.

For Generic 2/System 85, the second appearance on a two-appearance voice terminal should also be call-originating only, though this is not mandatory. This setup prevents extension-in calls or transferred calls from arriving at the agent's voice terminal when the agent is already on an ACD call. On a three-appearance terminal, the first two appearances can be set to receive and make calls, and the third appearance can be set only for making calls. This setup allows an agent to receive two calls at the same time (for example, when the agent has multiple call-handling capability on Generic 2/System 85 R2V4), yet keeps one line always available for placing and transferring calls.

- **ASSIST**

Agents press this button to request help from the split supervisor. The ASSIST button automatically dials the split supervisor's extension and connects the agent to the supervisor. On Generic 2/System 85, the agent can press this button after placing an ACD call on hold, then return to the call after talking with the supervisor. On Generic 3/Generic 1, pressing the ASSIST button automatically places the current call on hold.

- **AUDIO TROUBLE**

With G3, Generic 2/System 85, agents press this button to notify the CMS that a call has poor transmission. When the agent presses the AUDIO TROUBLE button, the switch tells CMS what the agent's extension is, what trunk is being used, and the time of day the trouble occurred. This information is reported in CMS exception reports and is useful for trouble-shooting trunk and extension problems (see Chapter 8, "Exceptions").

Stroke count button "0" is used for audio difficulty.

- **CONFERENCE**

Agents press this button to add another person into a 2-person call. For Generic 3/Generic 1, an agent with a multi-appearance voice terminal can add up to four additional people to a 2-person call. For Generic 2/System 85 and single appearance voice terminals on Generic 3/Generic 1, only one person may be added.

Note

Single appearance voice terminals do not have a CONFERENCE button. Agents must instead use the RECALL button to conference a call.

If an agent adds another agent into a conference call, the resulting conference is not considered an ACD call for the added agent. The ACD considers the added agent to be on an extension-in call.

- **CALL WORK CODES**

For G2.2 and G3, agents press this button and enter up to 16 digits to record the occurrence of a customer-defined event. Call Work Codes are stored on CMS, not on the switch. Release 3 CMS is required to store Call Work Codes.

- **CALLER-INFO**

For G3, if the switch has the Call Prompting feature, agents press this button to display the digits collected by the last "collect digits" command.

- **EMERGENCY** (on Generic 2/System 85 R2V4)

Agents press this button to notify the attendant of a malicious call. The attendant can then perform a call trace.

- **HOLD**

Agents press this button to place a call on hold. The ACD will not send any more ACD calls to the agent as long as a call is on hold. However, for switches with the multiple call-handling capability, the ACD will send calls to the agent even if the agent has pressed the HOLD button, provided the agent presses AUTO-IN or MANUAL-IN while the other call is still on hold.

Note

Single appearance voice terminals do not have a HOLD button. Agents must use the RECALL button or the terminal's switch-hook to put a call on hold.

- **LOGOUT**

Agents press this button to unstaff their extensions and end CMS gathering of agent data.

If an agent pressed STAFFED to staff a voice terminal, the agent simply presses STAFFED again to unstaff the voice terminal.

- **RECALL**

Agents with single-appearance voice terminals press the RECALL button to put calls on hold, transfer calls, and create conference calls.

- **RELEASE**

As mentioned earlier, agents press the RELEASE button to disconnect completed calls.

- **REPEAT** (on Generic 2/System 85 R2V4)

Agents press this button to repeat city-of-origin announcements, which they may hear when they receive interflowed calls from a split in another city. Agents can also use the REPEAT button to repeat queue-of-origin announcements, which they may hear when they receive intraflowed calls from a local split.

- **STROKE COUNT** buttons (on Generic 3, Generic 2, System 85)

Up to nine buttons are available for use. Agents press these buttons to tabulate certain call events of interest. Call center management decides what each of the buttons will represent. Whenever the agent encounters an assigned type of event, the agent presses the associated stroke count button to record that event occurrence. CMS records and reports stroke-count information. Stroke count button "0" is reserved for audio difficulty.

- **TRANSFER**

Agents normally press the TRANSFER button to transfer calls to other agents or the split supervisor. This button is only available on multi-appearance voice terminals. Single-appearance terminal users must use the **RECALL** button or the terminal's switch-hook.

Agents can also use the TRANSFER button to transfer calls to external destinations. External transfer must be assigned to a voice terminal as a feature over and above the normal transfer feature.

If an agent transfers a call to another agent, the call is not considered an ACD call for the agent receiving the call unless the transferring agent dialed a split extension, VDN, or agent login ID (DA calling with EAS). The ACD considers the agent receiving the transfer to be on an extension-in call. For the agent transferring a call, the call is counted as an EXT-OUT call.

Other buttons can be assigned to agent voice terminals, but most are not ACD-related. Some of these buttons are described in the following sections.

Figure D-3 shows a sample button layout for an agent's voice terminal, the CALLMASTER™ voice terminal in this case.*

*Stroke count buttons are not available on Generic 1.

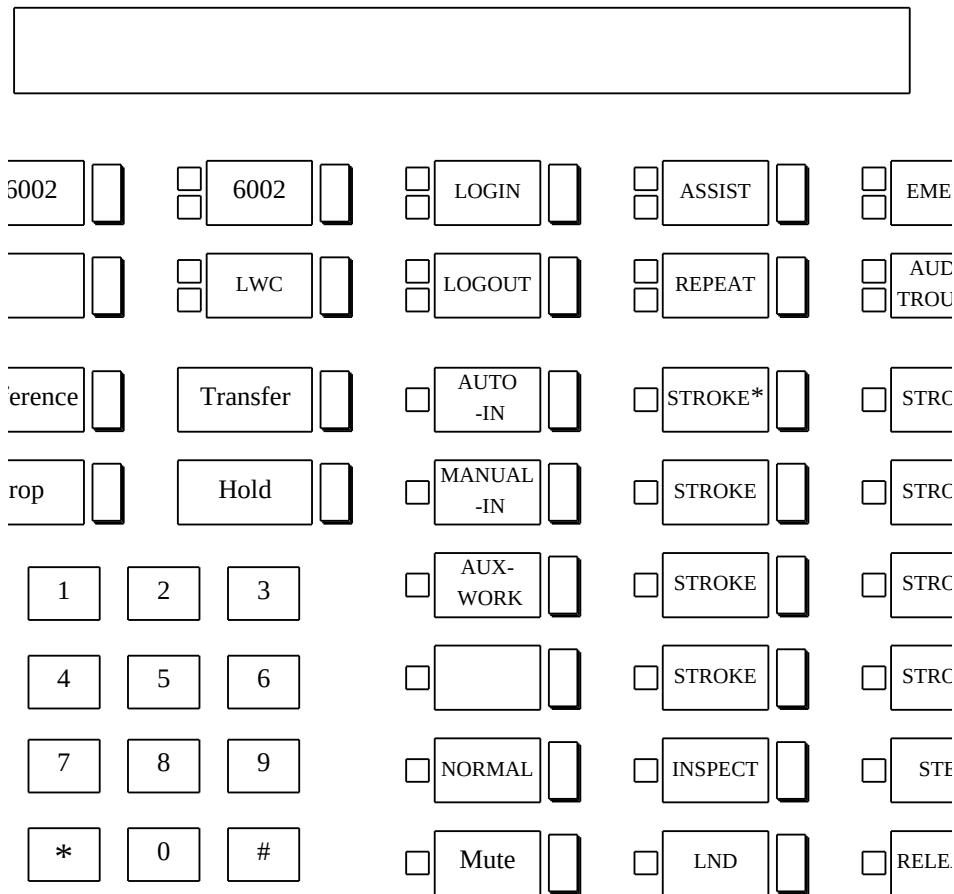


Figure D-3: Sample button Layout for the CALLMASTER Voice Terminal

Incoming Call Announcements for Agents on Generic 2/ System 85

On Generic 2/System 85, an agent can receive an announcement immediately before answering a call. This announcement tells the agent the location from which the call is coming. If a call is intraflowed from a local split, the agent may hear a **queue-of-origin announcement** that tells the agent what split the call came from. If the call is interflowed from a split in a remote switch, the agent may hear a **city-of-origin** announcement that tells the agent what city the call came from. An agent can press the REPEAT voice terminal button to repeat the announcement if the agent misses it the first time.

Announcements are assigned to the originally-called internal splits and trunk groups through switch administration. Announcements can also be assigned specifically to incoming trunk groups. In this case, an agent may also hear city-of-origin announcements for ACD calls dialed directly to the split.

Incoming Call Displays for Agents on Generic 2/ System 85

On a Generic 2/System 85, an agent can receive queue-of-origin and city-of-origin **displays** instead of, or in addition to, announcements if the agent has a display voice terminal (for example, the 7406D, 7407D, or CALLMASTER voice terminal). Displays are the visual equivalent of announcements.

The actual word(s) contained in a display must be assigned to the originally called split or the incoming trunk group.

A queue-of-origin display might look like this:

`a=Region2`

A city-of-origin display might look like this:

`a=Detroit`

Queue Status Displays for Agents on Generic 2/ System 85 R2V4

On Generic 2/System 85, an agent with a display voice terminal can receive queue status displays simultaneously with incoming call displays. This information is only available while the agent is active on an ACD call.

A queue status display can give the agent two types of information:

- The current number of queued calls (from 0 to 999^{*}).
- The current number of seconds (from 001 to 999[†]) the oldest queued call has been waiting.

A queue status display might look like this:

a=Region2

5 009

Three additional buttons may be available on a display terminal to give an agent control of the displays:

- **DISPLAY** (On the 7407D Integrated Display Terminal only)

The agent presses this button to activate the display feature on the voice terminal.

- **INSPECT**

The agent presses this button to display new incoming call information (either an extension-in call or an intraflowed/ interflowed call) when the agent is already on an ACD call.

- **NORMAL**

The agent presses this button to update the queue status display. This button is useful if the agent wants to check the queue's current status while still on an ACD call.

The queue status display feature and the associated buttons are assigned to each voice terminal through switch administration.

^{*}If the number of queued calls exceeds 999, this portion of the display will show “***”.

[†]If the oldest call has waited more than 999 seconds, this portion of the display will show “***”.

Queue Status Indications for Generic 3/ Generic 1

Agents with display voice terminals may receive queue status displays that are basically the same as those on the Generic 2/System 85, except that the maximum displayed calls in queue matches the maximum queue size.

Queue Status Lamps on Agent Voice Terminals for Generic 3/Generic 1

button lamps on agent voice terminals may be assigned to provide one or both of the following queue status indications:

- **NQC**

A button on each agent's voice terminal may be assigned to show the Number of Queued Calls (NQC). The lamp associated with this button tells the agent when the number of calls in queue has met or exceeded the assigned queue size for the split. If no calls are in the split's queue, the status lamp associated with the button is dark. When one or more calls are in queue, the lamp lights steadily. When the number of calls in queue reaches the assigned queue threshold, the lamp flashes on and off. In this way, agents can see when calls have backed up in queue. Agents then know they need to be especially fast in dispensing with incoming calls.

- **OQT**

A button on each agent's voice terminal may be assigned to show the Oldest Queued Time (OQT). The lamp associated with this button tells the agent when the oldest call in queue has been waiting longer than the assigned wait time threshold (0 to 999 seconds) for the split. If no calls are in the split's queue, the status lamp is dark. When calls are in queue, the lamp lights steadily. When the assigned wait time threshold has been met or exceeded by the oldest call in queue, the lamp flashes.

The thresholds that cause the lamps to flash and the individual buttons on each agent voice terminal must be assigned through switch administration.

Auxiliary Queue Status Lamps for Generic 3/ Generic 1

An auxiliary queue status lamp notifies agents when either the Number of Queued Calls threshold or the Oldest Queued Time threshold has been reached. The lamp lights when the assigned threshold is met or exceeded. Unlike the lamps on a voice terminal, the auxiliary queue status lamp does not indicate when calls queue to the split.

Split Supervisor Voice Terminal buttons

A split supervisor is normally assigned to each split. For Generic 2/System 85, the voice terminal assigned to the split supervisor can be used to monitor agent performance, add and remove agents, and perform other split-related activities. Most of these capabilities become automatically available when the split supervisor extension is created. For Generic 3/Generic 1, these capabilities must be assigned with separate switch administration procedures.

The following voice terminal buttons are available only to the split supervisor's extension:

- **ADD AGENT** (on Generic 2/System 85)
The split supervisor presses this button and dials an agent extension number to add the agent to the split. For the add to be successful, the extension must be unstaffed at the moment the extension is dialed.
- **DELETE AGENT** (on Generic 2/System 85)
The split supervisor presses this button and dials an agent extension number to delete the agent from the split. For the delete to be successful, the extension must be unstaffed at the moment the extension is dialed.
- **INTRAFLOW ALL** (on Generic 2/System 85)
The split supervisor presses this button to send all calls to the intraflow destination(s). The destinations may also include an interflow destination.
- **INTRAFLOW THRESHLD** (on Generic 2/System 85)
The split supervisor presses this button to send calls to the intraflow destination(s) if the split queue threshold has been reached. The destinations may also include an interflow destination.
- **NIGHT SERVICE** (on Generic 3/Generic 1)
The split supervisor presses this button to send all calls to night service. The Night Service may be Trunk Group Night Service or Split Night Service. Also, a separate button for each type may be available.

- **VERIFY ANNCT** (on Generic 2/System 85)

The split supervisor presses this button to listen to the split's first announcement. The supervisor then listens to the announcement to verify that it plays correctly and serves its purpose.

- **SERVICE OBSERVE**

The supervisor presses this button and dials an agent extension number to listen to conversations on the voice terminal. The Service Observe feature permits the supervisor to check an agent's call-answering techniques. An agent's voice terminal may also be assigned the SERVICE OBSERVE button so that the agent can listen to another agent's conversations. The ability for an agent to service observe other agents is particularly useful in training. Service observing can be set up for listening only or for both listening and talking.

- **RECORD ANNCT** (on Generic 3/Generic 1)

The supervisor presses this button to either listen to or record an announcement for the split.

Figure D-4 shows an example of a button layout for a split supervisor's voice terminal.

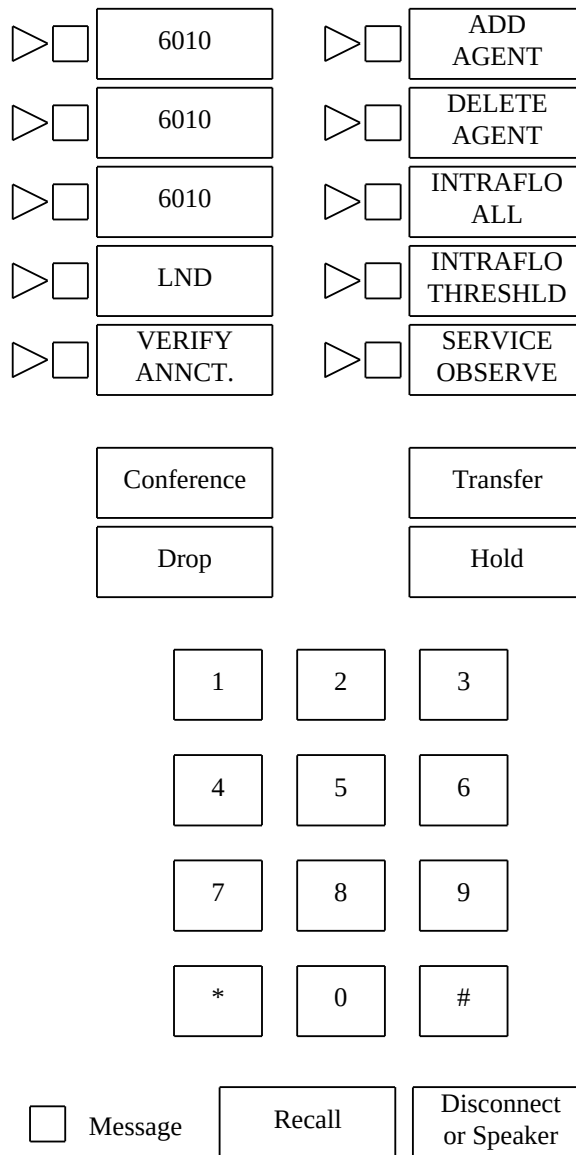


Figure D-4: Split Supervisor Terminal — Without Agent Responsibilities (16-button Set)

Assigning CMS Measurement of the ACD

CMS collects data on splits/skills, agents, extensions, trunks, and trunk groups. However, for CMS to collect data, the appropriate items (splits/skills, extensions, and so on) must be identified as **measured**. Measured means that, for any split/skill, extension, agent, trunk, trunk group, VDN, or vector, CMS will produce data on that item. The CMS ACD Status window (see Chapter 12, "Maintenance") lists the total

number of measured splits/skills, extensions (Agent Positions), trunks, and trunk groups established in an ACD.

Note

On a Generic 3 Version 2 switch, you can add, delete, or change measured trunks, trunk groups, agent extensions, agent login IDs, VDN extensions, splits, and skills without busying out the link to CMS and losing CMS data.

CMS Measurement of the Generic 2.1/ System 85 ACD

On Generic 2.1/System 85, each individual extension and trunk group must be assigned to CMS measurement using switch procedures. Trunks are then automatically measured by virtue of their assignment to a measured trunk group. Split measurement is assigned in CMS by entering a number of measured splits on the CMS ACD Status screen. The number of splits CMS can measure can be smaller than the number of splits assigned to the switch, but not greater. Measured splits must be numbered sequentially.

CMS Measurement of the Generic 3, Generic 2.2, and Generic 1 ACD

For the Generic 3, 2.2, and 1 switches, individual splits and trunk groups are assigned to CMS measurement through switch administration. Extensions are measured by virtue of their assignment to measured splits, and trunks are measured by virtue of their assignment to measured trunk groups. The number of measured splits cannot be changed using the CMS ACD Status screen. Measured splits need not be numbered sequentially.

Switch Features That Affect CMS Data

How the HOLD, CONFERENCE, TRANSFER, and RECALL buttons Affect Agent and Trunk Data

For Generic 1, Generic 2.1 and System 85 R2V4 switches, when an agent presses the HOLD, TRANSFER, or CONFERENCE button, no changes in that agent's state occur. The agent is still considered to be in the same ACD state (either on EXT-IN/OUT or in ACD). This is also true for the trunk carrying the call. If the agent added to the conference call or to whom the call was transferred was in AUX or AVAIL, the state for that agent *will* change to AUXIN. If the added agent is in ACW, the state for that agent changes to ACWIN. In both cases, the added agent is credited

with an extension-in call. Also, when an agent presses RECALL on a single-appearance voice terminal to hold or conference a call, no status change is recorded for the agent(s) or for the trunk carrying the call.

On Generic 2/System 85 R2V4, if multiple call-handling is assigned to a split, an agent can place a call on hold, then press the MANUAL-IN or AUTO-IN button to become available for another ACD call. The switch sends CMS information about calls placed on hold.

When an agent puts a call on hold, the agent state changes as follows:

- On a Generic 3, the agent goes into the OTHER state.
- On a Generic 2.2, Load 2.0 or 3.0, when an agent presses the HOLD key or dials the hard hold feature access code, the agent goes into the OTHER state. On a System 85 or Generic 2.1 with load 1.0, the agent goes into AUX when the HOLD key is pressed or FAC is dialed.

When an agent pushes the conference or transfer key, then dials a call to make a conference or transfer, the agent is shown making an AUXOUT or ACWOUT call. The historical agent tables count the number of personal and ACD calls the agent put on hold (that is, by using HOLD, CONFERENCE, or TRANSFER keys or using the flashhook). The historical split tables count the number of ACD calls put on hold.

The number of conferences and transfers are counted as follows:

Generic 3/Generic 2.2	Conferences and transfers of all calls for agent tables.
Generic 2.2 and Generic 3	Conferences and transfers of split ACD calls in split tables.
Generic 1	Transfers of measured split calls to a measured split or from measured trunk to measured trunk.
Generic 2.1 and System 85	Transfers to a measured VDN or split.

When calls are transferred using the TRANSFER key (on multiappearance voice terminals), the switch notifies CMS. If a transferred call is an ACD call, the originating agent extension and split are credited with an ACD call and are only charged for the time on the original connection. If the call is transferred to another measured ACD extension, the receiving extension is credited with an EXT-IN call (regardless of the nature of the original call), and the time on the call is then accrued for that extension. If a call is transferred to a split/skill or VDN, the call is counted as an ACD call for the receiving agent (if the call is queued to a split through the VDN).

Note

The originating extension for a transferred call is **not** credited with an EXT-OUT call **unless** the multiple call-handling feature (available only on a Generic 2/System 85 R2V4 switch) is active or you have a Generic 3 switch or Generic 2.2 switch.

A trunk's holding time is continuous for the duration of a transferred call at all of its points of answer. The trunk is credited with only one answer for the call in the CMS. If a call abandons after the original answer (but before being picked up by the agent and split to whom it is transferred), the abandon is not counted for the trunk. Nor is the second answer recorded for the trunk, if there is one.

How Intraflow/Interflow Affect CMS Data

When a call is intraflowed or interflowed from a split, CMS counts that call as a FLOW-OUT call for the split. If a call is intraflowed into a split, CMS counts that call as a FLOW-IN call for the split. (Interflowed calls are recognized only as ordinary incoming calls by CMS.) However, since calls can be intraflowed/interflowed to destinations that are not in the ACD or are non-measured parts of the ACD, each FLOW-OUT call from a split will not always show a corresponding FLOW-IN call for another split. Conversely, since calls can be intraflowed/interflowed into a split from originating locations that are not ACD-measured, each FLOW-IN call to a split will not always show a corresponding FLOW-OUT for another split.

If an intraflowed/interflowed call connects to an agent in the destination split, that call is counted as an ACD call for the split.

On Generic 3/Generic 1, a dummy split may be established which intraflows calls to another split. For CMS to count FLOW-OUT calls for dummy splits, intraflow should be established using the Call Forwarding feature. If Call Coverage is used, at least one agent must log into the dummy split and go into ACW, and the call must queue to the dummy split for at least one ring cycle in order for a flow-out call to be counted.

Note

If the Call Vectoring feature is active on the Generic 2 or R2V4 System 85 switch, intraflow and interflow work quite differently. Therefore, CMS data related to intraflow and interflow is recorded differently.

How the Call Pickup Feature Affects CMS Data

When an agent uses the Call Pickup feature to pick up an ACD call that rings at another agent's extension, the call will be counted as an AUX-IN call for the agent picking up the call (and for that agent's oldest split). The split of the agent whose terminal originally rang will be credited with an OUTFLOW call, even if the agent picking up the call is in the same split. For multiple split queuing, if an agent is logged into more than one split, the call will be counted for the split the agent is logged into the longest.

Thus, when Call Pickup is used, CMS does **not** count the call as an ACD call, even though the call queued to a split and was answered. Various other types of data associated with ACD calls (for example, "Percent Answered Within Service Level" and "Average Speed of Answer") will also not include data on calls answered via the Call Pickup feature. A Call Pickup call will count as an outflowed call and hence will count *against* the "Percent Answered Within Service Level."

ACD Engineering Guidelines

Use this section to determine how many agents and trunks will be required for an ACD being monitored by R3 CMS software. Remember, do not exceed the maximum values of the ACD parameters supported by R3V2 CMS which are stated in Chapter 1, Table 1-1 for splits or Table 1-3 for skills.

Note

Be sure to include the customer's future growth expectations when determining the requirements for the ACD. If a growth factor is not included and the customer decides later to add agents, trunks, or splits/skills to the system, the hard disk system on the computer may not be able to accommodate the additional agents, trunks, splits/skills, etc. The R3V2 CMS configurator selects the computer based on maximum growth projections.

When configuring a new ACD, Table D-3 through Table D-13 should be used to determine how many agents and trunks will be required to handle a given rate of incoming calls. Each split/skill should be designed individually for the number of agents and trunks required, subject to any pertinent switch limitations.

The number of agents and trunks required to handle the incoming calls to an ACD depends on the business being served by the ACD. For example, if a business has a captive customer base and each call represents the pay out of money, the business may want to provide fewer trunks than agents. An example might be the claims department of an insurance company. On the other hand, when each call represents a new customer and each blocked call represents potential lost income, the business will probably want to provide more trunks than agents to minimize the blocking.

The point is this: the design of the ACD should be based on how a business values a lost or blocked call.

Interpolation

Interpolation is a method of estimating tabular values of a function between two known values of that function. When using Table D-3 through Table D-13 to determine the number of agents required and Table D-14 to determine the number of trunks required for a given ACD, you may find that the expected number of call arrivals or the carried load lies somewhere between two entries in the tables. Therefore, the number of agents or trunks required will also lie somewhere between the two entries.

If this is the case, the number of agents required or number of trunks needed can only be found by interpolation. Use the following equation to interpolate between tabular values:

$$y = y_0 + \left[(y_1 - y_0) \frac{x - x_0}{x_1 - x_0} \right]$$

Where:

- x is the independent variable.
- y is the dependent or functional variable.
- x_0 is the tabular value of the independent variable that immediately precedes x .
- x_1 is the tabular value of the independent variable that immediately succeeds x .
- y_0 is the tabular value of the dependent variable that immediately precedes y .
- y_1 is the tabular value of the dependent variable that immediately succeeds y .

**Agent
Engineering
Guidelines**

Table D-3 through Table D-13 (later in this section) list the number of ACD agents required to handle a given incoming call load. The top rows on each of these tables show the possible delay times for a given incoming call load (*calls per hour* or *busy hour calls*), and the left-most column lists the agents required to handle the incoming call load.

Note

The entries in Table D-3 through Table D-13 are in *busy-hour calls*, which are the number of calls received by the ACD during peak levels of caller activity.

The double lines drawn across Table D-3 through Table D-7 show where the maximum number of *busy-hour calls* handled by R3V2 CMS have been exceeded.

To determine how many agents will be required to handle the incoming call load of an ACD, use Table D-3 through Table D-13 as follows:

- Estimate the average service time (the time an agent spends processing a call, or talking to a caller). Table D-3 through Table D-13 contain the data that describe the following service times: 7, 15, 30, 45, 60, 90, 120, 180, 240, 300, and 600 seconds. Choose the appropriate table that represents the service time that the customer desires for the ACD.
- At the top of the table, choose the closest possible delay time in seconds. A *delay* is defined as the elapsed time from when a call is routed to the ACD split until it is answered by an agent. The delay criterion states that 90 percent of the incoming calls will be answered by the agents before the specified delay has occurred.
- *Busy-hour calls* denotes the number of calls received by the ACD during peak levels of caller activity. Based on previous experience or on suspected levels of caller activity, choose the number of *busy-hour calls*.
- After choosing the appropriate table and delay column, find the entry in the table for *busy-hour calls* that is greater than or equal to the number of *busy-hour calls* chosen.
- The number of agent positions required is then found in the left-most column of the respective table.
- You can interpolate between the tables (for different call service times), between the columns (for different delay times), and between the rows (for different number of calls per hour).

Table D-3 through Table D-13 were prepared by using a range of 1 to 1000 agents. For small service times, this yields high traffic rates, even for a small number of agents.

Example 1:

The classified ads department of a major newspaper receives 400 calls per hour. The average time an agent spends on each call is 3 minutes. If most of the calls should be answered in less than 30 seconds, how many agents should be employed in this department?

Table D-10 provides data for 180-second (3-minute) call durations. Under the column heading "30" seconds (delay time), find the first entry greater than 400 calls per hour (403). Follow this row left to the "agents" column and find 25 agents. The number of agents required to answer 400 calls (of 3-minute duration) per hour with 90 percent of the callers waiting less than 30 seconds is 25 agents.

For this example, consider the efficiency of the agents and the sensitivity of the parameters to changes in the call arrival rate. The efficiency of the agents is the ratio of the number of agent hours spent on the phone to the number of agent hours in an hour. The number of agent hours spent on the phone is 400 calls per hour times .05 hours (3 minutes) equals 20 agent hours. Therefore, the efficiency is $20 / 25$ (25 agents for 1 hour) equals .80 or 80 percent.

Suppose the calls per hour increased to 425 calls per hour. The efficiency is now $425 * 0.05 / 25 = 0.85$ or 85 percent. The efficiency has increased, but this added efficiency is not free of charge. The delay criterion has changed significantly from about 9.9 percent of all calls taking longer than 30 seconds for an agent to answer to about 18.0 percent (403 calls per hour yield 10.0 percent, but 400 calls per hour were stated). To get the delay criterion back to 9.9 percent would require a delay time of about 58.5 seconds. Another measure of what is happening with the queue is the *average* time spent waiting for service in the queue. With 400 calls per hour, the mean time spent in the queue is 7.53 seconds. With 425 calls per hour, the mean time in the queue is 16.14 seconds. The point of this example is to emphasize the sensitivity of the time in the queue to the arrival rate. In other words, increasing the agent efficiency from 80 percent to 85 percent nearly doubles the various measures of queuing time.

Note

For Examples 2 and 3, the ?'s in the tables represent the unknown values you are looking for. The *italicized numbers* in the tables represent numbers that are not included in Table D-3 through Table D-13.

Example 2:

The reservations department for a hotel chain knows that the average call duration is 5 minutes and that most of the potential customers will not wait more than 1 minute for their call to be answered. How many agents are required to handle 5000 calls per hour? Under the 60-second column of Table D-12, you will find the following information:

agents	60
400	4697
?	5000
450	5295

To find the number of agents needed to handle 5000 calls per hour, interpolate between the number of agents and calls per hour:

y = number of agents needed

$$y = y_0 + \left[(y_1 - y_0) \frac{x - x_0}{x_1 - x_0} \right]$$

$$y = 400 + \left[(450 - 400) \frac{5000 - 4697}{5295 - 4697} \right]$$

$$y = 400 + \left[50 \frac{303}{598} \right]$$

$$y = 425.335$$

Therefore, 426 agents are needed to support the reservations department.

Example 3:

The manager of a split in an ACD knows that calls average 75 seconds and that the split receives 1500 calls per hour. The manager wants most of the calls to be answered in less than 40 seconds. How many agents are required?

To answer this question, you must interpolate between all parameters—first, between delay time and calls per hour to obtain the number of calls per hour for a 40-second delay time. Under the 30- and 45-second columns of Table D-7 and Table D-8, you will find:

60 Seconds Average Service Time				75 Seconds	90 Seconds Average Service Time			
delay times					delay times			
agents	30	40	45		agents	30	40	45
25	1322	?	1364		40	1435	?	1471
?		1500			?		1500	
30	1616	?	1661		45	1630	?	1669

Now interpolate between delay time and calls per hour in both tables to obtain calls per hour for a 40-second delay time.

y = number of calls per hour

$$y = y_0 + \left[(y_1 - y_0) \frac{x - x_0}{x_1 - x_0} \right]$$

$$y = 1322 + \left[(1364 - 1322) \frac{40 - 30}{45 - 30} \right]$$

$$y = 1322 + \left[42 \frac{10}{15} \right]$$

$$y = 1350$$

Now you can fill in the first blank: 1350 calls per hour under the 40-second delay time heading. Repeat the interpolation process three more times to come up with the figures 1646, 1459, and 1656.

60 Seconds Average Service Time				75 Seconds	90 Seconds Average Service Time			
	delay times					delay times		
agents	30	40	45		agents	30	40	45
25	1322	1350	1364		40	1435	1459	1471
?		1500			?		1500	
30	1616	1646	1661		45	1630	1656	1669

Next, interpolate between number of agents and the calls per minute (in both the 60-second and 90-second tables) to obtain the number of agents needed when 1500 calls per minute are expected, as follows:

y = number of agents needed when a 60-second service time is desirable.

$$y = y_0 + \left[(y_1 - y_0) \frac{x - x_0}{x_1 - x_0} \right]$$

$$y = 25 + \left[(30 - 25) \frac{1500 - 1350}{1646 - 1350} \right]$$

$$y = 25 + \left[5 \frac{150}{296} \right]$$

$$y = 27.5$$

Now we know that 27.5 agents would be needed when a 60-second service time is desirable. Repeat the above interpolation process once (for a 90-second service time) to come up with the result:

$$y \text{ (number of agents)} = 41.0$$

60 Seconds Average Service Time				75 Seconds	90 Seconds Average Service Time			
	delay times					delay times		
agents	30	40	45		agents	30	40	45
25	1322	1350	1364		40	1435	1459	1471
27.5		1500			41.0		1500	
30	1616	1646	1661		45	1630	1656	1669

Finally, interpolate between agents and service times to determine the number of agents needed when a 75-second service time is desirable.

y = number of agents needed when a 75-second service time is desirable.

$$y = y_0 + \left[(y_1 - y_0) \frac{x - x_0}{x_1 - x_0} \right]$$

$$y = 27.5 + \left[(41 - 27.5) \frac{75 - 60}{90 - 60} \right]$$

$$y = 27.5 + \left[13.5 \frac{15}{30} \right]$$

$$y = 34.25(\text{or } 35)$$

From exact calculations, 34 agents imply that 12.2 percent of the incoming calls will wait more than 40 seconds. Or, with 35 agents, 5.56 percent will wait more than 40 seconds. If it is desirable that anything above, say, 10 percent is undesirable, a 35th agent must be acquired.

Table D-3: 7 Seconds Average Service Time

agents	delay times								
	11	15	22	30	45	60	90	120	180
1	154	195	253	302	359	392	429	449	470
2	575	648	736	799	865	902	942	962	984
3	1044	1135	1237	1305	1376	1415	1455	1476	1498
4	1531	1633	1743	1815	1888	1928	1969	1990	2012
5	2025	2136	2251	2326	2401	2441	2483	2504	2526
6	2525	2641	2761	2838	2914	2955	2997	3018	3040
7	3027	3149	3272	3350	3428	3469	3511	3533	3555
8	3532	3657	3783	3863	3941	3983	4025	4047	4069
9	4038	4167	4295	4376	4455	4496	4539	4561	4583
10	4545	4677	4808	4889	4969	5010	5053	5075	5097
12	5562	5699	5833	5916	5997	6039	6082	6104	6126
14	6581	6722	6859	6943	7025	7067	7110	7132	7155
16	7602	7746	7885	7971	8053	8095	8139	8161	8183
18	8625	8771	8912	8998	9081	9123	9167	9189	9212
20	9648	9797	9939	10026	10109	10152	10195	10218	10240
25	12208	12362	12508	12596	12680	12723	12767	12789	12812
30	14772	14929	15077	15166	15251	15294	15338	15360	15383
35	17337	17497	17647	17736	17822	17865	17909	17932	17954
40	19903	20065	20217	20307	20393	20436	20481	20503	20526
45	22470	22634	22787	22878	22964	23008	23052	23074	23097
50	25037	25204	25357	25449	25535	25579	25623	25646	25669
60	30174	30343	30499	30591	30677	30721	30766	30789	30811
70	35312	35483	35640	35733	35820	35864	35909	35932	35954
80	40451	40624	40782	40875	40963	41007	41052	41074	41097
90	45591	45765	45924	46018	46105	46150	46195	46217	46240
100	50731	50906	51066	51160	51248	51292	51337	51360	51383
125	63582	63760	63922	64016	64105	64149	64194	64217	64240
150	76435	76615	76778	76873	76961	77006	77051	77074	77097
175	89289	89471	89634	89730	89818	89863	89909	89931	89954
200	102144	102326	102491	102586	102675	102720	102766	102788	102811
225	114999	115182	115347	115443	115532	115577	115623	115646	115668
250	127854	128038	128204	128300	128389	128435	128480	128503	128526
275	140710	140895	141061	141157	141246	141292	141337	141360	141383
300	153565	153751	153917	154014	154104	154149	154194	154217	154240
350	179277	179464	179631	179728	179818	179863	179908	179931	179954
400	204990	205177	205345	205442	205532	205577	205623	205645	205668
450	230702	230891	231059	231156	231246	231291	231337	231360	231383
500	256415	256604	256773	256870	256960	257006	257051	257074	257097
550	282128	282318	282487	282584	282674	282720	282765	282788	282811
600	307842	308032	308201	308298	308389	308434	308480	308503	308525
650	333555	333745	333915	334013	334103	334148	334194	334217	334240
700	359268	359459	359629	359727	359817	359863	359908	359931	359954
750	384982	385173	385343	385441	385531	385577	385623	385645	385668
800	410696	410887	411057	411155	411246	411291	411337	411360	411383
850	436409	436601	436771	436869	436960	437005	437051	437074	437097
900	462123	462315	462485	462583	462674	462720	462765	462788	462811
950	487837	488029	488199	488298	488388	488434	488480	488503	488525
1000	513551	513743	513914	514012	514103	514148	514194	514217	514240

Table D-4: 15 Seconds Average Service Time

agents	delay times								
	11	15	22	30	45	60	90	120	180
1	44	52	68	86	115	136	163	180	198
2	196	222	261	295	339	367	399	417	437
3	386	425	478	521	572	603	637	656	676
4	592	640	703	752	808	840	876	896	916
5	806	862	933	986	1045	1078	1115	1135	1156
6	1025	1089	1165	1221	1282	1317	1355	1375	1396
7	1248	1317	1399	1457	1521	1556	1594	1615	1636
8	1474	1548	1634	1694	1759	1795	1834	1854	1875
9	1702	1780	1869	1932	1998	2035	2074	2094	2115
10	1931	2013	2106	2170	2237	2274	2313	2334	2355
12	2393	2482	2580	2646	2715	2753	2793	2814	2835
14	2858	2953	3055	3124	3194	3232	3273	3294	3315
16	3326	3425	3531	3601	3673	3712	3752	3773	3795
18	3796	3899	4008	4079	4152	4191	4232	4253	4275
20	4266	4373	4485	4558	4631	4671	4712	4733	4755
25	5448	5562	5679	5754	5830	5870	5911	5933	5955
30	6634	6753	6875	6952	7029	7069	7111	7133	7155
35	7823	7947	8071	8150	8228	8269	8311	8333	8355
40	9013	9141	9268	9349	9427	9468	9511	9533	9555
45	10205	10336	10466	10547	10626	10668	10711	10732	10755
50	11399	11532	11664	11746	11826	11868	11910	11932	11955
60	13787	13926	14061	14144	14225	14267	14310	14332	14355
70	16178	16321	16458	16543	16624	16667	16710	16732	16755
80	18571	18716	18856	18942	19024	19066	19110	19132	19154
90	20965	21113	21254	21341	21423	21466	21510	21532	21554
100	23359	23510	23653	23740	23823	23866	23910	23932	23954
125	29349	29504	29650	29738	29822	29866	29910	29932	29954
150	35341	35499	35648	35737	35822	35865	35909	35932	35954
175	41334	41496	41646	41736	41821	41865	41909	41932	41954
200	47329	47493	47645	47735	47821	47865	47909	47932	47954
225	53325	53490	53644	53735	53821	53865	53909	53932	53954
250	59321	59488	59643	59734	59821	59865	59909	59932	59954
275	65318	65487	65642	65734	65820	65864	65909	65932	65954
300	71315	71485	71641	71733	71820	71864	71909	71932	71954
350	83310	83482	83640	83733	83820	83864	83909	83931	83954
400	95307	95480	95639	95732	95820	95864	95909	95931	95954
450	107303	107478	107638	107732	107819	107864	107909	107931	107954
500	119301	119477	119637	119731	119819	119864	119909	119931	119954
550	131298	131476	131636	131731	131819	131864	131909	131931	131954
600	143296	143474	143636	143731	143819	143864	143909	143931	143954
650	155294	155473	155635	155730	155819	155864	155909	155931	155954
700	167293	167473	167635	167730	167819	167863	167909	167931	167954
750	179291	179472	179635	179730	179819	179863	179909	179931	179954
800	191290	191471	191634	191730	191818	191863	191909	191931	191954
850	203289	203470	203634	203729	203818	203863	203909	203931	203954
900	215287	215470	215634	215729	215818	215863	215909	215931	215954
950	227286	227469	227633	227729	227818	227863	227909	227931	227954
1000	239285	239469	239633	239729	239818	239863	239908	239931	239954

Table D-5: 30 Seconds Average Service Time

agents	delay times								
	11	15	22	30	45	60	90	120	180
1	16	18	22	26	35	43	57	68	82
2	79	86	98	111	132	147	169	183	200
3	161	173	193	212	240	260	286	301	319
4	252	270	296	320	353	376	404	420	438
5	349	371	403	431	468	493	522	539	558
6	450	476	513	544	585	611	641	659	677
7	554	583	624	659	702	729	760	778	797
8	660	692	737	774	819	847	880	898	917
9	767	803	851	890	937	966	999	1017	1037
10	875	914	965	1007	1055	1085	1118	1137	1157
12	1096	1140	1196	1241	1292	1323	1358	1376	1396
14	1319	1368	1429	1476	1530	1562	1597	1616	1636
16	1544	1597	1663	1712	1768	1801	1836	1856	1876
18	1772	1829	1898	1949	2007	2040	2076	2096	2116
20	2001	2061	2133	2186	2245	2279	2316	2335	2356
25	2577	2645	2724	2781	2843	2877	2915	2935	2956
30	3159	3232	3317	3377	3440	3476	3514	3535	3556
35	3743	3822	3911	3973	4039	4075	4114	4134	4155
40	4330	4414	4507	4571	4637	4674	4714	4734	4755
45	4919	5006	5103	5168	5236	5274	5313	5334	5355
50	5509	5600	5699	5766	5835	5873	5913	5934	5955
60	6692	6789	6894	6963	7034	7072	7113	7134	7155
70	7879	7981	8089	8160	8233	8271	8312	8333	8355
80	9067	9174	9285	9358	9432	9471	9512	9533	9555
90	10257	10368	10482	10556	10631	10670	10712	10733	10755
100	11449	11563	11680	11755	11830	11870	11912	11933	11955
125	14432	14552	14674	14752	14829	14869	14911	14933	14955
150	17419	17545	17670	17750	17828	17869	17911	17933	17955
175	20408	20538	20667	20748	20827	20868	20911	20933	20955
200	23399	23533	23665	23746	23826	23868	23911	23932	23955
225	26392	26529	26662	26745	26826	26867	26910	26932	26955
250	29386	29525	29661	29744	29825	29867	29910	29932	29955
275	32380	32522	32659	32743	32825	32867	32910	32932	32955
300	35375	35519	35658	35742	35824	35867	35910	35932	35954
350	41367	41514	41655	41741	41824	41866	41910	41932	41954
400	47360	47510	47653	47740	47823	47866	47910	47932	47954
450	53354	53507	53652	53739	53823	53866	53910	53932	53954
500	59349	59504	59650	59738	59822	59866	59910	59932	59954
550	65345	65502	65649	65738	65822	65865	65910	65932	65954
600	71341	71500	71648	71737	71822	71865	71909	71932	71954
650	77338	77498	77647	77737	77822	77865	77909	77932	77954
700	83335	83496	83646	83736	83821	83865	83909	83932	83954
750	89332	89495	89646	89736	89821	89865	89909	89932	89954
800	95330	95493	95645	95735	95821	95865	95909	95932	95954
850	101327	101492	101644	101735	101821	101865	101909	101932	101954
900	107325	107491	107644	107735	107821	107865	107909	107932	107954
950	113323	113490	113643	113735	113821	113865	113909	113932	113954
1000	119322	119489	119643	119734	119821	119865	119909	119932	119954

Table D-6: 45 Seconds Average Service Time

agents	delay times								
	11	15	22	30	45	60	90	120	180
1	10	11	12	14	17	21	29	35	45
2	48	52	57	63	74	83	98	109	122
3	99	105	115	125	142	155	174	186	201
4	157	165	179	193	213	229	251	264	280
5	218	229	246	263	287	305	329	343	359
6	282	296	316	335	363	382	407	422	439
7	348	364	387	409	439	460	486	501	519
8	416	434	460	484	516	538	565	581	598
9	485	504	533	559	593	616	644	660	678
10	555	576	607	635	671	695	723	740	758
12	697	722	758	788	827	852	882	899	918
14	841	870	909	943	984	1010	1041	1059	1077
16	988	1019	1062	1098	1142	1169	1200	1218	1237
18	1135	1170	1216	1254	1300	1327	1360	1378	1397
20	1284	1322	1371	1410	1458	1486	1519	1537	1557
25	1661	1704	1760	1803	1854	1884	1918	1937	1957
30	2042	2090	2151	2198	2251	2282	2317	2336	2356
35	2426	2479	2544	2594	2649	2681	2717	2736	2756
40	2812	2869	2938	2990	3047	3080	3116	3136	3156
45	3199	3260	3333	3387	3445	3479	3516	3535	3556
50	3589	3653	3729	3784	3844	3878	3915	3935	3956
60	4370	4440	4522	4580	4642	4677	4715	4735	4756
70	5154	5230	5316	5376	5440	5476	5514	5535	5556
80	5941	6021	6111	6173	6239	6275	6314	6334	6355
90	6730	6814	6907	6971	7038	7074	7114	7134	7155
100	7520	7607	7703	7769	7837	7874	7913	7934	7955
125	9499	9594	9696	9765	9835	9873	9913	9934	9955
150	11483	11584	11691	11761	11833	11872	11912	11933	11955
175	13470	13576	13686	13759	13832	13871	13912	13933	13955
200	15459	15569	15683	15757	15831	15870	15912	15933	15955
225	17449	17563	17680	17755	17830	17870	17912	17933	17955
250	19441	19558	19677	19754	19829	19870	19911	19933	19955
275	21434	21554	21675	21752	21829	21869	21911	21933	21955
300	23428	23550	23673	23751	23828	23869	23911	23933	23955
350	27417	27543	27670	27749	27827	27868	27911	27933	27955
400	31408	31538	31667	31748	31827	31868	31911	31933	31955
450	35400	35533	35665	35747	35826	35868	35911	35932	35955
500	39393	39530	39663	39745	39826	39867	39910	39932	39955
550	43387	43526	43661	43744	43825	43867	43910	43932	43955
600	47382	47523	47660	47744	47825	47867	47910	47932	47955
650	51378	51521	51658	51743	51824	51867	51910	51932	51955
700	55374	55518	55657	55742	55824	55867	55910	55932	55954
750	59370	59516	59656	59742	59824	59866	59910	59932	59954
800	63366	63514	63655	63741	63824	63866	63910	63932	63954
850	67363	67512	67654	67741	67823	67866	67910	67932	67954
900	71360	71511	71653	71740	71823	71866	71910	71932	71954
950	75358	75509	75653	75740	75823	75866	75910	75932	75954
1000	79355	79508	79652	79739	79823	79866	79910	79932	79954

Table D-7: 60 Seconds Average Service Time

agents	delay times								
	11	15	22	30	45	60	90	120	180
1	7	7	8	9	11	13	17	22	29
2	35	36	40	43	50	56	66	74	85
3	72	75	81	87	97	106	120	130	143
4	113	118	126	135	149	160	177	188	202
5	158	164	175	186	202	216	234	246	261
6	204	212	225	238	257	272	292	305	321
7	253	262	277	292	313	329	351	364	380
8	302	313	330	346	370	387	410	424	440
9	352	365	383	401	427	445	469	483	500
10	403	417	438	457	484	503	528	542	559
12	508	524	548	570	600	620	646	662	679
14	614	632	659	684	716	738	765	781	799
16	721	742	772	799	833	856	884	900	918
18	830	853	886	914	951	975	1003	1020	1038
20	940	965	1000	1030	1069	1093	1123	1139	1158
25	1218	1248	1289	1322	1364	1390	1421	1439	1457
30	1500	1534	1579	1616	1661	1688	1720	1738	1757
35	1784	1822	1872	1911	1958	1987	2019	2038	2057
40	2071	2112	2165	2207	2256	2285	2319	2337	2357
45	2358	2403	2459	2503	2554	2584	2618	2637	2657
50	2648	2695	2754	2800	2852	2883	2918	2937	2956
60	3229	3281	3346	3395	3450	3481	3517	3536	3556
70	3813	3870	3939	3990	4047	4080	4116	4136	4156
80	4399	4460	4534	4587	4646	4679	4716	4735	4756
90	4987	5052	5129	5184	5244	5278	5315	5335	5356
100	5576	5645	5725	5781	5843	5877	5915	5935	5956
125	7054	7130	7216	7276	7340	7376	7414	7435	7456
150	8536	8618	8709	8772	8838	8875	8914	8934	8955
175	10021	10108	10204	10269	10337	10374	10413	10434	10455
200	11509	11600	11700	11767	11836	11873	11913	11934	11955
225	12998	13094	13196	13264	13335	13373	13413	13434	13455
250	14489	14588	14693	14763	14834	14872	14913	14934	14955
275	15980	16082	16190	16261	16333	16372	16412	16433	16455
300	17473	17578	17688	17760	17832	17871	17912	17933	17955
350	20460	20570	20683	20757	20831	20871	20912	20933	20955
400	23450	23563	23680	23755	23830	23870	23912	23933	23955
450	26440	26558	26677	26754	26829	26870	26911	26933	26955
500	29432	29553	29675	29752	29829	29869	29911	29933	29955
550	32426	32549	32673	32751	32828	32869	32911	32933	32955
600	35419	35545	35671	35750	35828	35869	35911	35933	35955
650	38414	38542	38669	38749	38827	38868	38911	38933	38955
700	41409	41539	41667	41748	41827	41868	41911	41933	41955
750	44404	44536	44666	44747	44826	44868	44911	44932	44955
800	47400	47534	47665	47747	47826	47868	47911	47932	47955
850	50396	50531	50664	50746	50826	50868	50910	50932	50955
900	53393	53529	53663	53745	53826	53867	53910	53932	53955
950	56389	56527	56662	56745	56825	56867	56910	56932	56955
1000	59386	59526	59661	59744	59825	59867	59910	59932	59955

Table D-8: 90 Seconds Average Service Time

agents	delay times								
	15	22	30	45	60	90	120	180	240
1	5	5	5	6	7	9	11	14	18
2	23	24	26	29	32	37	42	49	54
3	47	50	53	58	63	71	77	87	93
4	75	78	83	90	96	107	115	125	132
5	104	109	115	124	131	144	153	164	171
6	135	141	148	159	168	181	191	204	211
7	167	174	182	194	205	220	230	243	251
8	199	208	217	231	242	258	269	282	290
9	233	242	252	268	280	297	308	322	330
10	267	277	288	305	318	336	347	362	370
12	336	348	361	380	394	414	426	441	450
14	406	421	435	456	471	492	505	521	529
16	477	494	510	532	549	571	584	600	609
18	549	568	585	610	627	650	664	680	689
20	622	642	661	687	705	729	743	760	769
25	807	831	852	882	902	927	942	959	968
30	994	1021	1045	1077	1099	1126	1141	1159	1168
35	1182	1213	1239	1274	1297	1324	1341	1358	1368
40	1373	1406	1435	1471	1495	1524	1540	1558	1568
45	1564	1600	1630	1669	1693	1723	1740	1758	1768
50	1756	1794	1826	1867	1892	1922	1939	1958	1968
60	2142	2185	2220	2263	2290	2321	2338	2357	2367
70	2530	2577	2615	2660	2688	2720	2738	2757	2767
80	2920	2971	3011	3058	3087	3119	3138	3157	3167
90	3311	3365	3407	3456	3485	3519	3537	3557	3567
100	3703	3760	3804	3854	3884	3918	3937	3957	3967
125	4687	4750	4797	4851	4882	4917	4936	4956	4967
150	5673	5742	5792	5848	5881	5917	5936	5956	5967
175	6662	6735	6788	6846	6879	6916	6936	6956	6967
200	7653	7729	7784	7844	7878	7915	7935	7956	7967
225	8645	8725	8782	8843	8878	8915	8935	8956	8967
250	9638	9721	9779	9842	9877	9915	9935	9956	9966
275	10631	10717	10777	10841	10876	10914	10935	10956	10966
300	11626	11714	11775	11840	11876	11914	11934	11956	11966
350	13616	13708	13772	13838	13875	13914	13934	13955	13966
400	15608	15704	15769	15837	15874	15913	15934	15955	15966
450	17601	17700	17767	17836	17873	17913	17934	17955	17966
500	19594	19697	19765	19835	19873	19913	19934	19955	19966
550	21589	21694	21763	21834	21872	21913	21934	21955	21966
600	23584	23691	23762	23833	23872	23912	23933	23955	23966
650	25580	25689	25760	25833	25871	25912	25933	25955	25966
700	27576	27687	27759	27832	27871	27912	27933	27955	27966
750	29573	29685	29758	29832	29871	29912	29933	29955	29966
800	31569	31683	31757	31831	31871	31912	31933	31955	31966
850	33566	33682	33756	33831	33870	33912	33933	33955	33966
900	35563	35680	35755	35830	35870	35912	35933	35955	35966
950	37561	37679	37755	37830	37870	37912	37933	37955	37966
1000	39559	39678	39754	39830	39870	39911	39933	39955	39966

Table D-9: 120 Seconds Average Service Time

agents	delay times								
	15	22	30	45	60	90	120	180	240
1	3	4	4	4	5	6	7	9	11
2	17	17	18	20	22	25	28	33	37
3	34	36	37	40	43	49	53	60	65
4	54	57	59	63	67	74	80	88	94
5	76	79	82	88	93	101	108	117	123
6	99	102	106	113	119	129	136	146	153
7	122	126	131	139	146	157	165	175	182
8	146	151	156	165	173	185	193	205	212
9	170	176	182	192	201	213	223	234	241
10	195	202	209	220	229	242	252	264	271
12	246	254	262	275	285	300	310	323	331
14	298	307	316	331	342	358	369	383	390
16	350	361	371	387	399	417	428	442	450
18	404	415	427	444	457	475	487	502	510
20	457	470	483	501	515	534	547	561	570
25	594	609	624	646	661	682	695	711	719
30	732	750	767	791	808	830	844	860	869
35	872	892	911	937	956	979	993	1010	1019
40	1013	1035	1056	1084	1103	1128	1143	1159	1169
45	1155	1179	1201	1231	1252	1277	1292	1309	1318
50	1297	1324	1347	1379	1400	1426	1442	1459	1468
60	1584	1614	1641	1675	1697	1725	1741	1758	1768
70	1873	1906	1935	1972	1995	2024	2040	2058	2068
80	2163	2199	2230	2269	2293	2323	2340	2358	2368
90	2454	2493	2526	2566	2592	2622	2639	2658	2668
100	2746	2788	2822	2864	2891	2921	2939	2958	2967
125	3480	3527	3565	3610	3638	3670	3688	3707	3717
150	4216	4268	4309	4357	4386	4419	4437	4457	4467
175	4954	5011	5054	5105	5135	5168	5187	5207	5217
200	5694	5754	5800	5853	5883	5918	5937	5957	5967
225	6436	6499	6547	6601	6632	6667	6686	6706	6717
250	7178	7244	7294	7349	7381	7417	7436	7456	7467
275	7921	7990	8041	8098	8130	8166	8186	8206	8217
300	8665	8737	8789	8847	8880	8916	8936	8956	8967
350	10154	10230	10285	10345	10379	10416	10435	10456	10467
400	11645	11725	11782	11843	11878	11915	11935	11956	11967
450	13137	13220	13279	13342	13377	13415	13435	13456	13466
500	14630	14716	14776	14840	14876	14914	14935	14956	14966
550	16124	16213	16274	16339	16375	16414	16434	16456	16466
600	17618	17710	17773	17839	17875	17914	17934	17955	17966
650	19113	19207	19271	19338	19374	19414	19434	19455	19466
700	20609	20704	20769	20837	20874	20913	20934	20955	20966
750	22105	22202	22268	22336	22374	22413	22434	22455	22466
800	23601	23700	23767	23836	23873	23913	23934	23955	23966
850	25097	25198	25266	25335	25373	25413	25434	25455	25466
900	26594	26696	26765	26835	26873	26913	26934	26955	26966
950	28091	28195	28264	28334	28372	28413	28434	28455	28466
1000	29588	29693	29763	29834	29872	29913	29934	29955	29966

Table D-10: 180 Seconds Average Service Time

agents	delay times								
	15	22	30	45	60	90	120	180	240
1	2	2	2	2	3	3	3	4	5
2	11	11	11	12	13	14	16	19	21
3	22	23	24	25	26	29	31	35	39
4	35	36	37	39	41	45	48	53	57
5	49	51	52	55	57	62	66	72	76
6	64	66	67	71	74	79	84	91	96
7	79	81	83	87	91	97	102	110	115
8	95	97	100	104	108	115	121	129	134
9	111	113	116	122	126	134	140	148	154
10	127	130	133	139	144	152	159	168	174
12	160	164	168	175	180	190	197	207	213
14	194	198	203	211	217	228	236	246	253
16	228	233	239	247	255	266	274	285	292
18	263	269	275	284	292	305	313	325	332
20	298	304	311	322	330	343	353	364	372
25	387	395	403	416	426	441	451	463	471
30	478	487	497	511	523	539	549	563	571
35	570	581	591	607	620	637	648	662	670
40	662	674	686	704	717	736	747	762	770
45	755	769	782	801	815	834	847	861	870
50	849	864	878	898	913	933	946	961	970
60	1038	1055	1071	1094	1110	1132	1145	1160	1169
70	1228	1247	1265	1290	1307	1330	1344	1360	1369
80	1419	1441	1460	1487	1505	1529	1543	1560	1569
90	1612	1635	1656	1684	1703	1728	1743	1759	1769
100	1804	1829	1852	1882	1902	1927	1942	1959	1968
125	2289	2318	2343	2377	2399	2425	2441	2459	2468
150	2776	2809	2837	2873	2896	2924	2940	2958	2968
175	3264	3301	3331	3369	3394	3423	3440	3458	3468
200	3755	3794	3826	3867	3892	3922	3939	3958	3968
225	4246	4288	4322	4365	4391	4421	4439	4458	4468
250	4738	4783	4819	4863	4890	4921	4938	4957	4967
275	5231	5278	5316	5361	5388	5420	5438	5457	5467
300	5724	5774	5813	5859	5887	5920	5938	5957	5967
350	6713	6766	6808	6857	6886	6919	6937	6957	6967
400	7703	7760	7804	7854	7885	7918	7937	7957	7967
450	8694	8754	8800	8853	8883	8918	8937	8957	8967
500	9686	9750	9797	9851	9882	9917	9936	9956	9967
550	10680	10745	10795	10850	10882	10917	10936	10956	10967
600	11673	11742	11792	11848	11881	11917	11936	11956	11967
650	12668	12738	12790	12847	12880	12916	12936	12956	12967
700	13662	13735	13788	13846	13880	13916	13936	13956	13967
750	14657	14732	14786	14845	14879	14916	14935	14956	14967
800	15653	15730	15785	15845	15879	15916	15935	15956	15967
850	16649	16727	16783	16844	16878	16915	16935	16956	16967
900	17645	17725	17782	17843	17878	17915	17935	17956	17967
950	18641	18723	18780	18842	18877	18915	18935	18956	18966
1000	19638	19721	19779	19842	19877	19915	19935	19956	19966

Table D-11: 240 Seconds Average Service Time

agents	delay times								
	15	22	30	45	60	90	120	180	240
1	2	2	2	2	2	2	2	3	3
2	8	8	8	9	9	10	11	12	14
3	16	17	17	18	19	20	22	24	27
4	26	27	27	28	30	32	34	37	40
5	36	37	38	40	41	44	46	51	54
6	47	48	49	51	53	57	59	64	68
7	58	60	61	63	66	69	73	78	82
8	70	71	73	76	78	83	87	92	97
9	82	83	85	88	91	96	100	107	111
10	94	96	98	101	104	110	114	121	126
12	118	121	123	127	131	137	142	150	155
14	143	146	149	154	158	165	171	179	185
16	169	172	175	181	186	194	200	208	214
18	195	198	202	208	213	222	229	238	244
20	221	225	229	235	241	251	258	267	273
25	287	292	297	305	312	323	331	341	348
30	354	360	366	376	383	395	404	415	422
35	422	429	436	447	456	469	478	490	497
40	491	499	506	518	528	542	552	564	571
45	561	569	577	590	601	616	626	638	646
50	630	639	649	663	674	689	700	713	721
60	771	781	792	808	820	837	849	862	870
70	912	924	936	954	967	986	998	1012	1020
80	1055	1068	1081	1101	1115	1134	1147	1161	1170
90	1198	1213	1227	1248	1263	1283	1296	1311	1320
100	1341	1358	1373	1395	1411	1432	1445	1461	1469
125	1702	1722	1740	1765	1782	1805	1819	1835	1844
150	2065	2088	2108	2136	2155	2179	2193	2210	2219
175	2430	2455	2477	2507	2527	2552	2567	2584	2593
200	2796	2823	2847	2879	2900	2926	2942	2959	2968
225	3162	3192	3218	3251	3273	3300	3316	3334	3343
250	3530	3562	3589	3624	3647	3675	3691	3708	3718
275	3898	3932	3961	3997	4021	4049	4065	4083	4093
300	4267	4302	4332	4370	4394	4423	4440	4458	4468
350	5005	5045	5077	5117	5142	5172	5189	5208	5218
400	5746	5788	5822	5865	5891	5922	5939	5958	5968
450	6487	6532	6568	6612	6639	6671	6688	6707	6717
500	7229	7277	7315	7360	7388	7420	7438	7457	7467
550	7972	8022	8062	8109	8137	8170	8188	8207	8217
600	8715	8768	8809	8857	8886	8919	8937	8957	8967
650	9459	9514	9557	9606	9635	9669	9687	9707	9717
700	10204	10261	10304	10355	10385	10418	10437	10457	10467
750	10949	11007	11052	11104	11134	11168	11187	11207	11217
800	11694	11754	11800	11853	11883	11918	11937	11957	11967
850	12440	12502	12549	12602	12633	12668	12686	12706	12717
900	13186	13249	13297	13351	13382	13417	13436	13456	13467
950	13932	13997	14045	14100	14132	14167	14186	14206	14217
1000	14678	14744	14794	14849	14881	14917	14936	14956	14967

Table D-12: 300 Seconds Average Service Time

agents	delay times								
	15	22	30	45	60	90	120	180	240
1	1	1	1	1	1	2	2	2	2
2	6	6	7	7	7	8	8	9	10
3	13	13	13	14	14	15	16	18	20
4	21	21	21	22	23	24	26	28	30
5	29	29	30	31	32	34	36	39	41
6	37	38	39	40	41	44	46	49	52
7	46	47	48	50	51	54	56	60	63
8	56	56	57	59	61	64	67	71	75
9	65	66	67	69	71	75	78	83	86
10	74	76	77	79	81	85	89	94	98
12	94	95	97	100	102	107	111	117	121
14	114	116	117	121	124	129	133	140	144
16	134	136	138	142	145	151	156	163	168
18	155	157	159	164	167	174	179	186	191
20	175	178	181	185	189	196	202	210	215
25	228	231	235	240	245	253	260	268	274
30	281	285	289	296	302	311	318	327	333
35	336	340	345	352	359	369	377	387	393
40	390	395	401	409	416	427	435	446	453
45	445	451	457	466	474	486	494	505	512
50	501	507	513	524	532	545	554	565	572
60	612	620	627	639	649	662	672	684	691
70	725	734	742	755	766	781	791	804	811
80	838	848	857	872	883	899	910	923	931
90	952	963	973	989	1001	1018	1029	1043	1050
100	1067	1078	1089	1106	1119	1137	1148	1162	1170
125	1354	1368	1381	1401	1415	1434	1447	1461	1470
150	1643	1659	1675	1696	1712	1733	1746	1761	1769
175	1934	1952	1969	1992	2009	2031	2045	2060	2069
200	2225	2245	2264	2289	2307	2330	2344	2360	2369
225	2518	2539	2559	2586	2605	2629	2643	2660	2669
250	2811	2834	2855	2884	2904	2928	2943	2959	2969
275	3104	3129	3152	3182	3202	3227	3242	3259	3268
300	3398	3425	3449	3480	3501	3527	3542	3559	3568
350	3987	4017	4043	4076	4098	4125	4141	4159	4168
400	4578	4610	4638	4674	4697	4724	4741	4758	4768
450	5170	5204	5234	5271	5295	5324	5340	5358	5368
500	5762	5799	5830	5869	5894	5923	5940	5958	5968
550	6355	6394	6427	6467	6492	6522	6539	6558	6568
600	6948	6990	7024	7065	7091	7122	7139	7158	7168
650	7543	7586	7621	7664	7690	7721	7739	7757	7767
700	8137	8182	8219	8262	8290	8321	8338	8357	8367
750	8732	8779	8816	8861	8889	8920	8938	8957	8967
800	9327	9376	9414	9460	9488	9520	9538	9557	9567
850	9923	9973	10012	10059	10087	10120	10138	10157	10167
900	10518	10570	10610	10658	10687	10719	10738	10757	10767
950	11114	11167	11209	11257	11286	11319	11337	11357	11367
1000	11711	11765	11807	11856	11886	11919	11937	11957	11967

Table D-13: 600 Seconds Average Service Time

agents	delay times								
	22	30	45	60	90	120	180	240	360
1	1	1	1	1	1	1	1	1	1
2	3	3	3	3	3	4	4	4	5
3	6	6	7	7	7	7	8	8	9
4	10	10	11	11	11	11	12	13	14
5	14	14	15	15	15	16	17	18	19
6	19	19	19	19	20	21	22	23	25
7	23	23	24	24	25	26	27	28	30
8	28	28	28	29	30	30	32	33	36
9	32	32	33	34	35	36	37	39	41
10	37	37	38	38	40	41	43	44	47
12	47	47	48	48	50	51	53	55	58
14	56	57	58	59	60	62	64	67	70
16	66	67	68	69	71	73	76	78	81
18	77	77	78	80	82	84	87	89	93
20	87	88	89	90	93	95	98	101	105
25	113	114	116	117	120	123	127	130	134
30	140	141	143	145	148	151	156	159	164
35	166	168	170	172	176	179	185	188	193
40	194	195	198	200	205	208	214	218	223
45	221	223	226	228	233	237	243	247	253
50	248	250	254	257	262	266	272	277	282
60	304	306	310	314	320	324	331	336	342
70	360	363	367	371	378	383	390	395	402
80	416	419	424	429	436	442	450	455	461
90	473	476	482	487	495	501	509	514	521
100	530	533	539	545	553	560	568	574	581
125	672	677	684	691	700	708	717	723	731
150	816	822	830	837	848	856	866	873	880
175	961	967	977	984	996	1005	1016	1022	1030
200	1106	1113	1123	1132	1145	1154	1165	1172	1180
225	1251	1259	1270	1280	1293	1303	1314	1322	1330
250	1397	1405	1418	1428	1442	1452	1464	1471	1480
275	1543	1552	1565	1576	1591	1601	1614	1621	1630
300	1690	1699	1713	1724	1740	1750	1763	1771	1780
350	1983	1994	2010	2021	2038	2049	2063	2071	2079
400	2277	2289	2306	2319	2337	2348	2362	2370	2379
450	2572	2585	2603	2617	2636	2648	2662	2670	2679
500	2867	2881	2901	2915	2934	2947	2961	2970	2979
550	3163	3177	3198	3213	3234	3246	3261	3270	3279
600	3459	3474	3496	3512	3533	3546	3561	3569	3579
650	3755	3771	3794	3811	3832	3845	3861	3869	3879
700	4051	4069	4092	4109	4131	4145	4160	4169	4179
750	4348	4366	4391	4408	4431	4444	4460	4469	4479
800	4645	4664	4689	4707	4730	4744	4760	4769	4779
850	4942	4961	4988	5006	5029	5044	5060	5069	5079
900	5239	5259	5286	5305	5329	5343	5360	5369	5378
950	5536	5557	5585	5604	5629	5643	5660	5669	5678
1000	5834	5855	5884	5904	5928	5943	5959	5969	5978

Trunk Engineering Guidelines

The number of trunks required for an ACD is about 1.1 to 1.7 times the number of agents (when a blocked customer represents potential lost revenue). As in the case of agents, the number of trunks required for an ACD is based on the incoming traffic to *each split*, not the ACD as a whole.

The left-most column in Table D-14 lists the number of trunks required to service an ACD depending on the carried load in *erlangs* and the blocking probability. Blocking probability relates to the desired grade of service. The possible blocking probabilities are shown across the top of Table D-14, and the entries under the blocking probabilities are carried loads in *erlangs*.

To determine the number of trunks needed for a given split, use Table D-14 as follows:

- Estimate the average call duration: the total time a caller spends waiting for an answer, plus any time on hold (in queue), and plus the service time (the time the caller spends talking to an agent).
- Estimate the number of *busy-hour calls* received by the ACD during peak levels of caller activity.
- Multiply the call duration (in fractions of an hour) by the rate of *busy-hour calls* (in calls per hour). This number is the carried load in *erlangs*.
- Determine the desired grade of service (the blocking probability). The blocking probability for each split is defined as the ratio of blocked calls to the total number of incoming calls.
- In the column corresponding to the desired grade of service, choose the nearest bigger carried load. The number of trunks required is then read from the left-most column.

Note

The entries in Table D-14 are offered loads in *erlangs*.

Example 4:

An airline reservation agency has an ACD that queues calls after two ring cycles. The agency knows that the average caller spends 30 seconds waiting while queued to a split, and requires 6 minutes and 20 seconds to service. The busy-hour call arrival rate is 1980 per hour. How many trunks does the agency need to provide a service level of 99 percent?

$$\text{average call duration} = 12 + 30 + 380 = 422 \text{ seconds or } 0.11722 \text{ hours}$$

Therefore, the carried load in *erlangs* is:

$$\text{carried load} = 0.11722 * 1980 = 232.1$$

Under the 1 percent column, you will find that 250 trunks can service a carried load of 226.0 *erlangs* while 275 trunks can service 250.2 *erlangs*. Interpolate as follows:

y = number of trunks

$$y = y_0 + \left[(y_1 - y_0) \frac{x - x_0}{x_1 - x_0} \right]$$

$$y = 250 + \left[(275 - 250) \frac{232.1 - 226}{250.2 - 226} \right]$$

$$y = 250 + \left[25 \frac{6.1}{23.2} \right]$$

$$y = 256.3$$

Therefore, the agency will need 257 trunks to satisfy its customers.

Table D-14: ACD Trunk Engineering

Trunks	Blocking Probability								
	0.01%	0.02%	0.05%	0.10%	0.20%	0.50%	1.00%	2.00%	5.00%
1	.0002	.0003	.0006	.0011	.0021	.0050	.0100	.0200	.0500
2	.0142	.0202	.0321	.0457	.0652	.1049	.1511	.2190	.3622
3	.0868	.1102	.1516	.1936	.2482	.3473	.4509	.5902	.8544
4	.2347	.2824	.3622	.4388	.5340	.6977	.8607	1.070	1.448
5	.4519	.5269	.6482	.7614	.8981	1.126	1.347	1.624	2.108
6	.7282	.8314	.9952	1.145	1.323	1.614	1.890	2.230	2.812
7	1.054	1.186	1.392	1.577	1.795	2.147	2.476	2.877	3.551
8	1.422	1.582	1.829	2.049	2.306	2.716	3.096	3.555	4.316
9	1.825	2.013	2.300	2.555	2.849	3.316	3.745	4.258	5.102
10	2.260	2.474	2.801	3.089	3.420	3.941	4.417	4.982	5.905
12	3.207	3.473	3.876	4.227	4.628	5.253	5.817	6.482	7.553
14	4.238	4.555	5.030	5.441	5.907	6.630	7.278	8.036	9.243
16	5.338	5.703	6.246	6.715	7.244	8.059	8.786	9.632	10.97
18	6.495	6.905	7.515	8.038	8.626	9.530	10.33	11.26	12.72
20	7.700	8.154	8.827	9.402	10.05	11.04	11.91	12.92	14.49
25	10.88	11.44	12.26	12.96	13.74	14.92	15.96	17.15	18.99
30	14.24	14.90	15.86	16.67	17.57	18.94	20.13	21.49	23.56
35	17.75	18.49	19.58	20.50	21.52	23.05	24.39	25.91	28.19
40	21.37	22.19	23.40	24.42	25.55	27.24	28.72	30.38	32.87
45	25.08	25.98	27.31	28.42	29.65	31.50	33.10	34.89	37.57
50	28.86	29.85	31.28	32.48	33.81	35.80	37.52	39.45	42.31
60	36.62	37.75	39.38	40.75	42.27	44.53	46.48	48.65	51.84
70	44.57	45.83	47.66	49.19	50.88	53.39	55.55	57.95	61.43
80	52.68	54.07	56.07	57.75	59.60	62.35	64.71	67.31	71.08
90	60.92	62.42	64.60	66.42	68.42	71.40	73.94	76.74	80.76
100	69.26	70.87	73.21	75.17	77.31	80.51	83.22	86.21	90.48
125	90.47	92.35	95.07	97.33	99.82	103.5	106.6	110.1	114.9
150	112.1	114.2	117.3	119.8	122.6	126.8	130.3	134.1	139.4
175	134.0	136.3	139.7	142.5	145.6	150.2	154.0	158.2	163.9
200	156.2	158.7	162.4	165.5	168.8	173.8	177.9	182.4	188.6
225	178.5	181.3	185.2	188.5	192.1	197.5	201.9	206.7	213.3
250	201.0	203.9	208.2	211.7	215.6	221.3	226.0	231.1	238.0
275	223.7	226.8	231.3	235.0	239.1	245.1	250.2	255.5	262.7
300	246.4	249.7	254.4	258.4	262.7	269.1	274.4	280.0	287.5
400	338.4	342.3	347.9	352.6	357.8	365.3	371.6	378.2	386.7
500	431.4	435.9	442.3	447.7	453.6	462.2	469.3	476.7	486.2
600	525.1	530.1	537.3	543.4	549.9	559.5	567.3	575.5	585.7
700	619.4	624.9	632.8	639.4	646.6	657.1	665.6	674.5	685.4
800	714.2	720.1	728.7	735.8	743.6	754.9	764.1	773.5	785.1
900	809.3	815.7	824.9	832.5	840.8	852.9	862.7	872.7	884.8
1000	904.7	911.5	921.3	929.4	938.2	951.1	961.5	972.0	984.6
1100	1000	1008	1018	1026	1036	1049	1060	1071	1084
1200	1096	1104	1115	1124	1134	1148	1159	1171	1184
1300	1192	1200	1212	1221	1231	1246	1258	1270	1284
1400	1289	1297	1309	1319	1329	1345	1357	1370	1384
1500	1385	1394	1406	1416	1427	1444	1456	1469	1484
1600	1482	1490	1503	1514	1526	1542	1556	1569	1584
1700	1578	1587	1601	1612	1624	1641	1655	1668	1684

General Information

This appendix:

- Describes the optional Expert Agent Selection (EAS) feature and the advantages to your call center using the DEFINITY Generic 3 Version 2 or Generic 2.2 switch.
- Describes the planning you should do for your call center before activating the EAS feature.
- Explains what CMS and switch administration should be completed prior to activating the EAS feature.

Generic 3 Expert Agent Selection

Expert Agent Selection (EAS) is an optional feature that builds on the power of the Call Vectoring and ACD features of the switch to match the skills required to hand a particular call to an agent who has at least one of the skills that a caller requires. The ACD queuing and the vector commands *Queue-to-Main* and *Check-Backup* are used to route a call to an agent with the appropriate skill to handle that call. With EAS call distribution is based on **skill**. You can match the skills required to handle a particular call to an agent who has at least one of the skills that a caller requires.

Note

For more detailed EAS information, read AT&T 555-230-520, *DEFINITY Communications System Generic 3 Call Vectoring and Expert Agent Selection (EAS) Guide*, and the EAS and Call Vectoring feature descriptions in the AT&T 555-230-201, *DEFINITY Communications System Generic 3 Version 2 Feature Descriptions*, document that came with your switch.

Since the Call Vectoring feature is required to use EAS, see Appendix B, "Call Vectoring and Related Generic 3 Features", in this document for more vectoring information.

Advantages to Your Call Center

Because you can match the requirements of a caller to an agent with appropriate skill(s) and knowledge to handle the call, your call center can achieve the following:

Maximum profitability

- Greater customer satisfaction because the caller reaches (on the

first call) an agent with the necessary knowledge (skill) to handle the call.

- Improved employee satisfaction because agents will only handle calls they are most familiar (and most comfortable) with. It also offers agents a challenge to learn new skills.
- Ability to track number of calls handled by particular skills from the VDN perspective (see the VDN Skill Preference report). You can see whether vectors are performing as expected.

Skill Definitions

It is important that you understand the different skill definitions:

- **Skill**—In relationship to your call center, think of skill as a specific customer need/requirement or perhaps a business need of your call center. You will be defining your skills based on the needs of your customers and your call center.
- **Agent Skill**—The different types of calls a particular agent can handle. An agent can be assigned up to four skills. These skills are assigned as either primary or secondary skills.
 - **Primary Skill**—An agent will handle calls to primary skills before calls to secondary skills.
 - **Secondary Skill**—An agent will handle secondary skill calls after primary skill calls.
- **Skill Hunt Group**—Calls route to specific skill hunt groups, and these skill hunt groups are usually based on the needs of your customers. Agents are not assigned to a skill group (like split hunt groups), but agents are assigned specific skills that become active when they log in.
- **Caller Needs**—The reason(s) a customer calls your call center. When a customer calls your call center, the customer dials a specific number which will get the customer to the required skill, or the customer dials a general number and then is prompted (Call Prompting feature) to indicate the reason for the call (caller skill).
 You define the caller requirements in the vector for routing calls to an ACD agent with a particular set of skills to match the needs of the caller. These caller needs (skills) become active for an ACD call whenever a *queue to main skill* or *check backup skill* vector command is executed and the threshold condition is met.
- **VDN Skill Preference**—Up to three skills can be assigned to a vector directory number (VDN). Calls use VDN skills for routing based on your preference (as you administer it in the vector). VDN skill preferences are referred to in the vector as “1st,” “2nd,” “3rd.”

Note

When configuring your call center for skills, a particular skill number always has the same meaning, whether it is an agent skill, VDN skill, or skill hunt group.

EAS Capabilities

The EAS feature offers three major capabilities.

- **VDN/Agent Skill Call Distribution**
- **Logical Agent**
- **Direct Agent Calling.**

VDN/Agent Skill Call Distribution

The EAS feature enhances the Call Vectoring and Automatic Call Distribution features of the switch by distributing incoming calls based on specific skills assigned to a Vector Directory Number (VDN) or used in a vector, and skills assigned to an agent. For example, a caller would dial a particular number (VDN), and then that VDN will use a vector to queue the call to an agent with a skill that matches the VDN skill.

You can assign up to three different skills to a VDN in an order that meets your caller's needs. The first skill assigned to a VDN could be the skill that is required to best meet the needs of the customer that called the VDN. The second and third skills assigned to this VDN might represent backup skills that can also meet the caller's needs.

You can assign agents up to four skills. Each of these skills can be designated as primary or secondary skills. An agent will only receive calls to a secondary skill if there are calls waiting for any of the agent's primary skills. The type of call distribution only affects how a call is distributed if there are multiple agents available to take the call. Skill calls are distributed to agents in one of the following two ways.

- **Uniform Call Distribution (UCD)**—The most idle agent for the skill will receive the call (if the agent is available).
- **Expert Agent Distribution (EAD)**—A call queued for a skill will go to the most idle agent (primary skill agent). Agents who are idle and have secondary agent skills will receive the call queued for a skill if there are no primary agents available.

One of the first things you will want to do when designing an EAS call center is identify the needs of your customers and call center. The following call center example gives some customer needs and agent skills required to meet the customer needs.

The following call center example is the “Candy Store Inc.” company. The Candy Store Inc. call center concentrates on: catalog orders for retail customers which includes all candy, nut, and gift items; wholesale orders which include all the retail items plus supplies and equipment; and a customer service department that handles complaints from all customers.

Table E-1: Customer Needs/Agent Skill Example for Candy Store Inc.

Customer Needs	Required Agent Skill
Retail Orders	Know retail products, shipping interval, billing
Wholesale Orders	Know wholesale product line, shipping interval, billing
Customer Service	Handle problems associated with orders/billing

After determining your customer needs and the skills your agents need, you will assign caller needs on the switch. This means identifying skill hunt groups. In the case of the Candy Store Inc. Example, hunt group skills are assigned as follows. Notice that the Candy Store has a group of **Super Agents**. These agents can handle any call type.

Call Type	Skill Hunt Group
Retail	11
Wholesale	21
Order Processing	31
Customer Service	41
Super Agents (all call types)	99

Note

Skill Hunt Groups and VDNs must be assigned on the switch.

Assigning skill preferences and a vector to each VDN:

Call Type	VDN	Skill Preference			Vector #
		First	Second	Third	
Retail Orders	1000	11	21	99	2
Wholesale Orders	2000	21	11	99	2
Order Processing	3000	31	99		4
Customer Service	4000	41	99		4

Assigning skills to agents.

Agent	Skills Assigned
Mary Smith	11 primary

Agent	Skills Assigned	
Jo Little	21 primary	11 secondary
Sally Jones	31 primary	21 secondary
Ted Montez	11 primary	21 secondary
Ty Chin	99 primary	

Logical Agent

- With logical agent and skills, calls are routed to agents via the login ID rather than the extension number assigned to the voice terminal. The agent's login ID must be consistent with the dial plan of the switch. When an agent logs into an extension, the login ID **overrides** the extension as far as ACD tracking and some characteristics, such as name, class of restriction (COR), etc.



This may require a change to the CMS login ID when converting to EAS if the current ID is not a valid extension number or cannot be made available in the switch dial plan. Agent login IDs must be different from voice terminal extensions.

When a specific login ID is called, the switch routes the call to the voice terminal the agent is currently logged into. Logical Agent allows agents to be called without knowing which voice terminal the agent is using. Calls to agent login IDs can be delivered as direct agent calls with the proper class of restriction (see “Direct Agent Calling”) set for both the originating and receiving login ID/facility.

- Also with Logical Agent, agents are not assigned to skill hunt groups. Instead, an agent has specific skills (up to four) assigned to his or her login ID on a new switch administration form. When an agent logs in, the agent is associated with the assigned skill hunt groups and tracking begins for the assigned skill(s).



Agent login IDs are assigned in CMS from the “Dictionary—Login Identification” window. Agent login IDs must be different from voice terminal extensions.

- CMS automatically measures a logical agent administered with at least one measured skill when the agent logs in.

- Logical agent uses a single set of work-mode keys for all *skills*. This means that an agent is available or in AUX Work for all skills at the same time. An agent cannot be available in some skills and in AUX work in others.
- The voice terminal's key administration and automatic answer options do **not** follow the agent, but are associated with the physical extension.

Direct Agent Calling

Direct Agent Calling allows a call to a specific ACD agent to be treated as an ACD call. If that agent is logged in but not available, the call will queue for that agent. If the agent is not logged in, the call will follow the agent's coverage path. Zip-tone answer, ACW, and other ACD features can be used with direct agent calls.

EAS direct agent calling is accomplished by dialing the login with the proper class of restriction (COR) settings. Both the caller (i.e., trunk, VDN, station) and the agent must have the direct agent COR settings.

Customers could actually call an agent directly using Direct Inward Dialing (DID) if the agent's login ID is a published number, or customers could dial an 800 number and be prompted for the agent's login ID extension.

Vector Commands for Generic 3

The following describes the vector commands that support the Generic 3 Version 2 EAS feature and lists the valid input for each input field.

check backup skill *<skill>* **if** *<condition1>* *<number>*
go to step *<step>* **if** *<condition2>* **in skill** *<skill>* **is** *<comparator>* *<number>*
go to step *<step>* **if** *<condition3>* **in skill** *<skill>* **is** *<comparator>* *<number>* **pri** *<priority>*
go to vector *<vector>* **if** *<condition2>* **in skill** *<skill>* **is** *<comparator>* *<number>*
go to vector *<vector>* **if** *<condition3>* **in skill** *<skill>* **is** *<comparator>* *<number>* **pri** *<priority>*
messaging skill *<skill>* **for extension** *<extension>* **(G3V2)**
queue to main skill *<skill>* **priority** *<priority>*
converse on skill *<skill>* **priority** *<priority>* **passing** *<value1>* **and** *<value2>*

The following tables show the valid values for the input fields listed above.

Table E-2: Vector Command Input Field Values for Generic 3 Version 2

Field	Values	Notes
<i>skill</i>	1st, 2nd, 3rd 1-255	VDN skill preferences G3V2
<i>condition1</i>	unconditionally available agents > Staffed agents > calls queued < oldest call waiting	
<i>number</i>	see table below for valid values	
<i>step</i>	1-32	G3V2
<i>vector</i>	1-512	G3V2
<i>condition2</i>	unconditionally available agents staffed agents	
<i>condition3</i>	calls queued oldest call waiting	
<i>comparator</i>	> , <	
<i>priority</i>	low, med, high, top	only for calls queued condition on “go to” commands
<i>extension</i>	extension or “none”	G3V2
<i>value1, value2</i>	“noen”, “vdn”, “caller”, “digits”, “qpos”, or 1-6 characters: 0-9 and *, #	“digits” only if call prompting is optioned. If # is entered, it must be the first and only digit.

Table E-3: Vector Command Number Values

Field type	Values
available agents >	0-998
available agents <	1-999
staffed agents >	0-998
staffed agents <	1-999
calls queued >	0-998
calls queued <	1-999
oldest call waiting >	0-998
oldest call waiting <	2-998

Generic 2.2 Expert Agent Selection

Like Generic 3 EAS, Generic 2.2 EAS enhances the Call Vectoring and ACD feature capabilities by distributing selected ACD calls to subsets of ACD agents who are members of a larger skill hunt group. These agent subsets are based on the agents' call-handling skills, which could be based on agent training, type of product or service, foreign-language skills, or other expertise.

Since the Call Vectoring feature is required to use EAS, see Appendix C, "Call Vectoring and Related System 85/Generic 2 Features", in this document for more vectoring information.

Advantages to Your Call Center

Because you can match the requirements of a caller to an agent with appropriate skill(s) and knowledge to handle the call, your call center can achieve the following:

- Maximum profitability
- Greater customer satisfaction because the caller reaches (on the first call) an agent with the necessary knowledge (skill) to handle the call.
- Improved employee satisfaction because agents will only handle calls they are most familiar (and most comfortable) with. It also offers agents a challenge to learn new skills.
- Ability to track number of calls handled by particular skills from the VDN perspective (see the VDN Skill Preference report). You can see whether vectors are performing as expected.

Identifying Caller Needs

- You can have callers dial different telephone numbers based on their needs (DNIS).
- You can have callers use voice prompting to select their needs at a voice response unit (VRU).
- You can use ANI in an ASAI Gateway application that looks up a client host record and determines the caller's needs (e.g., agent the client has been working with).
- You can have the agent determine the caller's needs.

Skill Hunt Groups

Generic 2.2 EAS increases the number of agent groups by expanding each ACD split into a set of 10 skills called a *skill tens group*. That is, when EAS is active, each ACD split becomes a skill tens group (e.g., 10, 20, 30 ... up to 600, see example).

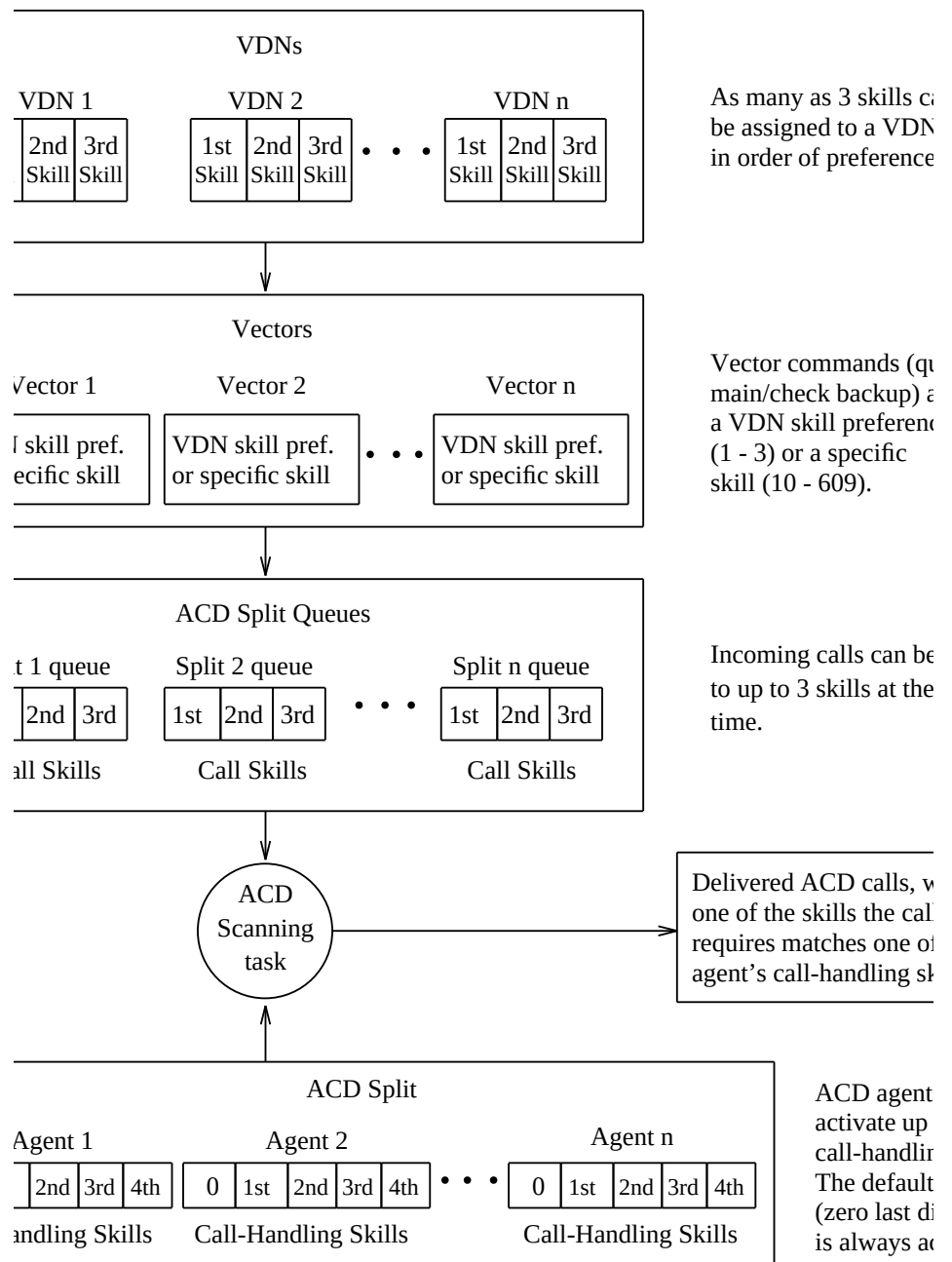
Split		Skill Tens Group
1	→	10 - 19
2	→	20 - 29
3	→	30 - 39
	•	
	•	
	•	
60	→	600-609

The EAS feature effectively increases the maximum number of agent groups from 60 (the maximum number of ACD splits) to 600.

Call Skills and Agent Skills

A skill is a 2-digit or 3-digit number in the range of 10 to 609. An incoming call acquires skills as it progresses through vector processing. Vectors contain commands that activate a VDN skill preference (1-3) or a specific skill (10 to 609). See Table E-1. For example, 123, the "12" means the skill tens group and the "3" means the actual skill number. An incoming call can queue up to three skills active at the same time.

ACD agents activate call-handling skills by dialing an access code followed by as many as four skill codes (see Table E-1). A skill code is a 1-digit number in the range of 1 to 9 and it corresponds to the last (right-most) digit of a skill. For example, to activate skills 21, 22, and 23, an agent (assigned to skill group 20) dials the Agent Skill Entry access code followed by the skill codes 1, 2, and 3.



The switch automatically assigns a default skill to an agent when the agent logs in. The default skill is the skill whose last (right-most) digit is zero (10, 20, 30, etc.). Every skill group has a default skill that is always in effect, whether an agent has activated skill codes or not. Agents who have only the default skill active can only receive calls that queue to the default skill. Because the default skill is active for all agents, a call that queued to the default skill can be delivered to any agent.

The ACD scanning task, see Table E-1, scans the incoming call queue and the agent queue associated with each ACD skill hunt group trying to match the skills a call has acquired to an agent's call-handling skills.

Both ACD calls and ACD agents may have one or more skills active. A call that has one or more skills active can only be delivered to an available agent if the call and the agent have at least one skill in common. A skill can be unique to each skill group or a common meaning can be defined for a given skill across two or more skill groups.

Activating Call Skills

There are two ways to activate call skills, the *referenced method* and the *direct method*. With the *referenced method*, skill preferences are assigned to a VDN and vector commands activate the skills. As many as three skills can be assigned to a VDN in order of preference. The first skill assigned to a VDN, called the first VDN skill preference, specifies the skill that is required to handle a call to the VDN. The second and third VDN skill preferences are optional or backup skills. With the *direct method*, vector commands also activate skills, but skill preferences do not have to be assigned to VDNs.

Referenced Method

Although these two ways of activating call skills are similar, there is an important difference. When the referenced method is used to activate call skills, a vector command can activate different skills for different VDNs. This is possible because a vector command activates a VDN skill preference (1 - 3) and different VDNs can be assigned different skill preferences. For example, if VDN 2000 is assigned 13 as its first skill preference and VDN 3000 is assigned 25 as its first skill preference, a vector command that activates the first VDN skill preference for VDNs 2000 and 3000 will queue calls for VDN 2000 to skill 13 and calls for VDN 3000 to skill 25.

If a vector command references a skill preference that is not assigned to the VDN, vector processing will skip the command. That is, if a VDN has one skill preference administered and the associated vector has a command that references the second or third skill preference, the command will be skipped.

Direct Method

When the direct method is used to activate call skills, vector commands activate the same skills for all calls processed by a particular vector, regardless of the VDN the caller dialed. This is because the vector commands activate a specific skill (10 to 609) rather than referencing a skill preference that could have different values for different VDNs.

The referenced or direct method of activating call skills can be used exclusively or a combination of the two methods can be used.

Call-Handling Skills

To activate call-handling skills, an ACD agent dials the Agent Skill Entry access code followed by as many as four skill codes. After dialing the last skill code, an agent can wait for timeout (10 seconds) or dial the end-of-dialing digit (#). If an agent is using a rotary telephone or some other equipment from which a # cannot be dialed, the agent must wait for timeout (ten seconds after entering the last skill code).

The digit 0 and the * are ignored as skill codes. For example, the following entries

3700#

or

37**#

are interpreted as skills 3 and 7. Also, entering the same agent skill more than once is allowed, but the duplicate entries are ignored. For example, the following entries

3344#

or

3434#

are interpreted as skills 3 and 4.

The order in which skill codes are entered does not effect call delivery. In other words, entering skill code 3 first and skill code 7 second does not mean that an agent is more likely to receive more skill-3 calls than skill-7 calls.

To Activate Call-Handling Skills

To activate call-handling skills, an agent must be logged into the ACD. Any active call-handling skills are cleared when an agent unstaffs or logs out. Call-handling skills can be changed (by activating different skills) without logging out.

- 1. Go off-hook on an idle appearance. [Dial tone]
- 2. Dial the Agent Skill Entry access code. [Dial tone]
- 3. Dial up to four skill codes followed by # (the end-of-dialing digit) or wait 10 seconds for timeout. [Confirmation tone]

To Cancel Call-Handling Skills

- 1. Go off-hook on an idle appearance. [Dial tone]
 - 2. Dial the Agent Skill Entry access code. [Dial tone]
 - 3. Dial # (the end-of-dialing digit). [Confirmation tone]
- or

Wait 10 seconds for timeout. [Confirmation tone]

Note

While logged in, agents retain the default skill.

**Vector
Commands for
Generic 2.2**

The following describes the vector commands that support the Generic 2.2 EAS feature and lists the valid input for each input field.

```
check backup skill <skill> if <condition1><number>
go to step <step> if <condition2> in skill <skill> is <comparator> <number>
go to step <step> if <condition3> in skill <skill> is <comparator> <number> pri <priority>
go to vector <vector> if <condition2> in skill <skill> is <comparator> <number>
go to vector <vector> if <condition3> in skill <skill> is <comparator> <number> pri <priority>
queue to main skill <skill> priority <priority>
```

The following tables show the valid values for the input fields listed above.

Table E-4: Generic 2.2 Input Field Values for Vector Commands

Field	Values	Notes
<i>skill</i>	1st, 2nd, 3rd 10-609 10, 20, ..., 600	VDN skill preferences all conditions except OCW OCW condition
<i>condition1</i>	unconditionally available agents > Staffed agents > calls queued < oldest call waiting	requires "0" skill
<i>number</i>	see table below for valid values	
<i>step</i>	1-15	
<i>vector</i>	1-511	
<i>condition2</i>	unconditionally available agents staffed agents	
<i>condition3</i>	calls queued oldest call waiting	required "0" skill
<i>comparator</i>	> , <	
<i>priority</i>	low, med, high, top	only for calls queued condition on "go to" commands

Table E-5: Generic 2.2 Number Field Values

Field type	Values
available agents >	0-1023
available agents <	1-1024
staffed agents >	0-1023
staffed agents <	1-1024
calls queued >	0-99
calls queued <	1-99
oldest call waiting >	0-998
oldest call waiting <	1-999

Differences Between Generic 2.2 EAS and

Generic 3 Version 2 EAS

The following information is useful if you have both a Generic 2.2 switch with EAS and a Generic 3 Version 2 switch with EAS.

- Agents can be assigned *four* skills on Generic 3 Version 2 and can log into **five** on Generic 2.2 (four plus the default skill).
- On Generic 2.2, agents can log into multiple splits skills only within a skill tens group.
- On a Generic 2.2, calls can be queued up to three skills within a skill tens group. If a call is queued in one skill tens group (e.g., skill 13) and then queued to a different skill tens group (e.g., skill 23), the call is removed from the queue of the original skill group. This also applies to calls queued using VDN Skill Preferences.
- Generic 2.2 does not have Logical Agent capabilities. On a Generic 2.2, voice terminals are preassigned to default skill tens groups (groups ending in zero). The voice terminal extension is used to provide a name, class of restriction (COR), and coverage path. On a Generic 3 Version 2, any voice terminal can be used as an ACD terminal for any skill. Agents can be reached by dialing their login ID. Name, COR, and coverage path follow the agent to the voice terminal in which the agent is currently logged into.
- Generic 2.2 does not support direct agent calling.
- Generic 2.2 and Generic 3 Version 2 have different login procedures.
- On a Generic 2.2, agents log into skills individually. On a Generic 3 Version 2, agents are assigned skills and automatically take calls for those skills when they login. Generic 3 Version 2 agents cannot change their skills.
- On a Generic 2.2, the agent's default skill can be change through CMS if the agent is unstaffed. On a Generic 3 Version 2, the agent's skill can be changed through CMS with the agent logged in; however, the change takes effect the next time the agent logs in.
- On a Generic 3 Version 2, primary and secondary priorities are assigned to the skills an agent is assigned. You cannot do this on Generic 2.2. Generic 2.2 does not support Expert Agent Distribution (EAD) call distribution.

-
- On Generic 3 Version 2, call prompting in a vector can be used to determine a caller's needs. A Generic 2.2 must use a Voice Response Unit (VRU). (Generic 2.2 does not support Call Prompting.)
 - On a Generic 2.2, the “oldest call waiting” condition on the *check backup* and *goto* vector commands support only the default skill (not on a per skill basis).
 - On a Generic 2.2, agent extensions are members of skill groups. On a Generic 3 Version 2, skills are assigned to agents.
 - Generic 2.2 supports a maximum of 600 skills. A Generic 3r Version 2 supports 255, Generic 3i Version 2 supports 99, and Generic 3s supports 24.
 - The maximum number of measured agents (i.e., agents logged in at one time) on a Generic 2.2 is 1023 (each with up to five skills). The maximum number of measured agents on a Generic 3 Version 2 is 5200 (each with up to one skill) or 1300 agents (each with up to four skills).
 - On Generic 2.2, the Most Idle Agent (MIA) call distribution algorithm is a default skill (skill tens group) basis. On Generic 3 Version 2, the MIA algorithm is on a per skill basis (call Uniform Call Distribution on Generic 3 Version 2).

Planning for EAS

This section describes the planning that you should do before activating the EAS feature. This section has the following information.

- Things to Know Before You Start (includes switch and CMS capacities).
- Determining Your Call Center Objectives
- Required Switch Administration
- Required CMS Administration.

Things to Know Before You Start

- You must have the Call Vectoring feature with EAS.
- Skill hunt groups replace splits in the EAS environment and are vector-controlled hunt groups.
- You can use the Multiple Split/Skill Queuing feature with EAS to queue calls simultaneously to up to three skills.

- Login IDs should start with a unique digit in the dial plan (e.g., 5111, 5123, 54321). It is preferable to dedicate a block of numbers for login IDs. This makes EAS administration and call tracking easier.

If your login IDs do not have the same first digit and the login IDs are 4 digits, consider going to a 5-digit dial plan.

Capacities

The following table shows the capacities supported by the Generic 3 Version 2 switch, Generic 2.2 switch, and CMS. You need to be aware of these limits when designing your call center with EAS.

Table E-6: Switch and CMS Capacities for EAS

Item	Generic 3vs Version 2 PBP (Note 1)	Generic 3s Version 2 PBP (Note 1)	Generic 3i Version 2	Generic 3r Version 2	Generic 2.2	CMS
VDN Skill Preferences	3	3	3	3	3	3
Agent Skill assignments	4	4	4	4	5 (default [†])	5
Skills queued to simultaneously	3	3	3	3	3	3
Skills	24	24	99	255	600	600
Agent/Skill combinations*	150	150	500	5,200	5,115	5,200
Agent Login IDs	450	450	1,500	10,000	10,000	10,000
Vectors	48	58	256	512	511	2,048
Vector Steps per vector	32	32	32	32	15	32
VDNs	100	100	512	20,000	32,000	NA
Measured VDNs	100	100	512	2,000	2,000	2,000
Note 1: PBP = Premier Business Package * This is the maximum number of agent/skill combinations supported by the switch and CMS. An agent logged into multiple skills counts as multiple agent/skill combinations. For example, you can have 5200 agents with one skill, but you can only have 1300 agents if each agent is assigned the maximum of four skills. You can have any combination as long as the total does not exceed the maximum allowed for your switch. [†] The agent can be logged into four skills plus the default skill.						

Call Center Objectives

To take full advantage of the EAS feature, use the worksheets to help you do the following:

- Determine your call center's objectives.
Look at how your call center is currently handling calls and what you want to achieve using the EAS feature.
- Identify the needs of your customers.
Why do people call your company and are the company objectives meeting the needs of your customers?
- Identify the skills needed to meet your customers' and your call center's needs.
- Identify the skills of each agent. Do the agents have the skills to match the needs of the customer? Will training be required?

Table E-7: Candy Store Inc. Objectives Example

What Are My Call Center Objectives?
A 10-second average speed of answer
An average talk time of 3 minutes
Handle wholesale equipment orders
Handle sugar-free orders
Handle retail orders
Run specials and increase sales 20%

Table E-8: Call Center Objectives Worksheet Generic 3

What Are My Call Center Objectives?

Table E-9: Customer Needs Worksheet Generic 3

Customer/Call Center Needs	Skill Name	Skill Number	UCD/ EAD	Class of Restriction

When defining your skills, be aware of how you can combine skills for backup purposes.

Table E-10: Individual Agent Skill Worksheet Generic 3

Agent Name	Login ID	Direct Agent?	COR	Coverage Path

Table E-11: VDN Skill Preferences Worksheet Generic 3

VDN	VDN Name	Vector	COR	Skill Preferences		
				1st Skill Name/#	2nd Skill Name/#	3rd Skill Name/#

Table E-12: Agent Skills Worksheet Generic 3

	Agent Name	Login ID	1st Skill (Primary/ Secondary)	2nd Skill (Primary/ Secondary)	3rd Skill (Primary/ Secondary)	4th Skill (Primary/ Secondary)	COR
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.							
19.							
20.							
21.							
22.							
23.							
24.							
25.							
26.							
27.							
28.							
29.							
30.							

* Direct agent calls go to this skill first.

Table E-13: Call Center Objectives Worksheet Generic 2.2

What Are My Call Center Objectives?

Table E-14: Customer Needs Worksheet Generic 2.2

Skill Tens Group Name _____

Skill Group Number _____

Customer/Call Center Needs	Skill Name	Skill Number
_____	_____	____1

_____	_____	____2

_____	_____	____3

_____	_____	____4

_____	_____	____5

_____	_____	____6

_____	_____	____7

_____	_____	____8

_____	_____	____9

Table E-15: Individual Agent Skill Worksheet Generic 2.2

Agent Name: _____

Agent Login ID: _____

Extension (Optional): _____

Skill Tens Group: _____

Skill Name	Skill Number

Table E-16: VDN Skill Preferences Worksheet Generic 2.2

VDN	VDN Name	Vector	COR	Skill Preferences		
				1st Skill Name/#	2nd Skill Name/#	3rd Skill Name/#

[illegible]

E-30 CMS Administration

Be aware of the following before you start any switch administration.

- You may enable EAS without activating EAS. This allows most of EAS to be administered without your call center being down.
- Agent login ID administration and VDN Skill administration can be administered on the switch prior to activating the EAS feature.
- Existing vectors will work indicating specific skills.
- All agents must be administered as Logical Agents (administration of login IDs and skills on the switch).
- Unused hunt groups/vectors can be administered as skill hunt groups/vectors prior to activating EAS, but hunt groups being used must be connected at the time EAS is activated.

Switch Forms

Before activating the EAS feature, make sure the following switch administration has been completed, and you understand how calls will be routed to agents.

- **System Parameters Optional Features**

On this screen, the Expert Agent Selection (EAS) Enabled? field will be changed to “y” (yes) when the system is cut.

- **Dial Plan**

You may do a change dialplan.

It is **recommended** that Login IDs start with a unique digit in the dial plan (e.g., 5111, 5123, 54321). It is preferable to dedicate a block of numbers for login IDs.

If your login IDs do not have the same first digit and the login IDs are 4 digits long, consider going to a 5-digit number for login IDs.

Note

This may require a change to the CMS login ID if the current ID is not a valid extension number or cannot be made available in the switch dial plan. Agent login IDs must be different from assigned voice terminal extensions.

- **VDN Form**

You will be adding or changing VDNs from this screen and designating skill preferences.

- **Vector Form**

You will be changing vectors from this screen.

- **Hunt Group Form**

You will be adding or changing skill hunt groups from this screen.

The Skill?, ACD?, and Vector? fields must be all yes or all no.

The hunt group types should be either **UCD** or **EAD**.

Note

Agents are not administered on the hunt-group form when EAS is enabled.

- **Agent Login ID Form**

You will be adding or changing agent login IDs and skill assignments.

Note

When adding or changing skills, an agent must log out and then log in again before the changes take effect.

- **Station Form**

Only a single set of work mode keys is needed with EAS. Remove additional sets of keys (if administered for agents in multiple splits).

Prerequisite Generic 2.2 Switch Administration

Before activating the EAS feature, make sure the following switch administration has been completed, and you understand how calls will be routed to agents.

- Assignment of the EAS feature is on a per-system basis by authorized AT&T personnel.
- The Automatic Call Distribution and Call Vectoring features must be administered.
- The following are the applicable administration procedures for EAS.

Administration Procedures Expert Agent Selection			
Procedure	Word	Purpose	SMT
030	2	Beginning with DEFINITY Generic 2.2, Procedure 030, Word 2 is used to add a new vector or to change, copy, or remove an existing vector. (Prior to DEFINITY Generic 2.2, Procedure 030, Word 3 was used to add, change, copy, or remove vectors.)	Yes
030	3	Assigns VDN skill preferences (1 - 3) or specific skills (10 - 609) to vector commands.	Yes
031	2	Assigns up to 3 skill preferences to a VDN.	Yes
276	1	Assigns Expert Agent Selection to the feature group class of service.	No
350	2	Assigns the Agent Skill Entry dial access code. The applicable encode is: 107 Agent Skill Entry	No

CMS Administration to Use EAS

CMS further enhances EAS tracking by allowing you to do the following:

- Reports (see Chapter 4, "Real-Time Reports", Chapter 5, "Historical Reports" and Chapter 9, "ACD Administration"—Configuration Reports.)

Agent activity is summarized over all skills or broken out by skill.

VDN skill activity is found in the VDN Skill Preference reports (one real-time and one historical).

- Dictionary (see Chapter 7, "Dictionary")

— Login IDs

Assign agent names to login IDs so agent names appear on CMS reports. See "Switch Administration Required" for more information on the recommended digit use for login IDs.



It is recommended that you use on CMS the same names administered on the switch Login form.

— Skill names

Assign names to skills so skill names appear on CMS reports.

- Exceptions (see Chapter 8, "Exceptions")

Administer appropriate skill exceptions.

- ACD Administration (see Chapter 9, "ACD Administration")

From CMS, you can do the following at any time:

- Add, change, or delete VDN skill preferences.
- Add, change or delete agent skills (Generic 3 Version 2). These changes do not take effect until the agent logs out and then logs back in.
- Use the Vector Contents window to create, modify, or delete vectors.
- Move agent extensions between skill tens group (Generic 2.2 with EAS only).

- User Permissions (see Chapter 10, "User Permissions")

Grant skill access from the Split/Skill Access window.

Additional Call Data With EAS

With EAS, the following additional data tracking is available.

- **Direct Agent calls** (Generic 3)

CMS tracks the queue time for the direct agent calls waiting in any skill for an agent, unless that skill is unmeasured. If the skill is not measured, CMS credits the agent with a direct agent call and no queue time is tracked.

Skill/Split Tables

The Skill/Split tables keep the following direct agent call information.

- The number of direct agent calls queued in this split/skill's queue, and the number of direct agent calls ringing at the agent in this split/skill.
- Number of agents in this split/skill currently on direct agent calls or in ACW for direct agent calls.

Agent Tables

The agent tables separate direct agent calls from ACD calls. Items that track direct agent and time start with **DA_** or **I_DA_**.

Note

The standard real-time and historical reports combine direct agent and split/skill ACD calls. You can separate these items by creating a custom report. See the AT&T 585-215-523, *Call Management System Custom Reports*, document for custom report creation information.

VDN/Vector Tables

The VDN and vector tables include direct agent calls with split/skill ACD calls. Specific tracking is not provided.

- **Personal calls**

The first measured skill a logical agent is logged into (whether primary or secondary) is used by CMS to track non-ACD calls unless the agent has an ACD call on hold, and the agent is not yet available for other ACD calls. In this case, the non-ACD call is credited to the skill/split of the ACD call.

Database Items

The following database items have been added to the CMS real-time and historical databases.

Real-Time

Table E-18: Agent Real-Time Database Items

Database Item	Description
DA_ACWINCALLS	The number of inbound extension calls received by an agent in ACW for direct agent calls.
DA_ACWINTIME	The talk time of all DA_ACWINCALLS (does not include HOLDTIME).
DA_ACWOCALLS	Number of outbound extension calls made by the agent in ACW for direct agent calls.
DA_ACWOTIME	Talk time of all DA_ACWOCALLS (does not include HOLDTIME).
DA_ACWOADJCALLS	Number of DA_ACWOCALLS that were placed by an adjunct (Generic 2.2 - AG, Generic 3 ASAI) on behalf of an agent (keyboard-dialed).
DA_ACWOFFFCALLS	Number of DA_ACWOCALLS that were made to an off-premises location.
DA_ACWOFFFTIME	Talk time of all DA_ACWOFFFCALLS (does not include HOLDTIME).
LOGONSKILL LOGONSKILL2 LOGONSKILL3 LOGONSKILL4 LOGONSKILL5 (G2.2 only)	The skill numbers with which the agent logged in.
SKILLTYPE, (G3V2 only) SKILLTYPE2 SKILLTYPE3 SKILLTYPE4	The type (primary or secondary) for each skill the agent logged into (G3V2 only).

Table E-19: Split Real-Time Database Items

Database Item	Description
WORKSKILL	The skill associated with the call the agent is on or for which the agent is in after call work. If the agent is available, nothing is shown here, since the agent must be available in all skills to show as available. If the agent is on an AUXIN call, an AUXOUT call, a direct agent call, or is in ACW not associated with a call, the skill shown will be the first one administered and logged into.
WORKSPLIT4*	A skill/split the agent is available in.
WORKSPLIT5* (Generic 2.2 only)	A skill the agent is available in.

*WORKSPLIT2 and WORKSPLIT3 already existed in R3.0 CMS for agents in multiple splits.

Historical

The following agent historical database items have been added to the agent tables because of direct agent calling.

Table E-20: Agent Historical Database Items

Database Item	Description
DA_ACWINCALLS	The number of inbound extension calls received by an agent in ACW for direct agent calls.
DA_ACWINTIME	The talk time of all DA_ACWINCALLS (does not include HOLDTIME).
DA_ACWOCALLS	Number of outbound extension calls made by the agent in ACW for direct agent calls.
DA_ACWOTIME	Talk time of all DA_ACWOCALLS (does not include HOLDTIME).
DA_ACWOADJCALLS	Number of DA_ACWOCALLS that were placed by an adjunct (Generic 2.2 - AG, Generic 3 ASAI) on behalf of an agent (keyboard-dialed).
DA_ACWOFFFCALLS	Number of DA_ACWOCALLS that were made to an off-premises location.
DA_ACWOFFFTIME	Talk time of all DA_ACWOFFFCALLS (does not include HOLDTIME).

Table E-21: Agent Login/Logout Historical Database Items

Database Item	Description
LOGONSKILL LOGONSKILL2 LOGONSKILL3 LOGONSKILL4	The skill numbers with which the agent logged in.
LOGONSKILL5 (Generic 2.2 only)	The fifth skill number with which the agent logged in.
SKILLTYPE (G3V2 only) SKILLTYPE2 SKILLTYPE3 SKILLTYPE4	The type (primary or secondary) for each skill the agent logged into (G3V2 only).

Table E-22: VDN Database Items

Database Item	Description
SKILL1-3	Skill preference number for the VDN.
SKILLCALLS1-3	The number of calls answered by each VDN skill preference.
SKILLTIME1-3	The time spent talking on calls answered by each VDN skill preference.
SKILLACWTIME	The ACW time spent for calls answered by each VDN skill preference.

Glossary

The terms defined in this glossary apply to the administration, installation, maintenance, and migration of the following versions of the Call Management System (CMS):

- R3
- R3V1
- R3V2
- R3V2 High Performance Platform
- ACDN: CCMS and RCMS

ACD See *Automatic Call Distribution*.

ACDN See *Automatic Call Distributor in the Network*.

ACW See *After Call Work*.

ADU See *Asynchronous Data Unit*.

AUX See *Auxiliary Work*.

AVAIL See *Available*.

Abandoned Call A call in which a caller hangs up before receiving an answer from an agent. The call could be queued to a split or in the vector/VDN before abandoning.

Access Permissions Permissions assigned to a CMS user so that user can access different subsystems in CMS or administer specific elements (splits/skills, trunks, vectors, etc.) of the ACD. Access permissions are specified as **read** or **write** permission. Read permission means the CMS user can access and view data (for example, run reports or view the Dictionary subsystem). Write permission means the CMS user can add, modify, or delete data and execute processes.

ACD Call A call that queued to a split/skill and was answered by an agent in that split/skill, or a call that queued as a direct agent call and was answered by the agent to whom it was queued.

Acknowledgment	A window that requires you to confirm an action or to acknowledge a system message (e.g., system going down, warning, or fatal error for the user window). This window cannot be moved, sized, or scrolled and disappears only when you confirm the message.
Action List	A menu in the upper right corner of most user windows. The menu lists the actions available for that particular user window (e.g., add, modify, delete, etc.). You select an action after entering necessary data in the user window.
Add Package (High Performance Platform)	(Definition needs to be taken from Answerbook)
After Call Work (ACW)	An agent state generally representing work related to the preceding ACD call. Going on-hook after an ACD call during MANUAL-IN operation places the call in ACW. With Generic 1 and Generic 3, ACW is accessible by a key on the agent's set and may not be related to an ACD call.
Agent	A person who answers calls to an extension in an ACD split/skill. The agent is known to CMS by a login identification keyed into a voice terminal.
Agent Login ID	A 1- to 4-digit number (Generic 2/System 85) or a 1- to 9-digit number (Generic 1/Generic 3) entered by the agent at the ACD extension to activate the position. Agent logins are required for all CMS-measured ACD agents.
Agent Occupancy	The average percentage of time that you are expecting or targeting for each split/skill agent to spend, while logged in, on ACD calls and in after-call-work.
Agent Position (Non-EAS)	The combination of agent login ID and split the agent logged into. Agents logged into multiple splits have multiple positions associated with them. Call data are collected separately for each agent/split combination.
Agent Position (EAS)	The combination of agent login ID and the skills the agent is assigned. Data are collected for the agent by skill, so the total work for the agent must be summed over all skills in which the agent worked.
Agent Skill	The different types of calls a particular agent can handle. An agent can be assigned up to four skills. These skills are assigned as either primary or secondary skills. See "Primary Skill" or "Secondary Skill" definitions in this Glossary.

Agent State	A feature of agent call handling. Agent states are the different call work modes an agent can be in (ACD, ACW, AVAIL, AUX, UNSTAFF, DACD, DACW, OTHER, UNKNOWN, RING). Data about these states is displayed in real-time and historical reports. See the definition of each state for additional information.
Algorithm	A prescribed set of well-defined rules or instructions for the solution of a problem; for example, the performance of a calculation, in a finite number of steps. Expressing an algorithm in a formal notation is one of the main parts of a software program.
Announcement	A recorded message that normally tells the caller what destination the call has reached. The announcement also often tries to persuade the caller to stay on the line. With Call Vectoring, announcements can be part of a vector's call processing. An announcement is assigned to a vector by entering an announcement number.
Asynchronous Connector	A logical device used to control the computer timing protocol in which a specific operation is begun upon receipt of an indication (signal) that the preceding operation has been completed.
Asynchronous Data Transmission	A scheme for transmitting data where each character is preceded by a start bit and followed by a stop bit, thus permitting data elements to occur at irregular intervals. This type of transmission is advantageous when transmission is not regular (characters typed at a keyboard).
Asynchronous Data Unit (ADU)	A data communication equipment (DCE) -type device that allows direct connection between RS-232 equipment and the digital switch.
Automatic Call Distribution (ACD)	A switch feature. Automatic Call Distribution (ACD) is software that channels high-volume incoming call traffic to agent groups (splits or skills). Also an agent state where the extension is engaged in an ACD call (with the agent either talking to the caller or the call waiting on hold).
Automatic Call Distributor in the Network (ACDN)	The Automatic Call Distributor in the Network (ACDN) is a specific application for the CMS software. It allows multiple Remote CMSs (RCMS) to be connected, through a network, to a Centralized CMS (CCMS) where historical data for all of the RCMSs is compiled and stored.
Auxiliary Work (AUX)	An agent state. For example, the agent is engaged in non-ACD work, is on break, in a meeting, or at lunch. An agent can reach this state by pressing the AUX WORK button or dialing the proper access code from

the voice terminal. The agent can also reach the state by going off-hook to make or answer an extension call while in AVAIL or with a call on hold.

Available (AVAIL)	An agent state. The extension is able to accept an ACD call.
Average Agent Service Time	The average time you are expecting or targeting for each agent to spend on an ACD call, including talk time and after-call-work time.
Average Speed of Answer	The average amount of time a caller waits in queue before connecting to an agent. Average speed of answer is usually an objective set by your call center's management.
Backup	The process of protecting data by writing the contents of the disk to a tape that can be removed from the computer environment and stored safely.
Blocking	Used by the Forecasting subsystem just as traffic engineers use it: to model system performance based on specified levels of accessibility to the system. This blocking feature is administered on a trunk-group-by-trunk-group basis. This feature also allows you "what if" modeling options — by allowing conceptual control over the trunking just as call characteristics allow conceptual control over agent activities.
Bus	A signal route to which several items of a computer system may be connected in parallel so that signals can be passed between them. In general, a multiconductor electrical path used to transfer information over a common connection from any of several sources to any of several destination.
CCMS	See <i>Centralized Call Management System</i> .
CMS	See <i>Call Management System</i> .
CMS Large (High Performance Platform)	One of two hardware configurations for the CMS product line. Handles 64MB RAM, 3GB hard disk, 1 processor.
CMS QL	A relation database management system used to organize most of CMS's data. CMS QL is used in place of INFORMIX SQL.
CMS X-Large (High Performance Platform)	One of two hardware configurations for the CMS product line. Handles 128MB RAM, 3GB hard disk, 2 processors.
CO	See <i>Central Office</i> .

CONN	See <i>Connected</i> .
Calculation	A menu selection in the CMS Dictionary subsystem which gives the abbreviated name (calculation name) for the calculation that generates the data for a field in a report.
Call-Based Items	The category of database items in CMS that are committed to the database after the call completes. If a call starts and ends in different intrahour intervals, all of the call-based data is recorded in the interval in which the call completed. Most database items are call-based.
Call Handling Profile	A set of objectives describing how you want a split/skill to handle calls.
Call Management System (CMS)	A software product used by business customers that have AT&T telecommunications switches and receive a large volume of telephone calls that are processed through the Automatic Call Distribution (ACD) feature of the switch. The CMS collects call-traffic data, formats management reports, and provides an administrative interface to the ACD feature in the switch.
Call Vectoring	A highly flexible method for processing ACD calls using VDNs and vectors as processing points between trunk groups and splits. Call vectoring permits treatment of calls that is independent of splits.
Call Volume/Agents Forecast	A type of forecast report which calculates the expected number of calls (forecast calls carried) and the number of agents required to handle those calls within the objectives you specified in the call handling profile.
Caller Needs	The reason(s) a customer calls your call center (used with the Expert Agent Selection feature).
Calls Carried	Trunk data. The number of inbound/outbound calls carried. Forecasting uses historical data to determine the sum of the ACD and abandoned calls (see also Number of Calls Carried and Forecast Calls Carried).
Caution Condition	A graph term. The bars in the graph report have changed color or intensity indication that the data being displayed met your defined first threshold limit, or the bars have changed from the Warning condition back to the Caution condition.
Central Office (CO)	The location housing telephone switching equipment that provides local telephone service and access to toll facilities for long-distance calling.

Centralized Call Management System (CCMS)	The customer master site to which all Remote CMSs transfer historical CMS data so reports can be generated based on all Remote CMSs.
Command	An instruction used to tell the computer to perform a function or carry out an activity.
Configuration	The way that the computer is set up to allow for particular uses or situations.
Connected (CONN)	A trunk state. A caller and an agent are connected on an ACD call.
Connected Call	A non-ACD call is considered to be connected to an extension (not a VDN or direct agent) when the call rings at the station and the caller does not abandon.
Cost Profile	A set of objectives describing costs and revenues used in calculating financial forecasts.
Current Day Configuration	A set of input parameters that describe how Forecast Manager is to calculate a Current Day Forecast for a specified split/skill.
Current Day Forecast	A forecast for today calculated by the Forecast Manager (usually in the early morning on a timetable after Daily Summarizing.)
Current Interval	Represents the current intrahour interval, which can be 15, 30, or 60 minutes. The current interval is part of the real-time database.
Current Trending	A forecast method in which the trend of recent historical data is used to predict the forecast calls carried.
Current Window	The user window in which you are currently working.
Custom Reports	Real-time or historical reports that have been customized from standard reports or created from scratch. See the <i>Call Management System Custom Reports</i> (585-215-523) document for more information.
DABN	See <i>Direct Abandon</i> .
DACD	See <i>Direct Agent ACD</i> .
DACW	See <i>Direct Agent ACW</i> .
DCIU	See <i>Data Communication Interface Unit</i> .

DID	See <i>Direct Inward Dialing</i> .
Daily Data	Interval data that has been converted to a 1-day summary.
Data Collection Off	CMS is not collecting ACD data. If you turn off data collection, CMS will not void data on current call activity.
Data Communications Interface Unit (DCIU)	A hardware device on the Generic 2 and System 85 switches that prepares and sends architecture messages to other switches or application adjuncts.
Database	A group of files that store ACD data according to a specific time frame: current and previous intrahour real-time data and intrahour, daily, weekly, and monthly historical data.
Database Item	A name for a specific type of data stored in one of the CMS databases. A database item may store ACD identifiers (split numbers or names, login IDs, VDNs, etc.) or statistical data on ACD performance (number of ACD calls, wait time for calls in queue, current states of individual agents, etc.).
Database Tables	CMS uses these tables to collect, store, and retrieve ACD data. Standard CMS items (database items) are names of columns in the CMS database tables.
Data Points	Dates of historical data. A data point should include data for each interval of the working day.
Data Weights	Data weights are used to reduce (de-emphasize) the relative importance of data in a data point used in a forecast. For example, you should leave the relative weight of each date at 10 unless you know the data stored for a particular date is highly unusual or incorrect.
Default Skill (Generic 2.2 with EAS)	Every skill that ends with a "0" is called a default skill, since every agent in the skill group is logged into this skill by default. The default skill is the first skill for each skill group.
Device	The term used to refer to the peripheral itself. For example, a hard disk or a tape drive are referred to as devices. A peripheral is sometimes referred to as a subdevice or a Logical Unit (LU).
Direct Abandon (DABN)	A trunk state. The caller abandoned the call, and the trunk quickly goes to idle.

Direct Agent ACD (DACD)	An agent state. The agent is on a direct agent ACD call.
Direct Agent ACW (DACW)	An agent state. The agent is in the after call work state for a direct agent ACD call.
Direct Inward Dialing (DID)	An incoming trunk used for dialing directly from the public network into a communications system without help from the attendant.
EAD	See <i>Expert Agent Distribution</i> .
EAS	See <i>Expert Agent Selection</i> .
ECC	See <i>Error Correction Codes</i> .
Error Correction Codes (ECC) (High Performance Platform)	Codes, unique to the SUN platform, that protect the customer's system and data from single bit soft errors that can occur frequently depending on the environment.
Error Message	A response from a program indicating that a problem has arisen or something unexpected has happened, requiring your attention.
Exception	A type of activity on the ACD which falls outside of the limits you have defined. An exceptional condition is defined in the CMS Exceptions subsystem, and usually indicates abnormal or unacceptable performance on the ACD (by agents, splits/skills, VDNs, vectors, trunks, or trunk groups).
Exception Reports	Display occurrences of unusual call-handling events.
Expected Calls	A forecast method in which you specify the number of calls to be carried for a day and the system distributes them into intervals based on the pattern in the historical data.
Expert Agent Distribution (EAD)	A call queued for a skill will go to the most idle agent (primary skill agent). Agents who are idle and have secondary agent skills will receive the call queued for a skill if there are no primary agents available.
Expert Agent Selection (EAS)	Expert Agent Selection (EAS) is an optional feature that builds on the power of the Call Vectoring and ACD features of the switch to match the skills required to hand a particular call to an agent who has at least one of the skills that a caller requires. The ACD queuing and the vector commands <i>Queue-to-Main</i> and <i>Check-Backup</i> are used to route a call to an agent with the appropriate skill to handle that call. With EAS call

distribution is based on **skill**. You can match the skills required to handle a particular call to an agent who has at least one of the skills that a caller requires.

Extension Call

Extension calls are any calls originated by agents and non-ACD calls received by agents. For the Generic 2.2 and Generic 3 switches, these include calls an agent makes to set up a conference or transfer.

External Controller

A connector that is outside the cabinet and is accessible to the user without having to open any doors, remove any panels, or remove any cabinet covers.

FBUSY

See *Forced Busy*.

FDISC

See *Forced Disconnect*.

Financial Forecast

A Longterm Forecast which also includes financial information based on the Costs Profile you specify.

First threshold

A graph term. The lower limit you enter for a particular condition in a graph report. The bar(s) change color/intensity when the defined limit is met. You are telling the system that when this limit is met, you want to be notified that a Caution condition could exist.

Forced Busy (FBUSY)

A trunk state. The caller receives a forced busy signal.

Forced Disconnect (FDISC)

A trunk state. The caller receives a forced disconnect.

Forecast Calls Carried

The sum of future ACD and abandoned calls (see also Calls Carried and Number of Calls Carried).

Forecast Input Data

The split/skill and trunk group data collected from the historical data tables and stored in special forecast tables. (Also known as Forecast Data.)

Forecast Manager

The process which collects forecast input data from historical data, manages the forecast data, and calculates configured Current Day Forecasts.

Forecast Reports

These reports display expected call traffic and agent/trunk group requirements for your call center for a particular day or period in the future.

Gigabyte (GB)	One gigabyte equals 10 ⁹ bytes (1,000,000,000).
Grayed Out	When you do not have access to a menu or action list item, it will be grayed out (that is, dimmed or displayed in a different color from the rest of the menu or action list).
HSI/S	See <i>High-Speed Serial Interface/SBus</i> .
Hand-Shaking Logic	A format used to initiate a data connection between two data module devices.
Hard Disk	A device that stores operating systems, programs, and data files.
High-Speed Serial Interface/SBus (HSI/S) (High Performance Platform)	An add-on software package needed by CMS on the SUN SPARCserver 10 processor. A four port serial communications SBus controller card. Each of the four ports is used for a single physical X.25 link.
Historical Database	Contains intrahour records for up to 62 days in the past, daily records for up to 5 years in the past, and weekly/monthly records for up to 10 years for each CMS-measured agent, split/skill, trunk, trunk group, vector, and VDN.
Historical Reports	Display past ACD data for various agent, split/skill, trunk, trunk group, vector, or VDN activities.
Host Adapter	An I/O card that plugs into the computer backplane and is used as an interface between the host computer and the SCSI bus.
HOLD	A trunk state. The agent has put the call on this trunk on hold.
Hypothetical Forecast	A Longterm-type Forecast which is calculated based on the Hypothetical Data which you have defined (and edited).
IDLE	A trunk state. The trunk is not is use and waiting for a call.
INFORMIX	A relational database management system used to organize CMS data.
INFORMIX SQL	The interactive interface typically used to view the INFORMIX database. For CMS purposes, CMS QL is used instead of INFORMIX SQL.
Install	The procedures used to set up the hardware and software of a computer, terminals, printers, and modems sos that they can be used. Installing often includes customizing the system for a particular situation or user.

Interface	A common boundary between two systems or pieces of equipment.
Interval-Based Items	A category of database items. These items represent the amount of time during a collection interval spent doing a particular activity. Interval-based items are updated throughout the collection interval and timing is restarted at the end of the interval. Interval-based items should only be used to show amount of time in an interval for an activity or to calculate percentages of time spent in an interval. Interval-based items should not be used to calculate averages (such as average hold time).
Intraday Forecast	A forecast for the remainder of today which adjusts the
Intrahour Interval	A 15, 30, or 60 minute segment of time starting on the hour. An intrahour interval is the basic unit of CMS report time.
Link	A transmitter-receiver channel or system that connects two locations.
Logical Unit	The term used to refer to a peripheral device, such as a disk drive.
LOGON	An agent trace work mode. An agent is logged in and available to take ACD calls.
LOGOFF	An agent trace work mode. An agent is logged out and not available to take ACD calls.
Longterm Forecast	A forecast for a day between today and 35 days in the future calculated on demand based on your inputs and saved forecast data.
MBUSY	See <i>Maintenance Busy</i> .
Maintenance Busy (MBUSY)	A trunk state. The trunk is maintenance busy, out of service for maintenance purposes.
Measured	A term that means an ACD element (agent, split/skill, trunk, trunk group, vector, VDN) has been identified to CMS for collection of data. If the ACD element is not measured, no data is collected.
Megabyte (MB)	One megabyte equals 10^6 bytes (1,000,000).
Menu	A list of items from which you can select one. A menu cannot be moved or sized and does not count in the user window count.
Messages	Temporary windows used only for displaying information like “field help” and syntactical field errors. Message windows cannot be moved, sized,

or scrolled and do not count in the user window count. Messages windows are automatically removed when you correct the error or move to the next field.

Mirrored Disks (High Performance Platform)

A feature that allows one driver to write to two disk partitions at the same time, provided they are available on the same processor. In mirroring, the data is written to two disks on two independent buses, making all data saved to disk available at two physical locations. When one disk or a bus goes down, system operation continues uninterrupted, and the faulty component can be replaced or repaired.

Mirrored Partitions

A pair of disk partitions that contain identical data to provide increased data integrity. Whenever data is written, it is written to both partitions. Whenever data is read, it is read from one partition, alternating partitions with each read.

Multiuser Mode

Any administered CMS user can log into CMS. Data continues to be collected if data collection is "on."

Name (Synonym) Fields

Fields in which you may enter a name (synonym) that has been entered in the Dictionary subsystem (for example, names of agents, splits/skills, agent groups, trunk groups, vectors, VDNs).

Network Hub (High Performance Platform)

Hardware that connects the SUN SPARCserver to the Network Terminal Server(s).

Network Terminal Server (High Performance Platform)

A hardware terminal that connects to the Network Hub via cabling.

Network Terminal Server Patch Panel (High Performance Platform)

Hardware that has ports for connecting serial peripheral devices (printers, terminals, modems, etc.) and is connected to the Network Terminal Server via PBX Champ cabling.

Nonprimary Split/Skill

When a call is queued to multiple splits/skills, the second and third splits/skills to which the call queues in a VDN are called nonprimary splits/skills. They are also referred to as secondary and tertiary splits/skills, respectively.

Nonzero (0) Skill (Generic 2.2 with EAS)

Any skill that does not end in "0" is called a nonzero skill.

Normal Condition

A graph term. The bars in the graph report are within your defined acceptable limits.

Number of Calls Carried	Forecasting uses historical data to determine the sum of the ACD and abandoned calls (see also Calls Carried and Forecast Calls Carried).
OS	See <i>Operating System</i> .
Open Window	A user window that remains open because you have not yet closed it with the Exit SLK. An open window becomes the current window when it initially appears on the screen or when you make it the current window using the Current SLK.
Operating System (OS)	The software that controls and allocates the resources, such as memory, disk storage, and the screen display for a computer.
OTHER	An agent state. The agent is working on a direct agent call, working on a call for another split or skill, or has put a call on hold and has not chosen another work mode.
PI	See <i>Processor Interface</i> .
Package Instance	(from Answerbook)
Partition	A section of the hard disk that is used to store an OS and data files or programs. By dividing the disk into partitions, you can use the space allocated in a more efficient and organized manner.
Percent (%) Within Service Level	The percentage of calls that you are expecting or targeting to be answered by an agent within a specific number of seconds.
Port (I/O Port)	A designation of the location of a circuit that provides an interface between the system and lines and/or trunks.
Previous Interval	Represents one intrahour interval and is part of the real-time database. At the end of each intrahour interval, the contents of the current intrahour interval are copied to the previous intrahour interval portion of the real-time database.
Primary Skill	An agent will handle calls to many skills before calls to secondary skills. See "Agent Skill" in this Glossary.
Primary Window	The first window opened in response to a menu selection. A primary window may also generate another user window (secondary window). A primary window can be moved, sized, or scrolled, and counts in the window count.

Processor Interface (PI)	A hardware device on the Generic 1 and Generic 3i switches that prepares and sends architecture messages to other switches or application adjuncts.
Pseudo-ACD	An area you create on your CMS to place previously backed-up ACD data. A pseudo-ACD is not a <i>live</i> (real) ACD and does not communicate with any switch.
Queue	A holding area for calls waiting to be answered in the order in which they were received. Calls in a queue may have different priority levels, in which case, calls with a higher priority are answered first.
QUEUED	A trunk state. An ACD call has seized the trunk and is queued to a split/skill waiting for an agent to answer.
RCMS	See <i>Remote Call Management System</i> .
RS-232	A 25-pin physical and electrical interface. The electrical portion of the interface is unbalanced.
RS-422	A balanced electrical interface.
RS-423	An unbalanced electrical interface.
RS-449	A 37-pin physical interface used by the HSI/S controller card.
Read Permission	The CMS user can access and view data (for example, run reports or view the Dictionary subsystem). Read permission is granted from the User Permissions subsystem.
Real-Time Database	Consists of the current and previous intrahour data on each CMS-measured agent, split, trunk, trunk group, vector, and Vector Directory Number (VDN).
Real-Time Reports	Display current ACD call activity on agents, splits/skills, trunks, trunk groups, vectors, and VDNs for the current or previous intrahour interval. Current intrahour interval real-time reports are constantly updated as data changes during the interval. Previous intrahour interval real-time reports show data totals for activity that occurred in the previous intrahour interval.
Refresh Rate	The number of seconds CMS should wait for each update of the real-time report data. A user's fastest allowable refresh rate is defined in the User Permissions — User Data window as a minimum refresh rate. The

	default refresh rate when a user brings up the report input window is the administered minimum refresh rate plus 15 seconds.
Remote Call Management System (RCMS)	A site, connected through a network to a CCMS, that has CMS installed and uses CMS as any stand-alone CMS site would. The RCMS provides real-time and historical data and reports for the ACD it is linked to. RCMSs report historical data to the CCMS in 30-minute intervals.
RING	An agent state. The time a call rings at an agent's voice terminal after leaving the queue and before the agent answers the call. <i>Available only with Generic 2, Load 3.1 or later with the ring state enabled and with Generic 3.</i> A trunk state. A call is ringing at the agent's voice terminal.
SCSI	See <i>Small Computer Systems Interface</i>
SLK	See <i>Screen-Labeled Key</i> .
SBus (High Performance Platform)	The I/O bus for the SUN SPARCserver.
Screen-Labeled Key (SLK)	The first eight function keys at the top of your keyboard that correspond to the screen labels at the bottom of your terminal screen. The screen labels indicate the function each key performs.
Scrolling	Moving backward and forward within the query results in CMS.
Seasonal Trending	A forecast method which scales the average of calls in recent historical data with the trend present in the seasonal data to predict Forecast Calls Carried.
Secondary Skill	An agent will handle secondary skill calls after primary skill calls. See "Agent Skill" in this Glossary.
Second Threshold	A graph term. The upper limit you enter for a particular condition in a graph report. When this limit is met, the bar(s) change color/intensity. You are telling the system that when this second limit is met, you want to be notified that a possible Warning condition exists.
Secondary Window	A user window that is generated from a primary window. Secondary windows can be moved, sized, or scrolled and do not count in the user window count.
SEIZED	A trunk state. A call is using the trunk either incoming or outgoing.

Serial Parallel Controller 2.0 (High Performance Platform)	An add-on software package needed by CMS on the SUN SPARCserver.
Service Level	A time specified in seconds within which all calls should be answered. Normally set as an objective by management.
Shortcut	A series of tasks which are run immediately on your screen. Shortcut is a fast, easy way to select windows that you might look at every day.
Single-User Mode	Only one person can log into CMS. Data continues to be collected if data collection is "on." This mode is required to change some CMS administration.
Skill	In relationship to your call center, think of skill as a specific customer need/requirement or perhaps a business need of your call center. You will be defining your skills based on the needs of your customers and your call center.
Skill Hunt Group	Calls route to specific skill hunt groups, and these skill hunt groups are usually based on the needs of your customers. Agents are not assigned to a skill group (like split hunt groups), but agents are assigned specific skills that become active when they log in.
Small Computer System Interface	An ANSI bus standard that provides a high-level command interface between host computers and peripheral devices.
Special Day Forecast	A forecast for an unusual day (e.g., holiday) based on specially saved historical data.
Split	A group of extensions that receives special-purpose calls in an efficient, cost-effective manner. Normally, calls to a split arrive primarily over one or a few trunk groups.
Split/Skill ACD Call	A split/skill ACD call is a call that queued to a split/skill and was answered by an agent in that split/skill.
Station	An unmeasured extension. An extension that is not currently staffed by an agent or that is a member of an unmeasured split/skill or hunt group.
String Values	The descriptive words that appear on reports dealing with agents, splits/skill, and trunks. A <i>word</i> is used to describe the value of the data (for example, HOLD, AVAIL, YES, etc.).

Submenu	A menu that appears as a result of a menu selection. All menu selections followed by a ">" have submenus.
Subsystem	Each CMS main menu selection (for example, Reports, Dictionary, System Setup, Exceptions, etc.) along with Timetable and Shortcut is referred to as a subsystem of the Call Management System throughout this document.
Switch	A private switch system providing voice-only or voice and data communications services (including access to public and private networks) for a group of terminals within a customer's premises.
Syntax	The format of a command line.
System	A general term for a computer and its software and data.
Task	Used with Timetables and Shortcuts. A task is a combination of inputs on a user window (like a report input window) and the completed action list selection (Add, Modify, etc.) which, when executed, performs an operation (e.g., running a report).
Tertiary Split/Skill (Generic 3 with vectoring, Generic 2.2 with EAS)	When a call is queued to multiple splits/skills, the third split/skill the call queued to in a VDN is called the tertiary split/skill.
Timetable	An activity task or group of activities tasks (like reports) scheduled for completion at a time that is convenient and nondisruptive for your call center's operation.
Trending	Used in forecasting. The overall direction of change in call volume over time. Trending may be figured from seasonal data or current data.
Trunk	A telephone line that carries calls between two switches, between a Central Office (CO) and a switch, or between a CO and a phone.
Trunk Blocking Probability	Used in forecasting. The percent chance that a call coming in on a trunk group will be blocked at the central office because no trunks in the trunk group are available. This caller receives a busy signal.
Trunk Group	A group of trunks that are assigned the same dialing digits — either a phone number or a Direct Inward Dialed (DID) prefix.
Trunk Group Profile	Used in forecasting. An objective for a specified trunk group describing a percentage of trunk blocking that is acceptable.

Trunk Performance	Used in forecasting. A forecast calculating actual trunk blocking based on historical data. This is determined by projecting the number of trunks that should have been in the trunk group to handle that call volume given your objective for blocking in the trunk group profile.
UCD	See <i>Uniform Call Distribution</i> .
Uniform Call Distribution (UCD)	The most idle agent for the skill will receive the call (if the agent is available).
UNIX System	The operating system on the computer on which CMS runs. A user can access the UNIX system from the Commands SLK.
UNKNOWN	An agent state. CMS does not recognize the current state. A trunk state. CMS does not recognize the state of the trunk.
UNSTAF	Unstaffed, an agent state. The agent is not logged in and, therefore is not being tracked by CMS.
User ID	The login ID for a CMS user.
User Window	A window you can move, size, or scroll. It may contain input fields, reports, or help information.
VDN	See <i>Vector Directory Number</i> .
VDN Skill Preference	Up to three skill(s) can be assigned to a vector directory number (VDN). Calls use VDN skills for routing based on your preference (as you administer it in the vector). VDN skill preferences are referred to in the vector as “1st”, “2nd”, or “3rd”.
Vector	A list of steps that process calls in a user-defined manner. The steps in a vector can send calls to splits, play announcements and music, disconnect calls, give calls a busy signal, or route calls to other destinations. Calls enter vector processing via VDNs, which may have received calls from assigned trunk groups, from other vectors, or from extensions connected to the switch.
Vector Command	The keyword in a vector step that describes the action to be executed on an incoming call (e.g., “Queue to main”, “check backup”, “disconnect”).
Vector Directory Number (VDN)	An extension number that is used in ACD software to permit calls to connect to a vector for processing. A VDN is not assigned an equipment location. It is assigned to a vector. A VDN can connect calls to a vector

when the calls arrive over an assigned automatic-in trunk group or when calls arrive over a dial-repeating (DID) trunk group and the final digits match the VDN. The VDN by itself may be dialed to access the vector from any extension connected to the switch.

Vector Step

One processing step listed in a vector. A vector step consists of a command and one or more conditions or parameters.

Vector Step Condition

A condition accompanying a vector command that defines the circumstances in which the command will be applied to a call.

Voice Terminal

A telephone set, usually with buttons, that gives an agent some control over the way calls are handled.

Warning Condition

A graph term. The bars in the graph report have changed color or intensity indicating that the data being displayed met your defined second threshold limit.

Weekly/Monthly Data

Daily data that has been converted to a weekly or monthly summary.

Window

Any rectangle on your CMS screen that encloses a menu, data entry fields, reports, or messages.

Window Count

The number of primary windows that can be open at any one time.

Write Permission

The CMS user can add, modify, or delete data and execute processes. Write permission is granted from the User Permissions subsystem.

X.25 Version 8.0 (High Performance Platform)

An add-on software package needed by CMS on the SUN SPARCserver.

Zero (0) Skill (Generic 2.2 with EAS)

Every skill that ends with a "0" is called a zero skill. The zero skill is the first skill for each skill group.

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