Preventing Toll Fraud

“Toll fraud” is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or working on your company’s behalf). Be aware that there may be a risk of toll fraud associated with your system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

Avaya Fraud Intervention

If you suspect that you are being victimized by toll fraud and you need technical assistance or support, call Technical Service Center Toll Fraud Intervention Hotline at +1 800 643 2353 for the United States and Canada. For additional support telephone numbers, see the Avaya web site:

http://www.avaya.com

Click on Support, then click on Escalation Lists US and International. This web site includes telephone numbers for escalation within the United States. For escalation telephone numbers outside the United States, click on Global Escalation List.

Providing Telecommunications Security

Telecommunications security (of voice, data, and/or video communications) is the prevention of any type of intrusion to (that is, either unauthorized or malicious access to or use of) your company’s telecommunications equipment by some party.

Your company’s “telecommunications equipment” includes both this Avaya product and any other voice/data/video equipment that could be accessed via this Avaya product (that is, “networked equipment”). An “outside party” is anyone who is not a corporate employee, agent, subcontractor, or working on your company’s behalf. Whereas, a “malicious party” is anyone (including someone who may be otherwise authorized) who accesses your telecommunications equipment with either malicious or mischievous intent.

Such intrusions may be either to/through synchronous (time-multiplexed and/or circuit-based) or asynchronous (character-, message-, or packet-based) equipment or interfaces for reasons of:

- Utilization (of capabilities special to the accessed equipment)
- Theft (such as, of intellectual property, financial assets, or toll-facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)
- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there may be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company (including but not limited to, human/data privacy, intellectual property, material assets, financial resources, labor costs, and/or legal costs).

Your Responsibility for Your Company’s Telecommunications Security

The final responsibility for securing both this system and its networked equipment rests with you - an Avaya customer’s system administrator, your telecommunications peers, and your managers. Base the fulfillment of your responsibility on acquired knowledge and resources from a variety of sources including but not limited to:

- Installation documents
- System administration documents
- Security documents
- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

To prevent intrusions to your telecommunications equipment, you and your peers should carefully program and configure:

- your Avaya-provided telecommunications systems and their interfaces
- your Avaya-provided software applications, as well as their underlying hardware/software platforms and interfaces
- any other equipment networked to your Avaya products.

Trademarks

The following trademarks are mentioned in this document:

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- INFORMIX is a registered trademark of Informix Software, Inc.
- Multiport is a registered trademark of Aurora Technologies, Inc.
- Windows is a registered trademark of Microsoft, Inc.

All other product names mentioned herein are the trademarks of their respective owners.
Ordering Information

Call: Avaya Publications Center
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Fax    +1 800 457 1764
International Voice  +1 410 568 3680
International Fax  +1 410 891 0207

Write: Globalware Solutions
200 Ward Hill Avenue
Haverhill, MA 01835 USA
Attention: Avaya Account Manager

E-mail: totalware@gwsmail.com

Order: Document No. 585-210-506, Issue 1.0
May 2002

Avaya Support
Avaya provides a telephone number for you to use to report problems or to ask questions about your contact center. The support telephone number is 1-800-242-2121 in the United States and Canada. For additional support telephone numbers, see the Avaya web site:
http://www.avaya.com
Click on Support, then click on Escalation Lists US and International. This web site includes telephone numbers for escalation within the United States. For escalation telephone numbers outside the United States, click on Global Escalation List.

Acknowledgment
This document was written by the CRM Development group.
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Welcome

Why this new book?

This book contains the information you need for basic call center administration using the MultiVantage™ switch, Avaya™ Call Management System (CMS), and Avaya™ CMS Supervisor. Some steps may vary between the different versions of the hardware and software, but the instructions provided will help you through the basic operations.

We wrote this book for you!

Use this book if you are a call center system administrator or split/skill supervisor. Use it before you attend training, and take it with you to your class. Mark it up, make notes in it, and use it daily even after you complete training. If you are a new supervisor or administrator taking over the position from someone else, or you are a system administrator temporarily filling in for your company’s regular administrator, or if you just want to refresh your memory about basic call center operations, this book is for you.

What this book contains

The Avaya Call Center Little Instruction Book for Basic Administration is divided into sections and arranged to guide you through your day-to-day operations. The following table outlines the sections of the book and their contents.
Welcome

Getting started | Provides an overview of a call center. It is designed to familiarize you with the Avaya CMS using the Avaya CMS Supervisor interface and to provide basic instructions for accessing your system, assigning an Avaya CMS User ID, and setting user access permissions. We recommend that you also refer to the Avaya Call Center Little Instruction Book for Advanced Administration, 585-210-506, for more information on call centers.

Managing features | Provides instructions on assigning Dictionary names to call center entities and automating features using Exceptions, Avaya CMS Timetables, and Avaya CMS Supervisor Scripts.

Service observing | Describes the forms and fields used to administer the service observing capability and instructions and tips on the various methods of service observing available.

Managing backups | Describes the types of backups that are available and recommendations on when to run them. Also provides directions on how to run them.

Keeping records | Lists records that are vital to the system administrator. Also provides logs with recommendations for managing and organizing records to provide optimum system operations.

Conventions and terms used in this book

The following terms and conventions will help you to use this book in your call center.

- In this book we use the terms “switch” and “split/skill”. Other Avaya books may refer to the switch as the “PBX”, and a split/skill as a “hunt group”.
- In this book we use the term “switch” when we refer to the DEFINITY, MultiVantage, or latest switch.
Operational function keys, fields, and text boxes are printed in italics, for example, *Enter*.

We show screens from the newest Avaya CMS systems and refer to the most current books. Please substitute the appropriate commands for your system and refer to the manuals you have available.

---

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- X Window System™ is a trademark and product of the Massachusetts Institute of Technology.

When used in this book, these trademark and registered trademark product names are shown in italics. If the name is used in a block of text that already incorporates italics, the appropriate symbol is included in the call-out.
Related documents

Related Documents lists sources for related information about contact center products and features. Not all documents are supported for all CMS releases or equipment.

To order Avaya documentation, call the Avaya Publications Center at 1-800-457-1235 or +1-410-568-3680.

CMS software documents

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Upgrade documents

There are several upgrade paths supported with CMS. For each of these upgrades, there is a document designed to support that upgrade. Note that none of the following upgrade documents are available from the publications center, but are available from the Avaya CMS documentation Web site.

- Base load upgrades

A base load upgrade is used when upgrading CMS to the latest load of the same version (for example, R3V9 ak.g to R3V9 al.k). A specific set of instructions is written for the upgrade and is shipped to the customer site with the CMS software CD-ROM as part of a Quality Protection Plan Change Notice (QPPCN).

### Setting up a disk-mirrored system

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- Platform upgrades and data migration

A platform upgrade is used when upgrading to a new hardware platform (for example, upgrading from a SPARCserver 5 to an Enterprise 3500). The new hardware platform is shipped from the Avaya factory with the latest CMS load. Therefore, as part of the upgrade you will have the latest CMS load (for example, R3V9 to R3V11, or the latest load of the same CMS version). For R3V11, a specific set of instructions are written for the upgrade and are shipped to the customer site with the new hardware.

- Avaya Call Management System Upgrade Express (CUE)

CUE is used in the following conditions:

- CMS is being upgraded from an earlier version (for example, R3V5u or R3V6) to the latest version (for example, R3V9 or R3V11).
- The hardware platform is not changing.

A specific set of upgrade instructions is written for the upgrade and is shipped to the customer site with the CUE kit.
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<td>Avaya Call Management System Release 3 Version 11 Sun Ultra 5 Computer CUE Instructions</td>
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<td>CMS Switch Connections, Administration, and Troubleshooting</td>
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Documentation Web sites

For product documentation for all Avaya products and related documentation, go to http://support.avaya.com.

⚠️ Important:

Additional information about new software or hardware updates will be contained in future issues of this book. New issues of this book will be placed on the web site when available.

Use the following web sites to view related support documentation:

- Sun hardware documentation
  [http://docs.sun.com](http://docs.sun.com)
- Okidata printer documentation
  [http://www.okidata.com](http://www.okidata.com)
- Informix documentation
  [http://www.informix.com](http://www.informix.com)
- Tivoli Storage Manager documentation
MultiVantage call center books

These documents are issued for MultiVantage Call Center applications. The intended audience is MultiVantage administrators.

- **Avaya MultiVantage Call Center software** Release 11 Guide to ACD Call Centers, 555-230-716, Issue 1.

Before you contact Avaya for support

**Tip:**

You can visit our web site at [http://support.avaya.com/](http://support.avaya.com/) to check status on service maintenance requests by individual case or location, order replacement of defective or damaged equipment on-line and download available software.

If after checking the status of your maintenance request at the Web site you need to call Avaya for additional support, have the following information ready. This will help the person you contact to locate your account quickly and be on the road to finding solutions to the reason you called.

- Your installation location ID (commonly referred to as your IL) or main listed telephone number

  (Write your IL and main telephone number here for easy reference)

- A call-back number (in case we need to call you later)

- The reason for your call, including any background details or history that may have contributed to your call for additional support (for example, vector changes, hardware changes, modifications to system configurations, specific reports, dates and times, and so on.)

- For BCMS Vu calls, be sure PC Anywhere is installed on the PC you’re calling about and that a modem is connected to it.

Once you gather the information you need, refer to “How to get help” for a list of Avaya support organizations and their telephone numbers.
Welcome
Getting started

This section contains an overview of a call center. It provides basic instructions for the following tasks:

- Accessing and exiting Avaya™ Call Management System (CMS) using the Avaya CMS Supervisor and Avaya Terminal Emulator interfaces
- Avaya CMS Supervisor and Avaya Terminal Emulator functions
- Assigning a CMS user ID
- Setting user access permissions using Avaya CMS Supervisor
- Setting and resetting passwords for users

Note:
We also recommend that you refer to the Avaya Call Center Little Instruction Book for Advanced Administration, 585-210-505, for a call center overview. It shows how to set up a simple inbound call center and lists things to consider as you plan and design your call center.

Overview of a call center

A call center is a way of organizing people (agents) and equipment (telecommunications and computer) to achieve particular business goals. For example, a call center can be used to make several people accessible through one telephone number or to handle multiple calls simultaneously. Call centers work by organizing agents into splits/skills and routing calls using the switch’s Automatic Call Distribution (ACD) capabilities.
Getting started

Call center reporting tools

When you set up a call center using Avaya products, you can select your reporting tools from the following set of call management systems. The reporting tool that you select will depend on the complexity and size of your call center. The reporting tools available for your use include:

- Avaya Call Management System (CMS) and the Avaya CMS Supervisor application, which is a Windows interface for the CMS
- CMS and the Avaya Terminal Emulator, which gives access to the ASCII interface for the CMS
- Basic Call Management System (BCMS) accessed directly on the switch
- BCMS and the BCMS Vu application, which is a Windows interface for the BCMS reporting capabilities
- VuStats

This book provides instructions for call center administration on the switch and through the CMS (using either the CMS Supervisor application or the Avaya Terminal Emulator).

For more detailed information on using the CMS, refer to the Avaya Call Management System Release 3 Version 11 Administration (585-215-515) and the Avaya CMS Supervisor Reports (585-210-708) books.

For more detailed information on using the BCMS, refer to the Avaya MultiVantage Call Center software Release 11 Basic Call Management System (BCMS) Operations, 555-230-706, Issue 3.0. For more information on using the BCMS Vu application, refer to the BCMS Vu User Guide (585-217-102).

Administering the call center

You can administer different aspects of the call center from the switch or from CMS. This book focuses on the CMS interfaces (Avaya CMS Supervisor and Avaya Terminal Emulator) because they enable you to administer changes on both CMS and the switch, and they provide access to reports on ACD activity.
Accessing the CMS

You need to log in to CMS before you can administer your call center. To log in, you need to know your login ID (user ID) and your CMS password.

Logging in to CMS

CMS can be accessed using either the Avaya CMS Supervisor or the Avaya Terminal Emulator interface. This section gives instructions on logging in from each interface.

Using Avaya CMS Supervisor

To log in to the CMS server using Avaya CMS Supervisor:

1. Open the Avaya CMS Supervisor application.
2. Select Login from the Connect menu or select Login on the toolbar.
   The Login Information window opens.
3. From the drop-down list, select the CMS Server to the one you want to log in.

   Note:
   For instructions on adding new CMS Servers refer to Avaya CMS R3V11 Administration, 585-215-515.
4. Type your CMS login ID in the Login ID field, or select your login ID from the drop-down list.
5. Press Tab to move the cursor to the Password field.
6. Type your CMS password in the Password field.

   You may see the Confirm Password window. This window reports that your password has expired and must be changed. Follow the prompts and type in a new password.
Getting started

7. Select OK.

A message box indicates that Avaya CMS Supervisor is connecting to the CMS server.

When a user with an Administrative ID logs in, they may see any of the following warning messages displayed:

Warning: There is no record of a cmsadm backup being performed on this machine. Please perform a backup as soon as possible so that we will have a record of your backup from this point.

or,

Warning: There is no record of a full maintenance backup being performed on this machine. Please perform a backup as soon as possible so that we will have a record of your backup from this point.

or,

Warning: A cmsadm backup of your CMS data has not been completed successfully in the past 30 days. Please do this backup immediately to minimize the risk of losing any cms data.

If this occurs, select OK for each message and refer to Managing backups on page 73.

Once you are logged into CMS using Avaya CMS Supervisor, the Avaya CMS Supervisor Controller is displayed.

Using Avaya Terminal Emulator

To log in to CMS server using Avaya Terminal Emulator:

1. Open the Avaya Terminal Emulator application.

2. From the Profile menu, select the Profile name of the server to the one you want to connect. Available Profile names are listed in numerical order at the bottom of the Profile menu.

A login prompt is displayed.

Note:

For instructions on adding a new profile refer to the Avaya Call Management System R3V9 Administration document.
Accessing the CMS

3. Type your CMS login ID and press Enter.
4. Type your password and press Enter.
5. Type the terminal type (cvterm is recommended) and press Enter.

Once you are logged into CMS using Avaya Terminal Emulator, the CMS Main Menu is displayed.

Logging out of CMS

The following sections give you instructions on logging out of the CMS with either Avaya CMS Supervisor or Avaya Terminal Emulator.

Using Avaya CMS Supervisor

Use either of the following methods to log out of the CMS server, but leave the Avaya CMS Supervisor application running:

- Select Logout from the Connect menu, or
- Select Logout or Exit on the toolbar.

Use either of the following methods to log out of CMS and exit Avaya CMS Supervisor:

- Select Exit from the Connect menu, or
- Select the X in the upper-right corner of the Avaya CMS Supervisor Controller window.

Using Avaya Terminal Emulator

To log out of the CMS server and leave the Avaya Terminal Emulator application running:

1. Type L or use the arrow keys to highlight Logout on the CMS Main Menu and press Enter.
   
   A dialog box states:
   
   The connection has been dropped.

2. Select OK.
Getting started

Use either of the following methods to log out of CMS and exit the Avaya Terminal Emulator:

1. Use either of the following methods to log out of CMS and exit the Avaya Terminal Emulator:
   
   A dialog box states:
   
   The connection is active, exit anyway?

2. Select Yes.

Avaya CMS Supervisor when you are logged in to CMS

Once you have logged into a CMS server, the Avaya CMS Supervisor Controller is displayed. The Controller displays a toolbar, status bar, and a menu bar for the CMS systems to the one you have access. Your CMS User Permissions determine which of the menu items and toolbar buttons are available to you.

Toolbar

The toolbar contains buttons for quick access to specific features of the application. The buttons that are displayed on the toolbar depend on how your CMS user permissions are set up. When you move your cursor over a toolbar button, a tooltip is displayed with a brief description of the command the button performs.
Avaya CMS Supervisor when you are logged in to CMS

Status bar

The status bar is located at the bottom of the Controller. The messages field displays a brief description of each of the toolbar buttons when the cursor is over the toolbar button or the status of an action being performed. The status bar also includes:

- **Login status indicator** — Displays a green light if you are logged in to a CMS server. A gray light is displayed if you are not logged in to a CMS server.

- **Exceptions** — Displays a current total for both peg count exceptions and timed exceptions for all ACDs that you have exception permissions. The exceptions count is cleared to zero at the end of each interval.

- **ACD status** — Displays an icon for each ACD that are supported by the CMS. If the link to an ACD is down, the icon is crossed out. If the CMS server is connected to the ACD via a TCP/IP connections and the connection is in a transient state, the icon changes to a straight line. A tooltip displays the name of the ACD if you place your mouse over an icon.

Menu bar

The Menu bar lists the available drop-down menus. The Connect, Tools and Help menus are available before you log in to a CMS server. Once you log in to a CMS server, the Commands and Scripts menus are also available.

**Note:**

The *Avaya Call Management System Release 3 Version 11 Administration (585-215-515)* book provides more information about using the Avaya CMS Supervisor Controller features that are available when you log in to the CMS server.

**Tip:**

Press F1 from any window in Avaya CMS Supervisor for context sensitive information on that window.
Getting started

Using Avaya Terminal Emulator

Once you have logged into CMS using the Avaya Terminal Emulator, the CMS Main Menu is displayed. Many of the same features and menus are available as in Avaya CMS Supervisor. In general, you will only use Avaya Terminal Emulator to administer Timetables and Vector Configurations.

Getting help in Avaya CMS Supervisor

The Windows-based on-line help for the Avaya CMS Supervisor can be used whether you are logged into CMS or not.

We suggest that you access the on-line help first whenever you need assistance. Using the on-line help, you may be able to resolve many of your questions without calling technical support. Help can be accessed by either:

- Pressing F1 for context sensitive help for the screen that is currently active.
- Selecting Help from the menu bar to choose from the following options.
  - Contents
    Opens the Help Topics window, where you can select Contents, Index or Find.
  - Technical Support
    Opens a window that provides Technical Support Information.
  - About
    Opens a window that shows the version of Avaya CMS Supervisor software that is in use.

Getting help in Avaya Terminal Emulator

The on-line help for the Avaya Terminal Emulator is accessed by pressing F1 to access the Help Screen Labeled Key (SLK).
Assigning a CMS user ID

Assigning a CMS user ID

A CMS user ID (login ID) must be assigned to each person who needs access to the CMS server. Once assigned, the user ID becomes the CMS user’s login ID that the person will use to log in to the CMS server via the Avaya CMS Supervisor interface. The user ID is used to assign user permissions to the ACD, Feature, Split/Skill, Trunk Group, Vector, and VDN subsystems for each CMS user.

To assign a new user ID or modify an existing user ID, complete the following steps:

1. Select User Permissions from the Tools menu.
2. From the Operations tab on the User Permissions selector window, highlight User Data.
3. Select the ACD from the ACD drop down box, for which you want to set user permissions and select OK.

Tip:
When the User Data window is accessed some default values are automatically populated in the fields. You may want to clear these default values by selecting Clear All from the Edit menu before doing a Find one or List all.

The User Data window is displayed.
4. In the User ID text box, type a unique user ID to add or modify.

The user ID must be three to eight lowercase, alphanumeric characters with no blanks or special characters.
5. The User name, Room number, and Telephone number fields are optional.
6. In the Default printer name text box, use the drop-down menu to select the name of the printer that is connected to the CMS server or none if the user will print to a printer that is connected to his/her PC or the LAN.

Note:
For the printer that is directly connected to the CMS server to be accessible by users, it must be set up in Solaris and in CMS.
Getting started

7. Select a Login type:
   - Normal — users do not have access to System Setup, User Permissions, Call Center Administration, and Forecast.
   - Administrator — users have access to all parts of CMS.

8. In the Maximum user window count text box, type the maximum number of windows that this user can have open at one time.

   Tip:
   Since the number of windows a user has open directly affects processor resources, select this number carefully.

9. In the Minimum refresh rate text box, type the number of seconds that will elapse between real-time report displays being brought up-to-date with the current switch activity.

10. In the Login ACD text box, use the drop-down menu to select the switch ACD that will be the user’s default ACD upon initial log in to the CMS server.

11. Select + on the toolbar or select Add from the Actions menu.

   CAUTION:
   Do not allow users to share the same user ID because this quickly consumes Solaris system processes.

Now that a user ID is established, you need to assign user access permissions to the ACD, Feature, Split/Skill, Trunk Group, Vector, and/or VDN subsystems.

Assigning user access permissions
You can monitor and administer many call center activities with CMS. The User Permissions feature is used to restrict CMS user access to a need-to-know or need-to-do basis.

Users with an Administrator login type have access to the entire CMS system. Secondary administrators, such as split/skill supervisors, are typically assigned a Normal user login type. These users may only require read or write access permissions to a limited number of ACDs, features, splits/skills, trunk groups, vectors, or VDNs.
Assigning user access permissions

Select User Permissions from the Tools menu to assign Read, Write, and Exceptions access permissions for each user ID in each of the following categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACD Access</strong></td>
<td>ACD Access is used to give the user the ability to see the data that is collected on a specific ACD.</td>
</tr>
<tr>
<td><strong>Feature Access</strong></td>
<td>Feature Access is used to give the user the ability to use the different capabilities of CMS. When a user does not have read or write permission for a CMS feature, that feature is not displayed in the user’s menu options.</td>
</tr>
<tr>
<td><strong>Main Menu Addition Access</strong></td>
<td>Main Menu Addition Access is used to give you user the ability to add menu choices to the CMS MainMenu. Main Menu Addition is only available if you are using CMS from a terminal or through Avaya Terminal Emulator.</td>
</tr>
<tr>
<td><strong>Split/Skill Access</strong></td>
<td>Split/Skill Access is used to give the user the ability to view/modify individual splits/skills.</td>
</tr>
</tbody>
</table>
Getting started

Tip:

Once a user’s access permissions have been assigned, any modifications to ACD, Feature, Main Menu Addition, Split/Skill, Trunk Group, or User Data do not take effect until the user logs out and logs back in.

To assign user access permissions in any other subsystems, complete the following steps:

1. Select User Permissions from the Tools menu.

2. From the User Permissions Operations tab, highlight the operation (ACD Access, Feature Access, Main Menu Addition Access, Split/Skill Access, Trunk Group Access, Vector Access, or VDN Access) to which you want to assign permissions for the user ID.

<table>
<thead>
<tr>
<th>Category</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trunk Group Access</td>
<td>Trunk Group Access is used to give the user the ability to view/modify individual trunk groups.</td>
</tr>
<tr>
<td>Vector Access</td>
<td>Vector Access is used to give the user the ability to view individual vectors. Use Avaya Visual Vectors to create and edit vectors.</td>
</tr>
<tr>
<td>VDN Access</td>
<td>VDN Access is used to assign, view, modify, or delete a CMS user’s access permissions to specific VDNs. VDN access is available if you have the Vectoring feature.</td>
</tr>
</tbody>
</table>
Assigning user access permissions

3. Select the ACD from the ACD drop down box for which you want to set permissions.

4. Select OK.

5. Complete the appropriate text boxes in the displayed window and check Read, Write, and/or Exceptions for each item.

6. Select + on the toolbar or select Add from the Actions menu.

Note:

If you would like to modify access permissions that have already been assigned for a user, type the user ID in the User ID text box and select Find one from the toolbar or from the Actions menu. The user’s assigned access permissions display. Make the changes. Then select Modify from the toolbar or from the Actions menu.
Getting started

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

CMS passwords are administered from the Solaris system, but may be changed locally. This section presents guidelines for selecting a valid password, a procedure for changing it, and procedures for replacing a forgotten password.

Rules for selecting a valid password
The following requirements apply to password definition:

- 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 a password is changed, the new password must have at least three characters that are different from the previous password.

Changing a user’s password
To change a user’s password, complete the following steps:

Note: To change a user’s password, you must be logged in through the Avaya Terminal Emulator under the user ID for which you want to change the password.

1. From the CMS Main Menu, press F3 to select the Commands menu.
   The Commands menu is displayed.
2. Highlight Password and press Enter.
   The screen clears and the Enter login password prompt is displayed.
3. Type the current login password and press Enter.
4. Type a new password and press Enter.
5. Re-enter the new password and press Enter.
When you finish entering a new password, you are automatically returned to the CMS MainMenu.

**Replacing forgotten passwords**

To replace a password that has been forgotten by a user, complete the following steps:

**Note:**

Only a CMS administrator who is working on the *Solaris* system through a terminal or Avaya Terminal Emulator can replace a forgotten password.

1. From the Avaya Terminal Emulator, log in to CMS using the *root login ID* and *password*.
2. At the # prompt, type `passwd <userid>` and press *Enter* to prompt for a new password (where `<userid>` is the user ID of the user whose password you are replacing).
3. When prompted, type the *new password* and press *Enter*.
4. At the # prompt, type `passwd –f <userid>` and press *Enter*.
   
   This command requires the user to create a different password (from the one your entered) the next time he/she logs in.
5. At the # prompt, type `exit` to log out.
6. Inform the user of the new password. Then have the user log in.
   
The user will be prompted to change the password when they log in.
Getting started
Managing features

This section includes the administrative tasks that you will most frequently need to perform in the call center.

The topics included in this discussion are:

- Timetables, including how to locate and edit existing timetables
- Scripting, including creating scripts to print reports, export report data, and schedule other operations to run automatically
- Assigning Dictionary names, including creating an agent group on CMS
- Running reports
- Defining Exceptions, including how using exception reporting can help your business and administering and activating exceptions on CMS
- Tracking ACD activity, including stroke counts, event counts, AUX reason codes, call work codes, and logout reason codes.

Creating and scheduling timetables

What is a timetable?

You can use the CMS Timetable function to schedule one or more tasks (actions) for completion at a specified time that is convenient and non-disruptive to the operation of your call center.

The events that run the tasks you create in the Timetable input window are called a timetable.

By automating actions you provide consistency and reliability in operations, while freeing up time for yourself. The most common use of timetables is to complete redundant tasks, such as running backups or changing the VDN-to-vector assignments.

⚠️ CAUTION:

Because of PC-related issues, it is strongly recommended that critical activities (such as backups or changes to VDN-to-vector assignments) be scheduled through Timetable, which resides on the CMS server.
Managing features

Things to know before you start

Below are some of the points you should know before creating timetables:

- You can define up to 100 tasks for each timetable and schedule each timetable’s start time.
- You can schedule up to five timetables to run at the same time.
- Timetables that fail to run will be logged to the customer error log. The List all action item on the Timetable window also displays the status of timetables.
- You cannot delete or modify a timetable for which you are not an owner.
- You must have user permissions for any of the tasks that you include in the timetable in order for the tasks to execute.

Timetable input window

The Timetable input window is accessed using Avaya Terminal Emulator. Press F4 to access the Keep menu, highlight Timetable, and press Enter.

Think of the Timetable input window as the part of the program that schedules when the action will take place (see “Scheduling a timetable”). The second part of the program is to identify what tasks will run in the timetable (see “Creating the tasks in a timetable” to learn how to assign tasks to the timetable). See the Avaya Call Management System (CMS) Release 3 Version 11 Administration (585-215-515) book for more detailed instructions on creating a timetable and more information on the timetable content tasks.
Creating and scheduling timetables

Pressing the down arrow (↓) or Tab moves the cursor to the next field on the Timetable input window.

The following table defines what you should enter in each of the Timetable input window fields. Where it is helpful, an example of the entry is provided. This will help you understand what to enter in each of the fields in the Timetable input window.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timetable name</td>
<td>A unique name that describes the contents of the timetable. It can consist of up to 20 characters and is case sensitive.</td>
</tr>
<tr>
<td>Description</td>
<td>(Optional) A description of the timetable. It can consist of up to 50 characters.</td>
</tr>
<tr>
<td>User ID</td>
<td>Your CMS user ID.</td>
</tr>
</tbody>
</table>
Managing features

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Start time</strong></td>
<td>A future time that you want this timetable to initially begin running and continue to run based on the frequency that is selected below. The am/pm format (for example, 2:30pm) or the military format (for example, 14:30) is recommended for the time entry.</td>
</tr>
<tr>
<td><strong>Start date</strong></td>
<td>A future date that you want this timetable to start running. You can use the month/day/year format (for example, 10/1/99) or a “+” offset based on today (for example, +1 indicates tomorrow). Even though the timetable may continue to run based on the Frequency category that you selected, think of the Start date as the timetable’s first day on the job or a fixed date.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency and attributes (Select only one):</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Once</strong></td>
<td>Select when you only want the timetable to run one time.</td>
</tr>
<tr>
<td><strong>Dates</strong></td>
<td>Use for monthly timetables or any specific date. For monthly timetables, type the specific day each month that you want this timetable to run (for example, 1/1/00, 2/1/00, and 3/1/00 in each individual row and field).</td>
</tr>
<tr>
<td><strong>Hourly, Stop time</strong></td>
<td>Choose if you want a timetable to run each hour up to the Stop time specified.</td>
</tr>
<tr>
<td><strong>Daily</strong></td>
<td>Select to run the timetable on the days specified in Hourly/Daily, Day.</td>
</tr>
<tr>
<td><strong>Hourly/Daily, Days</strong></td>
<td>Type an X next to the days you want the timetable to run.</td>
</tr>
<tr>
<td><strong>For instance, if you want a backup to run after the close of business every weekday but after the daily archiving has completed, you might select Daily as your Frequency, a Start time that is after the archive start time, and Tuesday through Saturday for the Days.</strong></td>
<td></td>
</tr>
</tbody>
</table>
Creating and scheduling timetables

In the upper-right corner of the Timetable input window is the Action List. Below is a description of the events that occur for each of the actions available on the Timetable input window.

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add</td>
<td>Use to create a timetable. When Add is selected, the CMS MainMenu is displayed with Keeping Entries populated on the bottom of the border to indicate that the timetable tasks are being recorded.</td>
</tr>
<tr>
<td>Copy</td>
<td>Copies an existing timetable and all of its contents.</td>
</tr>
<tr>
<td>Delete</td>
<td>Deletes a timetable and all of its contents.</td>
</tr>
<tr>
<td>Find one</td>
<td>Searches for entries that match the values populated in the timetable input window fields.</td>
</tr>
<tr>
<td>Get contents</td>
<td>Lists the tasks that are associated with a timetable.</td>
</tr>
<tr>
<td>List all</td>
<td>Brings up a secondary window that lists all of the timetables that match the values that are populated in the Timetable input window fields.</td>
</tr>
<tr>
<td>Modify</td>
<td>Updates the database entry on the timetable window to reflect the new data entries.</td>
</tr>
<tr>
<td>Next</td>
<td>Displays the next match found after completing a Find one.</td>
</tr>
<tr>
<td>Previous</td>
<td>Displays the previous match found after completing a Find one.</td>
</tr>
</tbody>
</table>

Scheduling a timetable

Creating a timetable is a two-part process. The first part schedules when the event will take place and the second part distinguishes what tasks or actions will occur.

Note:

To exit the timetable creation process at any time without saving any changes, select Stop from the Keep menu (accessed by pressing F4), then answer n to the save changes acknowledgment.
Managing features

To create a timetable and schedule how frequently the timetable will process, complete the following steps:

1. From any window in Avaya Terminal Emulator, press F4 to select the Keep menu.
2. Highlight Timetable and press Enter.
3. Type a unique name that describes the contents of your timetable in the Timetable name field.
4. Type a description of the timetable in the Description field (optional).
5. Type your user ID in the User ID field.
6. Type the time that you want the timetable to start running in the Start time field.
7. Type the date that you want the timetable to start running in the Start date field.
8. Type an x next to one of the Frequency categories to define how often the timetable will run.

Once you make your selection for all of the fields in the Timetable input window, the system knows when you want the timetable to run and the first part of creating a timetable is complete.

Creating the tasks in a timetable

Now you need to complete the second part of the timetable. This involves assigning the tasks that are contained in the contents of the timetable.

To add tasks to a timetable, complete the following steps:

**Note:**

These steps assume that you are continuing this task from the previous section, “Scheduling a timetable.”

1. Press Enter to move to the Actions menu.
2. Highlight Add and press Enter to save the basic timetable information and proceed to adding tasks to the timetable.

If all of the entries on the window are valid, Successful is displayed on the Timetable input window status line and the CMS MainMenu is displayed.
Creating and scheduling timetables

3. From the CMS MainMenu, highlight the task (using normal menu selection rules) that you want to schedule on the timetable.
   The status line at the bottom of the CMS MainMenu shows Keeping Entries, indicating that the actions or tasks you select are being recorded.

4. Complete the required field entries on the user window, then select an action list item.
   When each action list selection is made and validated, Entries Stored is displayed on the status line of the current user window.

5. Repeat entering the required field entries on each of the user windows and action list selections for each task you want to schedule in this timetable.

6. When you are finished adding tasks to this timetable, press F4 to select the Keep menu, highlight Stop, and press Enter.
   An acknowledgment window is displayed.

7. Select y and press Enter to save the tasks that are contained in the timetable.

8. Press F5 to select Exit and close the Timetable window.
   You have now completed the second part of creating a timetable by identifying what the timetable tasks are.

Locating an existing timetable

Sometimes you need to make changes to your timetable.
To edit an existing timetable, you first need to locate that timetable by completing the following steps:

1. Press F4 to select the Keep menu.

2. Highlight Timetable and press Enter.

3. Press Control and Z simultaneously to clear all entries in the Timetable input window.

4. Type the unique name that describes the timetable you want to edit in the Timetable name field.

Note:
   The Timetable name field is case sensitive, so be sure to enter the name exactly as it was originally defined.
Managing features

5. Press Enter, select Find one from the Action list and press Enter again.
   The system populates the scheduling parameters for the timetable you want to edit.

6. Press Enter, select Get Contents from the Action list, and press Enter again.
   The Timetable: Get Contents window is displayed with a list of the tasks the timetable contains and you are in the Keep mode for editing the timetable.

You are now ready to perform any editing function for the tasks contained in your timetable. For additional instructions on how to Copy, Delete, Modify or Globally edit timetable tasks, refer to the Avaya Call Management System Release 3 Version 11 Administration (585-215-515) book.

Adding tasks to an existing timetable

Note:
Unless your CMS user ID is an Administrator login type, only the owner of the timetable can edit the timetable.

Let’s say you want to add a task to your timetable named “Holiday Start”, so that a new VDN is added to the already established list of VDNs that are assigned to the holiday vector.

Note:
These steps assume that you are continuing this task from the previous section, “Locating an existing timetable”. Once you are in the Get contents window for the timetable, you may need to press F6 to activate the scrolling feature. The scrolling feature enables you to move through all of the tasks in the timetable. When you are done editing the timetable, you need to press F6 again to deactivate scrolling.

1. In the Task number(s) field, type the number of the task that you want your new task added after and press Enter.
2. Select Add from the Action list and press Enter.
   The CMS MainMenu is displayed, with Keeping Entries displayed in the status line.
3. Highlight Call Center Administration from the main menu and press Enter.
Creating and scheduling timetables

4. Select *VDN Assignments* from the Call Center Administration menu and press **Enter**.

5. Type the required information (the new VDN number and the “Holiday Start” vector name) in the fields of this window and press **Enter**.

6. Highlight *Modify* from the Action list and press **Enter**.

   The *Entries stored* message is displayed.

   **Note:**

   If you want to add more tasks from the same window (in this example, the *VDN Assignments* window), repeat steps 5 and 6. To add more tasks from a different window, press **Exit** (F5) to return to the CMS MainMenu. *Keeping Entries* is displayed at the bottom of the CMS MainMenu, indicating that the actions or tasks you select are still being recorded. Select the next task and complete the required entries, (see steps 3 through 5 of “Creating the tasks in a timetable.”)

7. Once you have finished adding tasks, press the **Keep** (F4) menu.

   A prompt asks if you want to save your changes.

8. Type **y** to save the changes and press **Enter**.

   The Timetable: Get Contents window is displayed with the new tasks.

9. Press **F5** to select **Exit**.

   The Get Contents window closes and the Timetable input window is displayed.

   **WARNING:**

   The type of timetable described in this example should always be tested prior to use on the specified holiday. The testing will ensure that the timetable will run as you expect it to.
Managing features

Creating and scheduling scripts

What is a script?

A script is a set of commands that automates actions to run on the CMS server or the switch ACD. Scripting is the Avaya CMS Supervisor feature that you can use to create scripts.

The most common uses of Scripting is to create scripts for changing agent skills, running a report, or exporting report data.

When scripts are created and saved, you need to specify whether the script is interactive or automatic (with automatic being the default). The exception to this is when a script is saved from the Select a Report window or from an Operations selector window. In these cases, the only option is to create an interactive script. Below is a description of each type of script.

- **Interactive scripts:**
  - Run in the current Supervisor session.
  - Display the script activities on the PC.
  - Are similar to the Avaya CMS Terminal Emulator Shortcut.

- **Automatic scripts:**
  - Start a new Supervisor session that logs in to the CMS server and runs the requested tasks in the background.
  - Require the PC on which the script resides (was created on) to be powered on for the entire time the script is scheduled to run.
  - Do not display the activities related to the script on the PC.
  - Are similar to the Avaya CMS Terminal Emulator Timetable.
  - Require a scheduling package in order to run at a specific time.

Things to know before you start

Below are some of the points you should know before creating scripts:

- You must have the appropriate User Permissions to run the operation that is being requested in the script.
Creating and scheduling scripts

- You are limited to a maximum of four simultaneous Supervisor sessions from one PC (including automatic scripts).
- Once a script is created, it can be manually executed like other Windows-based executable files.
- If the PC on which the script resides is turned off, the script will not run at the appointed time.
- If you change your user password, you must also change the passwords to scripts.

Administration preparations for automatic scripts

You need to set Controller options for your CMS user ID to allow automatic scripts to be scheduled and to run from your PC. You also need to set a user ID and password to allow the script to log in to the CMS server.

Setting Controller options
To set Controller options, complete the following tasks:

1. From the Controller, select Options from the Tools menu.
2. Select the Scripting tab.
3. Complete the input window.
4. Select OK to save your entries.

Setting user ID and password
To set a user ID password for scripting, complete the following steps:

1. From the Controller, select Options from the Tools menu.
2. Select the Scripting tab.
3. Select Set User.
4. Complete the input window with the following information:
   - User ID: Type your CMS user ID.
   - Password: Type your CMS password.
   - Confirm Password: Reenter your password.
5. Select OK to save your entries in the Save as Script-User Information window.
6. Select OK to save your entries in the Scripting tab of the Options window.
Managing features

Using Scripting to automatically print historical reports

This section provides instructions on creating the script that is required to print a historical report. Then explains how to schedule the script to run.

Scripting historical reports

It is easy to schedule reports to print automatically at a convenient time. The first task that you must complete is creating the script that runs the actual report.

To create a script that will automatically run a historical report, complete the following steps:

1. Select Reports from the button on the toolbar or from the Commands menu.
2. From the Report selector window, select the Historical tab.
3. Select the ACD for the report from the Run Report for ACD field.
4. Highlight the Category and Report you want to print and select OK.
   The Report input window is displayed.
5. Complete the Report input window with the values for which you want your report to print data.
   For instance, if you want a historical report to print yesterday’s data each morning, type –1 in the Date(s) field. When the automatic script executes, the report will run with the inputs you selected.

Note:

You are creating an automatic script. When this script is executed the output is directed to your default printer. Therefore, you do not need to specify a Destination from this input window.

6. Select OK.
   The selected report’s output window is displayed.
7. Select Script from the Report menu.
   The Save as Script window is displayed. By default, Automatic script is populated in the Save as type field.
8. Select one of the following options for each field.

<table>
<thead>
<tr>
<th>Save in:</th>
<th>Select the name of the folder where the script file will be saved.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Use the drop-down list displaying the folder hierarchy to choose a folder.</td>
</tr>
<tr>
<td></td>
<td>Select <strong>Create New Folder</strong> to build a new folder to save the file in.</td>
</tr>
<tr>
<td>File name:</td>
<td>Accept the default file name the system has populated.</td>
</tr>
<tr>
<td></td>
<td>Create a new file name.</td>
</tr>
<tr>
<td></td>
<td>Select an existing file name, which will display a <strong>Save as Script – Add or Replace</strong> window.</td>
</tr>
</tbody>
</table>

9. Select **Save** to save the script.

**Note:**
You have created and saved the script that, when executed, will print the report. Continue with the next section to schedule the report to print.

**Scheduling scripted reports to print**

Reports can be scheduled to print automatically at a convenient time.

**Note:**
To run an **automatic** script at a specific time, a scheduling package must be installed on your PC.

Although you have a choice of many scheduling packages, the following three scheduling packages have been tested with the Scripting interface. This is not an endorsement for any of these packages.

- Microsoft’s System Agent (part of the **Windows 95 Plus Pack**)
- Task Scheduler (part of Microsoft Internet Explorer 4.0 for **Windows 95, Windows 98, and Windows NT 4.0**)

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- Unisyn Software LLC AutoMate™ Professional for Windows 95, Windows 98, and Windows NT

Refer to the scheduling package documentation for instructions on scheduling the script to run.

Using Scripting to export report data

Export report data capabilities give you the ability to use the report data from an ACD in other applications. A common use of this feature is exporting chart, table or all report data for use in a Microsoft Excel spreadsheet.

To automatically export report data, complete the following steps from a report output window:

1. Select one of the export data items (Export Chart Data, Export Table Data, or Export All Data) from the Edit menu or by right clicking the selected area in the report.
   
The Export Chart Data, Export Table Data, or Export All Data window is displayed.
2. Complete the data export window, but do not select OK.
3. Select Script.
   
The Save As Script window is displayed.
4. Save the script by selecting one of the following options for each field.

<table>
<thead>
<tr>
<th>Save in:</th>
<th>Select the name of the folder where the script file will be saved.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use the drop-down list displaying the folder hierarchy to choose a folder.</td>
<td></td>
</tr>
<tr>
<td>Select <strong>Create New Folder</strong> to build a new folder to save the file in.</td>
<td></td>
</tr>
</tbody>
</table>
Creating and scheduling scripts

5. Select Save to save the script.

Execute the script to export the report by selecting the script file from either the Scripts menu on the Avaya CMS Supervisor Controller or from the Windows Explorer folder where it was saved.

Using Scripting to schedule operations to occur automatically

In addition to scheduling reports, you may want to create a script for some of the call center operations that you perform. Below is an example of an operation you might want to automate.

Scripting an agent trace

You may receive requests to trace agent activities. You can use Scripting to create scripts that run an agent trace, then schedule the scripts to run automatically.

To create a script that activates an agent trace at a time that is appropriate to the agent’s work schedule, complete the following steps:

1. Select Agent Administration on the toolbar or from the Commands menu.
2. From the Agent Administration selector window, select the Operations tab.
3. Highlight Activate Agent Trace in the Operations tab.
4. Select the ACD for the agent from the ACD field and select OK. The Activate Agent Trace window is displayed.
5. Use the drop-down list or browse button or type the Agent name or login id for which you want to trace call activity and select Agent trace: On.

<table>
<thead>
<tr>
<th>File name:</th>
<th>Accept the default file name the system has populated.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Create a new file name.</td>
</tr>
<tr>
<td></td>
<td>Select an existing file name, which will display a Save as Script – Add or Replace window.</td>
</tr>
</tbody>
</table>
Managing features

6. From the Action menu, select Script.
   The Save as Script-Action window is displayed. By default, Modify is selected for the Action field.

7. Select OK.
   The Save as Script window is displayed.

8. From the Save as Script window, select the folder in which to save the script, type a unique name for the script file (or you can accept the default file name already displayed), and accept Automatic as the script type.

9. Select Save.
   The Save as Script acknowledgment window is displayed, indicating that the script has been saved.

10. Select OK.

   Note:
   The Activate Agents Trace feature allows you to activate traces for up to 250 agents. This limit applies to the number of agents administered to be traced by one CMS server across all ACDs.

Scheduling an agent trace to automatically start
Because this script is an automatic script, you will need to use a scheduling program in order to program when the script will execute. You may want to refer back to how to schedule reports to automatically print earlier in this lesson.
Refer to your scheduling package documentation for instructions on scheduling the script to run.

Organizing your scripts
As you create more scripts, it is easier to keep them in order and manage them if you organize them into unique folders. From the Scripts menu on the Avaya CMS Supervisor Controller, select Organize Scripts to perform the following conventional file operations:

- Create new folders.
- Rename scripts and folders.
- Move scripts and folders.
- Delete scripts and folders.
Assigning Dictionary names

The Dictionary subsystem can be used to assign names to call center entities, including login IDs, split/skills, call work codes, ACDs, agent groups, AUX reason codes, call profiles, logout reason codes, trunk groups, VDNs, and vectors. The assigned names then are displayed on the reports, making them easier to interpret. The ability to assigning Dictionary names is especially useful for the entities, such as VDNs, that often have complex numbering schemes.

Things to know before you start

Below are some of the points you should keep in mind when assigning Dictionary names to call center entities:

- Names (synonyms) must begin with an alphabetic character.
- Dictionary names can have from 1 to 20 characters.
- Names can include the underscore (_), blank (_), comma (,), period (.), single quotes ("), and plus sign (+). Blanks ( ) are allowed in all Dictionary names except Calculation names and constant names (numbers) that are used in calculations.
- Descriptions can have 1 to 50 characters. Descriptions can include all printable characters except the semicolon (;), backslash (\), grave accent ('), tilde (~), pipe (|), asterisk (*), and question mark (?).
- Names must be unique within each section of the Dictionary. For example, 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 enabled for string fields. For example, if you know that a 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 one match. If you type an asterisk in the field or leave the field blank, you get a list of every name in Dictionary.
- The question mark (?) searches on a single character. For example, if you search on the letters ac and you type ac?, the question mark matches any single character that follows the ac.
Managing features

Add a name for a call center entity

Use the following steps to give a call center entity (login IDs, split/skills, call work codes, ACDs, agent groups, AUX reason codes, call profiles, logout reason codes, trunk groups, VDNs, and vectors) a name that will display in reports:

1. Select Dictionary on the toolbar or from the Commands menu.
2. From the Dictionary selector window, select the Operations tab.
3. Highlight the call center entity in the Operations tab.
4. Select the ACD for the call center entity from the ACD field and select OK.
   The input window is displayed.
5. Complete the input fields:
   Note: The inputs required vary, depending on which call center dictionary entity you are running. Press F1 for context sensitive information on each of the input fields.
6. Select Add from the Actions menu or select the add button.
   Successful is displayed in the status bar.

Creating an agent group

You can create agent groups for reporting purposes. This feature allows you to report on a specific set of agents, regardless of their split/skill assignments.

To create an agent group, complete the following steps:

2. Select the ACD on which you want to create the agent group.
3. Select OK.
   The Dictionary Agent Groups input window is displayed.
4. Type the name of the agent group that you want to create.
   The group name should be descriptive and reflect your reasons for creating the group.
5. Select **Add** from the Actions menu or select the **Add** button.

   Successful is displayed in the status bar.

The agent group is now created but does not have any agents assigned to the grouping. Complete the following steps to add agents to the group:

6. Select **Get contents** from the Actions menu or select the **Get contents** button.

7. Enter the **Login IDs** (or extensions) of the agents who you want to add to this group.

8. Select **Add** from the Actions menu or select the **Add** button.

   Successful is displayed in the status bar.

**Note:**

If you remove an agent from an agent group, you will no longer see historical data for that agent on any reports that you run for that agent group.

---

### Running Reports

CMS provides you with many reports that you can view using Avaya CMS Supervisor. In addition to these standard reports, you can create your own reports that are specific to your call center needs.

For complete details about all of the standard reports available to you, refer to *Avaya CMS Supervisor Version 3 Release 11 Reports* (585-210-708) and *Avaya Call Management System Database Items and Calculations* (585-780-702).

For instructions on creating custom reports, refer to the *Avaya CMS Report Designer* (585-210-707) and *Avaya CMS Custom Reports* (585-215-822).

You can run standard reports on any measured subset of the ACD, including agents, splits/skills, trunks/trunk groups, VDNs, vectors, call work codes, and call records. Reports are also available for Agent Administration, Call Center Administration, Dictionary, Exceptions, and Maintenance.
Managing features

To run a report, complete the following steps:

1. Select Reports from the Commands menu or the button on the toolbar.
2. Select the Real-Time, Historical, or Integrated tab.
3. Select the ACD for which you want to run the report.
4. Select a report from the Category and Reports list box.
5. Select OK.
   The Reports input window is displayed.
6. Fill in the input fields.

   Note:
   The inputs vary, depending on which report you are running. Press F1 for context sensitive information on each of the input fields.
7. Select OK.
   The report is displayed.

   Note:
   While viewing a report if you want to change any of the input parameters, select Restart from the Report menu to be returned to the report input window.

Defining Exceptions

An exception is a type of activity in the ACD that falls outside of the limits that you have defined. CMS includes an Exceptions subsystem that collects the exception data from the ACD and produces reports. You can use the Exception reports to help monitor and improve the performance of your call center.

Exception conditions usually indicate abnormal or unacceptable performance in the ACD by agents, splits/skills, trunk groups, VDNs, or vectors. Use the CMS Exceptions options to do the following:

● Define conditions for ACD activity for which you want notification. Activities may include agents, splits/skills, trunk groups, VDNs and vectors. The types of exceptions available vary for each operation, but include such options as Average Speed of Answer, Number of
Defining Exceptions

Calls Waiting, Number of Calls Abandoned, Average Speed of Answer and Time in Queue for split/skill exceptions and Agent State Times for agent exceptions.

- Run the Real-time Exception Log.
- Generate reports on agent, split/skill, trunk group, VDN, vector, malicious call trace, and other exceptions.

### Setting the exception thresholds

To administer and activate exceptions, complete the following steps:

1. Select **Exceptions** from the Commands menu or the button on the toolbar.
2. Select the **Operations** tab.
3. Select the **exception type** for which you want to complete administration (agent, split/skill, trunk group, VDN, vector, or real-time exceptions log).
4. Select the **ACD** for which you want to set the exception.
5. Select **OK**.
   The Exception Administration window is displayed.
6. Fill in the **input fields**.

   **Note:**
   The inputs vary, depending on which exception type you selected. Press **F1** for context sensitive information on each of the input fields.
7. Select **Add** from the Actions menu or from the toolbar button.

   **Successful** is displayed in the status bar.

When an exception occurs, **CMS** notifies you in two ways:

- The exceptions count in the status bar increases by one every time an exception threshold is met or exceeded. The count is cleared to zero at the beginning of an interval.
- The PC beeps. You can turn the beeping on and off by selecting **Options** from the Controller Tools menu, then choosing the General tab. Activate or deactivate the check box for **Use Sound**.
Managing features

**Note:**
You can use the Real-Time Exception Log operation in the Exceptions window to run the Real-Time Exception Log. When first displayed, the Real-Time Exception Log displays exception records for the last ten exceptions. The log lists exception records in chronological order, with the oldest exception listed first. As long as the log’s window remains open, the log automatically scrolls to display each new exception record, 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 that it adds the new exception record.

---

**Tracking call activity**

There are a number of different ways to track particular call types or activity in your call center. This section describes the different choices available and when to use each.

**Note:**
The administration for all of these activities is initially established on the switch and the agents use their telephones to record specific call events. Refer to the switch documentation for information on administering these features.

**Stroke counts (event counts)**

Stroke counts (or event counts) can represent any call event, including a successful sale, a call from a demographic category, or a response to a promotion. Up to nine stroke count buttons can be assigned to an agent’s telephone. Agents press these buttons on their telephones to record specific call events. CMS then stores the data, which can be viewed on the Agent Event Count report.

**Tip:**
Stroke counts are only recorded while an agent is on an ACD call or in call-related after call work. Stroke count button 0 is reserved for audio difficulty.
AUX reason codes

Auxiliary reason codes enable a call center to track an agent’s time more precisely when the agent is in the AUX state. The agent enters the AUX reason code to specify the reason for being in AUX (for example, lunch or a meeting) by entering a previously-assigned digit, 0 through 9.

Names can be assigned to the AUX reason codes through the Dictionary menu in Avaya CMS Supervisor. These names then are displayed in Avaya CMS Supervisor standard real-time and historical reports under the AUX Reason Code headers.

AUX reason code 0 is used for cases when the switch automatically puts an agent into AUX (for example, when Redirect On No Answer has been initiated).

Note:
The Expert Agent Selection (EAS) feature is required to use AUX reason codes.

Call Work Codes

A Call Work Code (CWC) is a number that represents a particular call type or activity—for example, a sale item, complaints, repeat orders, promotional ads, or sales made using a credit card. While still on an ACD call or in after call work (ACW) associated with a call, an agent uses the dial pad on the telephone to enter a CWC. The CWC is from 1 to 16 digits long and is followed by the # sign to signal completion to the switch.

⚠️ CAUTION:
If the agent does not press the # sign after entering the CWC digits causes any data that is being reported to CMS to be lost.

To avoid the loss of data, it is important to allocate the number of CWCs to be saved by CMS in the Data Storage Allocation window, which is accessible from the CMS System Setup menu.

Note:
Starting with CMS R3V11 an agent can store up to five additional call work codes per call segment (CWC1 through CWC5).
Managing features

The last call work code entered by an agent for a call segment will continue to be stored in the LASTCWC column. This makes a total of six call work codes.

For more information on call work codes see Avaya Call Management System (CMS) R3V11 Administration, 585-215-515, Avaya CMS Database Items and Calculations, 585-780-702, or Avaya CMS External Call History Interface, 585-780-700.

Names can be assigned to CWCs through the Dictionary menu in Avaya CMS Supervisor. These names are then displayed in Avaya CMS Supervisor standard CWC reports, that are stored in the Other category of Historical reports.

Tip:
To simplify using CWCs, we recommend you specify a fixed number of digits for all CWCs. CWC 0 is always assigned and cannot be deleted. It is used to collect information on unadministered CWCs.

Logout reason codes

Logout reason codes are much like AUX reason codes. Agents enter logout reason codes to specify the reason they are logging out, such as the end of a shift or training, by entering a digit from 0 through 9. A 0 is used when the system logs an agent out, or if the agent does not specify a code.

The default name assigned to a reason code can be modified through the Dictionary menu in Avaya CMS Supervisor. The logout name is displayed in the Agent Login/Logout and Agent Trace reports under the Logout Reason header.

Note:
The EAS feature is required to use Logout reason codes.
Service observing

The service observing capability provides the means to obtain information on individual calls. This information can help you to assess the quality of service based on the predefined criteria or quality requirements of your company. This section describes the forms and fields used to administer the service observing capability on your switch, and the methods of service observing that are available and how to use each one. In this discussion, the supervisor who is observing calls is referred to as the “observer” and the terminal, attendant, or logical agent being observed is referred to as the “agent.”

⚠️ CAUTION:
Service observing may be subject to federal, state, or local laws, rules, or regulations or require the consent of one or both of the call parties. We recommend that you familiarize yourself and comply with all applicable laws, rules, and regulations before using this feature.

The topics included in this discussion are:
- Administering service observing
- Service observing procedures
- Service observing indicators
- Things to consider when service observing
- Security precautions to consider with service observing.

Administering service observing

Service observing is administered on the switch. Basic service observing is set up to observe an extension, not all calls to all extensions at a terminal. Likewise, VDN service observing is set up to observe an agent in a VDN, not all agents in a VDN.

A summary of the required forms and their fields that require administration follows. The fields that you must administer will depend on the type of service observing that you are establishing.
Service observing

**Note:**
There are many steps that you need to complete to enable service observing. The steps depend on the type of observing that you are establishing. For more detailed information about administering service observing, refer to the Administrator’s Guide for Avaya MultiVantage software, 555-233-506.

Unless otherwise noted, each of the fields identified in the following summary should be set to y (yes).

### System Parameters Customer-Options Form: Required Service Observing Fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Administered for...</th>
</tr>
</thead>
</table>
| Service Observing (Basic) | ● Basic observing  
 ● Logical Agent ID observing |
| Service Observing (Basic) and Service Observing (Remote/By FAC) | ● Remote observing  
 ● Feature access code observing |
| Service Observing (Basic) and Service Observing (VDNs) | ● VDN observing |
| Vectoring (Prompting) | ● Vector-initiated observing |

### Class of Restriction Form: Required Service Observing Fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Administered on...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can Be Service Observed</td>
<td>● Agent’s COR to allow the agent to be observed</td>
</tr>
<tr>
<td>Can Be a Service Observer</td>
<td>● Observer’s COR to allow the extension owner to observe others</td>
</tr>
<tr>
<td>Service Observing Permissions - Table</td>
<td>● Observer’s COR to grant permissions to observe each specific COR</td>
</tr>
</tbody>
</table>

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### Administering Service Observing

<table>
<thead>
<tr>
<th>Field</th>
<th>Administered for...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service Observing Warning Tone</strong></td>
<td>● Notification of agent being observed</td>
</tr>
<tr>
<td><strong>Expert Agent Selection (EAS)</strong></td>
<td>● Logical Agent ID observing</td>
</tr>
<tr>
<td></td>
<td>(Expert Agent Selection [EAS] enabled)</td>
</tr>
</tbody>
</table>

#### Station (multi-appearance) Form: Required Service Observing Fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Administered for...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Button/Feature Button Assignment</strong></td>
<td>● Basic observing</td>
</tr>
<tr>
<td><strong>(set to serv-obsrv)</strong></td>
<td>● VDN observing, or</td>
</tr>
<tr>
<td></td>
<td>● Logical Agent ID observing</td>
</tr>
</tbody>
</table>

#### Feature Access (FAC) Form: Required Service Observing Fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Administered for...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service Observing Listen Only Access Code</strong></td>
<td>● Remote/by FAC observing</td>
</tr>
<tr>
<td><strong>(enter the access code)</strong></td>
<td>● VDN observing, or</td>
</tr>
<tr>
<td></td>
<td>● Logical Agent ID observing</td>
</tr>
<tr>
<td><strong>Service Observing Listen/Talk Access Code</strong></td>
<td>● Remote/by FAC observing</td>
</tr>
<tr>
<td><strong>(enter the access code)</strong></td>
<td>● VDN observing, or</td>
</tr>
<tr>
<td></td>
<td>● Logical Agent ID observing</td>
</tr>
</tbody>
</table>
Service observing

Service observing procedures

Once you finish administering each of the applicable fields on the required forms, you are ready to begin observing an agent.

Note:

When an agent who is being observed is not active on a call, the observer is in the wait state. When the agent becomes active on a call, the observer is bridged onto the call.

Observing extensions

To observe an agent extension, the observer presses the service observing button plus the agent’s extension number. Initially, the observer is in the listen-only mode. While observing a call where an agent is having difficulty or giving out inaccurate information, the observer has the option to "break in" on the conversation. Pressing the service observing button toggles between the listen-only and listen/talk modes.

Note:

If a warning tone was administered on each system, it lets agents and callers know when someone is observing a call. The parties hear a 2-second, 440-Hz warning tone before an observer connects to a call, followed by a half-second burst of this tone every twelve seconds during observation. If enabled, the conference tone may add a delay of two to three seconds before the connection.

Observing logical-agent IDs

Large call centers often move their people regularly and rely on using "universal agent" workstations. With EAS, an observer can observe agents based on their logical-agent ID regardless of the workstation they are working from or the telephone to which the agent is logged in.

The observer enters the logical-agent ID extension number of an agent who must be logged in to a telephone. The observer can monitor every ACD, personal, and direct agent calls delivered to or placed by the agent, including calls placed to the physical extension.
Service observing procedures

**Note:**
Only one observer can observe a physical telephone at one time. An observer cannot observe a logical agent ID extension at a physical telephone that is already being observed. Likewise, an observer cannot observe a physical extension that is being observed as a logical-agent ID extension.

**Observing VDNs**

When observing through a VDN, the agent to be observed is randomly selected based on the vector and call distribution. Use this service observing capability to get an overall sense of how the call center is performing.

To observe a VDN, the observer enters a specific VDN extension and bridges onto calls (one call at a time) that have started vector processing for that VDN. The observer hears all tones, call prompting, caller dialing, announcements, music, and speech that the agent and caller hear. If an observer is in a COR that is administered to hear VDN of Origin announcements and has a VOA Repeat button, he or she can hear and replay VDN of Origin announcements.

**Note:**
If the observer is using a display telephone, the observer sees the name of the VDN, agent, or trunk as each is accessed in sequence by the VDN. For example, during vector processing the VDN name is displayed, but when the call connects to an agent, the agent name is displayed.

**Observing remotely or by Feature Access Code**

There may be times when you want to observe from outside of the physical call center location.

Remote observing is initiated through Remote Access or Call Vectoring. Observers can observe calls from a remote location or a local terminal using service observing Feature Access Codes (FACs). When observing remotely, observers must use FACs. Different FACs are required for listen-only and listen/talk modes. When observing locally or remotely by FAC, the observer cannot toggle between modes. Physical extensions, logical-agent ID extensions, and VDNs can be observed remotely.
Service observing

With Remote Access, an observer accesses a switch via a trunk group dedicated to Remote Access or via a Direct Inward Dialed (DID) number to the Remote Access extension. Remote observing works with all types of DID trunks, including ISDN-PRI and tie trunks, and DCS over analog, T1, or PRI.

With Call Vectoring, an observer accesses a switch by dialing a VDN extension or a central office (CO) trunk that has a VDN extension as its incoming destination. Using route-to commands, you can design a service observing vector to allow a VDN call to directly access a specific extension to be observed or a service observing dial tone. At the dial tone, observers can enter any extension that they are authorized to observe.

Tip:
You can combine Call Prompting and Call Vectoring to provide security and to limit observation. For information about creating a service observing vector, see the *Avaya MultiVantage Call Center software* Release 11 Call Vectoring/EAS Guide, 555-230-714, Issue 1.

Deactivating service observing

Service observing is deactivated when the observer hangs up, selects another call appearance, or presses the disconnect or release button.

Service observing indicators

As an observer, you receive button lamp and/or tone indicators when you activate and use service observing. The following table shows the general service observing indicators that you will receive as an observer.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Button Lamp</th>
<th>Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denied activation</td>
<td>Broken flutter</td>
<td>Intercept/busy/reorder</td>
</tr>
<tr>
<td>Activated</td>
<td>Steady/winking</td>
<td>Confirmation tone followed by silence or connection to call</td>
</tr>
<tr>
<td>Observing (listen only)</td>
<td>Steady</td>
<td>Hear call</td>
</tr>
<tr>
<td>Observing (listen/talk)</td>
<td>Winking</td>
<td>Hear and talk on call</td>
</tr>
</tbody>
</table>

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Things to consider when service observing

<table>
<thead>
<tr>
<th>Condition</th>
<th>Button Lamp</th>
<th>Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>In wait state</td>
<td>Flash</td>
<td>None</td>
</tr>
<tr>
<td>Denied observing</td>
<td>Flash (wait state)</td>
<td>Silence or ineligible tone followed by silence</td>
</tr>
</tbody>
</table>

The Administrator's Guide for Avaya MultiVantage software, 555-233-506, provides additional details that describe indicators received when activation is:
- Denied
- Allowed — at the time of activation
- Allowed — after observe is activated

Things to consider when service observing

Consider the following circumstances when you are using service observing.

Bridged observers

Although an agent can be a member of multiple splits/skills, an agent can be observed by only one observer at a time. If two agents with different supervisors are observed and one agent calls the other, the originator's supervisor observes the call and the other supervisor is placed in the wait state.

Ineligibility

On some occasions, a call to an agent extension or VDN is ineligible for observing. Some examples of when this might occur are when the call:
- Is already being observed
- Has some type of Data Restriction activated
- Is in a conference with six parties
- Is a VDN-observed call that reaches an unobservable extension or VDN
Service observing

Multiple observers

Multiple observers can observe a single VDN simultaneously, but each observer will be observing a different call to the VDN.

Note:
Up to 50 VDN calls can be observed concurrently.

Trunk calls

If an agent being observed makes a trunk call, observation starts after the agent finishes dialing. For central office (CO) trunks, dialing is considered complete when answer supervision is returned or when answer supervision timeout occurs.

See Avaya MultiVantage Call Center software Release 11 Guide to ACD Call Centers, 555-230-716, Issue 1 for additional information on answer supervision.

Conferenced calls

An observer cannot initiate a conference while observing.

If an observed agent conferences a call and the number of conferenced parties is less than six, the observer is placed in the wait state until the call is connected. When the call is connected, the observer can observe the conference. In addition, the observer is bridged onto any call on which the agent becomes active before the conference is complete. When the conference is complete, the observer is again bridged onto that call.

If an observed agent conferences a call and the number of conferenced parties (including the observer) is six, the conference is denied.

A call to an observed VDN cannot be monitored if the observer, caller, and other parties bridged onto the call equals more than six parties.

If a conference is being observed because an observed agent entered the conference, when the agent hangs up, the conference is no longer observed. If a conference is being observed because an observed VDN call entered the conference, observing continues until the call is routed to an unobservable destination.

Conference members are observed during a conference regardless of their COR setting.
Security precautions to consider with service observing

If a VDN call being observed is conferenced to an agent call being observed, the VDN observer continues to observe and the agent observer goes into the wait state. If two observers (of either VDN or agent calls) are conferenced to a call, the first observer conferenced in continues to observe and the second observer goes into the wait state. VDN or agent call observers hear the ineligible tone before going into the wait state.

Note:
The same rules apply when multiple observers monitor transferred calls.

Transferred calls

If an agent being observed transfers a call, the observer is placed in the wait state. Once the transfer is complete, the observer is bridged on and can continue monitoring the call until it is complete or the observer deactivates service observing.

A VDN observer continues to monitor the transferred call until it is transferred or routed to an unobservable destination, the observer deactivates service observing, or the call terminates.

Security precautions to consider with service observing

Depending on the service observing method that you are using, there are precautions that you can take to ensure the security of your system.

General security

Use the following COR restrictions to prevent unauthorized observing:

- For the observer, set Can Be A Service Observer on the COR form to y.
- For the agent to be observed, set Can Be Service Observed on the COR form to y
- For the observer, grant permissions to all CORs to be observed on the Service Observing Permissions COR table
Service observing

VDN-call security

Use the following COR restrictions for VDN-call observing:

- For the VDN extension to be observed, set Can Be Service Observed on the COR form to y.
- Type a y next to the CORs of the VDNs to be observed in the observer's Service Observing Permissions COR table.

Vector-initiated security

Use the following guidelines for vector-initiated observing:

- Use Call prompting commands in service observing vectors to provide passcode protection and limit access to specific destinations or vector-verified, caller-entered digits.
- Use Time of Day/Day of Week checks in service observing vectors.
- Create a vector used exclusively for service observing.
- If you use route-to commands to observe a VDN extension, ensure that the extension has an observable COR.

⚠️ CAUTION:

In vector-initiated service observing, COR assignments are used to determine if service observing is allowed. These assignments include the COR assigned:

- to the VDN used to initiate service observing
- to the internal caller extension
- to the agent to be observed

If the agent's COR is not observable, observation fails regardless of the VDN or caller COR. When a call is routed through multiple VDNs, the COR of the last VDN is used for calling and observing permissions regardless of VDN Override settings.

Remote-access security

Use the following guidelines for remote observing:

- Use Barrier Codes and Authorization Codes to limit the use of Remote Access to authorized users.
- Use different Authorization Codes for different service observing permissions.
Security precautions to consider with service observing

- Use Facility Restriction Levels (FRLs) and restrictions such as the Authorization Code COR to restrict Remote Access service observer access to other destinations (for example, stations or trunks)

- Use Call Prompting to create additional security

**Note:**
Additional Remote Access security measures and codes are described in the Administrator’s Guide for Avaya MultiVantage software, 555-233-506.
Service observing
Managing backups

This section explains the different types of CMS backups available and provides recommendations on when to run each kind of backup. Procedures on how to run backups and references on where to check the backup status are also included. Suggestions for tape management are also offered to aid in quick and accurate recoveries.

The topics included in this discussion are:

- Why run a backup?
- Types of backups
- Backup procedures
- Checking backup status
- Tape management
- Cleaning the tape drive
- Automating backups
- LAN backup


Why run a backup?

Data is crucial to the successful operation of your call center. Therefore, backups are critical to the maintenance of your system. By regularly performing backups, you protect your CMS data against the possibility of losing valuable data due to system failures, disk failures, power outages, and so forth.

Tip:

Running backups while your system is running its daily data archive may cause performance problems. To maintain best performance, run backups either after archiving is completed or before archiving begins.
Managing backups

**Types of backups**

Most often, you will perform a maintenance backup. Depending on the capacity of your backup device and the amount of data to be saved, you can select either a Full or an Incremental maintenance backup. Most of the tape drives currently shipped with CMS accommodate a Full backup on one tape. The following tables describe the various types of backups, the data that is saved, and recommended backup intervals.

<table>
<thead>
<tr>
<th>Maintenance Backups</th>
<th>Data Saved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>Saves data for all of the time periods in the historical database in CMS. A full Backup <strong>must</strong> be done prior to the first Incremental Backup.</td>
</tr>
<tr>
<td>Incremental</td>
<td>Saves CMS data recorded since the last (incremental or full) backup completed. Only the historical data can be stored incrementally. Administration data is stored in a full backup.</td>
</tr>
</tbody>
</table>

⚠️ **CAUTION:**

How frequently you perform Maintenance backups should be determined by how much data your call center is willing to lose in the case of a catastrophic failure.

<table>
<thead>
<tr>
<th>File System Backup</th>
<th>Data Saved</th>
<th>Recommended Frequency</th>
</tr>
</thead>
</table>
| cmsadm             | ● Saves *Solaris* system files and programs  
|                    | ● Saves non-CMS data you placed on the computer                        | ● Prior to upgrading CMS to a new software load  
|                    |                                                                          | ● As soon as possible after an upgrade            |
|                    |                                                                          | ● Monthly                                      |
Backup procedures

**CAUTION:**

With CMS R3V8 and newer releases, the cmsadm backup does not back up historical data. To ensure that you have all of the data needed to complete a restore, you must run both the cmsadm backup and the full maintenance backup on a regular basis.

---

**Backup procedures**

The following sections step you through the process of completing the different types of backups, including full maintenance backups and cmsadm backups.

**Note:**

Running a maintenance backup could impact system resources and should be scheduled to run accordingly.

**Running a full maintenance backup for all ACDs**

To run a full maintenance backup, complete the following steps:

1. Insert a tape in to the backup device.

**Tip:**

The CMS system will allow a full backup over the most recent full tape backup. It will also allow a full backup over an old incremental tape backup. It will not allow an incremental backup over your most recent incremental backup or your most recent full backup.

2. On the Avaya CMS Supervisor Controller, select **Maintenance** from the Tools menu or from the button on the toolbar.

3. On the Maintenance selector window, highlight **Back Up Data** in the Operations list and select the **ACD** for which you want to complete a backup.

4. Select **OK**.
Managing backups

The Backup Data window is displayed.

![Backup Data Window]

5. Choose the following options for each field on the window:

<table>
<thead>
<tr>
<th>Field</th>
<th>Default value/action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device name:</td>
<td>Accept the default device name.</td>
</tr>
<tr>
<td>Verify tape can be read after backup?</td>
<td>Selected</td>
</tr>
</tbody>
</table>

When you select the *Verify tape can be read after backup?* field, the system tries to read the data on each tape after the backup finishes writing it. This procedure is relatively fast and ensures that the system can read the data it wrote. If you receive an error message that the tape failed verification, you need to rerun the backup using a different tape.

| ACDs to backup: | All ACDs |

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Backup procedures

6. Select Run from the Actions menu or the Run button on the toolbar.

Note:
Backups run in the background. You can exit the Backup Data window without affecting the backup process.

Tip:
For a complete description of each of the fields in the Backup Data window, press F1 from within the window.

Running a cmsadm backup

⚠️ CAUTION:
On systems prior to the CMS R3V8, CMS is shut off when backup is selected from the cmsadm menu. This means that no call center data is collected by CMS during the backup. For systems running CMS R3V8 and newer releases, cmsadm backups do not affect data collection.

Note:
Beginning with CMS R3V8, the cmsadm backup does not back up historical data. This means that you must have a full maintenance backup to successfully complete a restore.

Rebooting CMS
Prior to running a cmsadm backup, it is recommended that you reboot the CMS server.

1. Log in to CMS from the system console or with Avaya Terminal Emulator using the root login ID and password.
Managing backups

2. To shut down the system to an OK prompt, at the # prompt type 
/usr/sbin/shutdown -y -g0 -i0.
3. To shut down and restart the system, at the OK prompt type 
/usr/sbin/shutdown -y -g0 -i6.

Performing a cmsadm backup
To run a cmsadm backup, complete the following steps:
1. Log in to CMS from the system console or via Avaya Terminal 
   Emulator using the root login ID and password.
2. At the # prompt type lp /etc/vfstab and press Enter.

Note:
The information that is printed out should be kept with the 
cmsadm backup to be used if you ever need to perform a 
restore.
3. At the # prompt, type cmsadm and press Enter.
The CMS Administration menu is displayed.
4. Select backup from the list of options.

Note:
To use a menu -driven cmsadm backup procedure see Avaya 
Call Management System Release 3 Version 11 Software 
Installation Maintenance and Troubleshooting Guide (585-215-
115).

Verify the cmsadm tape is readable
After doing a cmsadm file system backup, verify that the backup tape is 
readable by:
1. Insert the first backup tape.
2. To list the files on the tape enter the following command in a single 
   line:
   
   nohup cpio -ivct -C 10240 -I /dev/rmt/dev# -M
   "Insert tape %d and press Enter" | tee
   
   Where dev# is the device name.
   The system displays a list of files.
3. If you are not sure of the device path, enter:

```
mt -f /dev/rmt/dev# status
```

Where `dev#` is the device name.

The system displays the files you are looking for.

4. After looking at your files, press **Delete** to stop the display.

---

**Checking backup status**

We recommend that you periodically check the CMS console and Avaya CMS Supervisor Back Up Data window for messages relating to errors and the status of your backup.

**Status messages**

To verify the status of a maintenance backup, complete the following steps:

1. On the Avaya CMS Supervisor Controller, select **Maintenance** from the Tools menu.
2. On the Maintenance selector window, highlight **Back Up Data** in the Operations list and select the ACD for which you want to check backup status.
3. Select **OK**.
4. View the **Status** field in the Backup Data window for the current or most recent maintenance backup status. Problems accessing the backup device or any tape constraints will be displayed here.

**Error messages**

View the **Error** field in the Backup Data window to view any errors that occurred in the current or most recent maintenance backup.

If your backup fails with an error message, refer to the Maintenance - Error Log window in Avaya CMS Supervisor for an explanation of why the error occurred and what to do to fix it.
Managing backups

Console messages

When you do a maintenance backup that completes 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 new tape was used for the backup. Ignore this warning, and press Ctrl+L to refresh the screen.

Tape management

Managing the backup tape rotation, storage, security, and labeling the tape is essential in assuring that if a restore is needed it can be done quickly and accurately.

Tape rotation

Keep enough tapes on hand so that you can rotate them. 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 used each day of the week, and each weekly sequence is repeated.

⚠️ CAUTION:

Backup tapes can wear out. Be sure to refresh your supply of backup tapes occasionally to avoid problems.

Labeling

After a successful backup, it is important that you label your backup tape. CMS provides the backup information to put on the labels in the Backup Data window, or if the backup was scheduled on a timetable, in the Maintenance - Error Log. Refer to the Maintenance section of the CMS Administration book for information on reading the label.
Storage

To minimize the time that your system is out of service, it is important that you store your backups in a secure location.

Note:
Use your company’s disaster recovery policy for storage of the backup media.

Ordering tape and cleaning cartridges

If you have purchased your tape and cleaning cartridges from Avaya in the past, all cartridges for CMS can now be purchased from Arrow International or other resources.

What to order

The following table provides information you may have used in the past to order cartridges. This cross reference table identifies the generic cartridge name you need to use when ordering tape or cleaning cartridges from Arrow International. Arrow International will cross reference tape and cleaning cartridges by both the comcode (which they refer to as part number) and the Generic name.

<table>
<thead>
<tr>
<th>Avaya Cartridge Name</th>
<th>Used on CMS Platform</th>
<th>PEC</th>
<th>Comcode</th>
<th>Generic Cartridge Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>320Mb, QIC Sparc10, early Sparc5</td>
<td>8100-000</td>
<td>406168518</td>
<td>DC6320</td>
<td></td>
</tr>
<tr>
<td>2.5G QIC Later Sparc5</td>
<td></td>
<td></td>
<td></td>
<td>2.5G QIC</td>
</tr>
<tr>
<td>8mm Cleaning Sparc20</td>
<td>12091</td>
<td>407086602</td>
<td>8mm Cleaning Cartridge</td>
<td></td>
</tr>
<tr>
<td>14G, 8mm Tape Sparc20, UE3000</td>
<td>12091</td>
<td>407298215</td>
<td>160mXL</td>
<td></td>
</tr>
</tbody>
</table>
### Managing backups

<table>
<thead>
<tr>
<th>Avaya Cartridge Name</th>
<th>Used on CMS Platform</th>
<th>PEC</th>
<th>Comcode</th>
<th>Generic Cartridge Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLR 5, 4-8G QIC Tape</td>
<td>Last Sparc5, Ultra5</td>
<td>12142</td>
<td>408661079</td>
<td>SLR5-8GB</td>
</tr>
<tr>
<td>SLR 5, QIC Cleaning</td>
<td>Last Sparc5, Ultra5</td>
<td>12143</td>
<td>407861087</td>
<td>SLR Clean</td>
</tr>
<tr>
<td>20/40GB, 8mm Tape</td>
<td>E3500</td>
<td>12171</td>
<td>408021426</td>
<td>170m AME Mammoth</td>
</tr>
<tr>
<td>8mm Cleaning</td>
<td>E3500</td>
<td>12175</td>
<td>408027027</td>
<td>Mammoth Cleaning Cartridge</td>
</tr>
<tr>
<td>DDS4, 20G, 4mm Tape</td>
<td>Ultra5</td>
<td>408358851</td>
<td>4mm DDS-150</td>
<td></td>
</tr>
<tr>
<td>DDS4, 4mm Cleaning</td>
<td>Ultra5</td>
<td>408358869</td>
<td>4mm Clean DDS compliant 150 meter 20/40-GB DAT cartridge</td>
<td></td>
</tr>
<tr>
<td>Magnus 2.5G</td>
<td>Sparc5</td>
<td>12128</td>
<td>407557073</td>
<td>M 2.50GB</td>
</tr>
<tr>
<td>Mammoth</td>
<td>E3500</td>
<td></td>
<td>170-meter AME 20/40-GB 8 mm</td>
<td></td>
</tr>
<tr>
<td>SLR5 4/8-GB QIC</td>
<td>Ultra 5</td>
<td></td>
<td></td>
<td>SLR 4/8</td>
</tr>
</tbody>
</table>
Who to contact

The following information provides contact options for ordering cartridges. It is recommended that International orders be placed by e-mail due to time zone differences.

<table>
<thead>
<tr>
<th>Location</th>
<th>E-mail</th>
<th>Telephone numbers</th>
<th>Hours of operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td><a href="mailto:avayaparts@arrow.com">avayaparts@arrow.com</a></td>
<td>1-800-833-3557</td>
<td>7 a.m.-6 p.m. local time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(calls are automatically routed to service locations in the West Coast, Central or East Coast regions)</td>
<td></td>
</tr>
<tr>
<td>International</td>
<td><a href="mailto:avayaparts@arrow.com">avayaparts@arrow.com</a></td>
<td>U.S. country code + (office) 631-843-5000 (fax) 631-843-5040</td>
<td>8 a.m.-5 p.m. EST, Monday-Friday</td>
</tr>
</tbody>
</table>

Cleaning the tape drive

You can ensure optimum performance on your system by cleaning your tape drive on a regular basis. The following sections provide information on when and how to clean the tape drive.

When to clean the tape drive

The Enterprise 3500 comes with a cleaning cartridge for the 40-GB tape drive and it is recommended you clean the tape drive if any of the following conditions occur:

- The amber light on the top left side of the tape drive faceplate is on solid.
- After reading a low-density 14-GB tape. Reading a 14-GB tape alters certain flags in the system software and those altered flags prevent the drive from reading 40-GB tapes. The cleaning process resets the flags and allows the drive to read and write 40-GB tapes once again. It is recommended that you clean the tape drive five (5)
Managing backups

times after reading a low-density tape. If, after several cleanings, the amber light remains on, try shutting down the system and rebooting the system. This sometimes resets the tape flags.

How to clean the tape drive

To clean the tape drive, complete the following steps:

1. Load the cleaning cartridge into the drive as you would any tape.
   
   The cleaning process starts automatically. The cartridge is automatically unloaded and ejected when the process is complete.
   
   If the cartridge is ejected without going through a cleaning cycle, it means the cartridge is exhausted and must be replaced with a new cleaning cartridge.

2. Record the cleaning date on the “Cleaning Record” label on the front of the cartridge.

⚠️ WARNING:

The cleaning cartridge has a limited number of uses and it must be replaced as indicated by the product instructions. Do not rewind or attempt to reuse the cleaning cartridge. You might redeposit harmful material on the drive heads.

Automating backups

Maintenance backups can be scheduled to run automatically at your discretion.

Although Avaya CMS Supervisor supports automating backups via its scripting capability, it is highly recommended that critical system backups be scheduled using the Timetable feature in Avaya Terminal Emulator. For information on how to create a timetable to run a maintenance backup and schedule it, refer to the “Creating and scheduling timetables” in the Managing Features section of this book.

Note:

The cmsadm backup cannot be scheduled to run automatically.

The CMS full maintenance backup can be scheduled to run automatically.
LAN backup

The Avaya Call Management System LAN Backup feature provides an alternative for the traditional method backing up and restoring data.

Before Avaya Call Management System (CMS) R3V11, the only way to backup and restore data was to use a tape device located with the CMS system.

LAN Backup allows you to back up CMS data and system information over a local area network (LAN) to a storage manager. The storage manager is a software package that controls where, how, and when the data is stored.

The benefits of using the Avaya Call Management System LAN Backup feature are:

- Automated data backups
- Centralized storage location for backing up multiple CMS servers
- Faster data backups and restores (dependent on network configuration)
Keeping records

Detailed records are vital in helping the system administrator optimize system operations. This section provides information on where to locate call center records and offers logs for you to use to record, manage, and organize your records.

Refer to the Avaya MultiVantage Little Instruction Book for Basic Administration, 555-233-756 for guidelines on keeping records on your switch.

Tip:
Keeping your records current and accurate will assist people who fill in for or replace system administrators and provide a speedy recovery for outages in system performance.

The topics included in this discussion are:

- Electronic system records
- Recording system information
- Before you contact Avaya for support

Electronic system records

Many of your call center records are stored electronically and can be accessed from CMS.

Call center administration records

Below is a list of the call center records that can be accessed for each ACD from the Call Center Administration selector window in Avaya CMS Supervisor.

- Call Work Codes — Numbers assigned to track a particular call type or activity.
- Split Parameters (switches without Vectoring) — Delay time for prerecorded announcements, inflow and outflow queue thresholds, and intraflow type for the split.
Keeping records

- **Trunk Group Assignments** — The VDNs or non-vector controlled splits (or splits for systems without vectoring) your trunk groups are assigned to.
- **Trunk Group Members** (accessed from the Reports tab) — Trunk group members and their equipment locations for a particular trunk group.
- **VDN Assignments** — VDNs and the vectors they are assigned to.
- **Change VDN Skill Preferences** (Expert Agent Selection (EAS) systems) — The current skill preference VDN assignments.
- **Vector Configuration** (accessed from the Reports tab) — The trunk groups and VDNs that are associated with specific vectors (and the skill preferences assigned to the VDNs for EAS systems).

**Agent administration records**

Call center records for the following lists are accessed for each ACD from the Agent Administration selector window in Avaya CMS Supervisor.

- **Change Agent Skills** (EAS systems) — Lists an agent’s current skill assignments, along with the associated skill type or skill level.
- **Extension Split Assignments** (non-EAS systems) — The split where the extension is currently assigned.
- **Split Members** (non-EAS systems; accessed from the Reports tab) — Lists the selected splits in numerical order, each split’s assigned name (if applicable), and the extensions that are assigned to the split (if any are assigned).

**User permissions records**

User permissions records for user IDs can be accessed for each ACD from the User Permissions selector window in Avaya CMS Supervisor.

- **User IDs** — Login IDs, default printer name, login type (Normal or Administrator), maximum number of open windows, minimum refresh rate for real-time reports, and the default login ACD for each user.
CMS system setup records

Below is a list of CMS system setup records that can be accessed for each ACD from the CMS System Setup selector window in Avaya CMS Supervisor.

- **Switch Setup** — Switch type, switch release, purchased CMS release and version, CMS load designation, and CMS administrable switch features (such as Call Vectoring, Call Prompting, and EAS) assigned during installation.

Maintenance records

Below is a list of maintenance records that can be accessed for each ACD from the Maintenance selector window in Avaya CMS Supervisor.

- **ACD Status** — Call center items that CMS is measuring (such as the number of splits/skills, agents logged in, trunk groups, trunks, VDNs, and vectors).
- **Connection Status** — Data link monitoring between the CMS processor and the switch.

Recording system information

The logs in this section can be used by the system administrator as a quick and easy reference of the CMS components that are vital to the operation of your call center. We recommend that you complete each of these logs when the system is installed, update them as you upgrade the system, and refer to them as needed for system support.

CMS server log

<table>
<thead>
<tr>
<th>Model of the CMS server</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Physical location of the CMS server</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Dial up telephone number or CMS network address to the CMS server</th>
</tr>
</thead>
</table>
Keeping records

**Recovery kit and software log**

The Recovery kit consists of CMS software and backups that are imperative to a speedy recovery of your system in the event of a system outage. The *Sun* software listed may vary depending on the release and version your CMS server operates under and should be stored with the Recovery kit.

<table>
<thead>
<tr>
<th>CMS Recovery kit software list:</th>
<th>√</th>
<th>Where is it securely located?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latest <em>cmsadm</em> backup tapes</td>
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<td></td>
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<tr>
<td>Latest full (and incremental) maintenance backup tapes</td>
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<td></td>
</tr>
<tr>
<td>CMS Load CD-ROM (used for the last upgrade and any CMS update CD-ROMs used at the same time)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMS Supplemental Services</td>
<td></td>
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<tr>
<td>Patching CD-ROMs and tapes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required software list for <em>Sun</em> platform:</th>
<th>√</th>
<th>Where is it securely located?</th>
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<tr>
<td><em>INFORMIX</em> SDK CD-ROM</td>
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<td><em>INFORMIX</em> ILS CD-ROM</td>
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<td><em>INFORMIX</em> Dynamic Server (IDS) CD-ROM</td>
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<td><em>Sun</em> Solaris 8 Software (Disks 1 and 2)</td>
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<td>Software Supplement for the <em>Solaris 8</em> Operating Environment</td>
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<td>Annex Host Tools CD-ROM</td>
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<td>CMS Hardware Drivers CD-ROM</td>
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<tr>
<td>CMS OPENLINK ODBC Driver CD-ROM</td>
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# Terminal and PC log

Use the following form to track all of the terminals and PCs that are used to access CMS.

<table>
<thead>
<tr>
<th>Terminal/PC location or user</th>
<th>Terminal/PC type</th>
<th>Terminal/PC port connection number (if serial)</th>
<th>Terminal/PC Avaya CMS Supervisor connection options</th>
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<tbody>
<tr>
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</table>
Keeping records

**Printer log**

Use the following form to track all of the CMS printers that are connected to serial ports..

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<tr>
<th>Printer location or user</th>
<th>Printer model</th>
<th>Printer name</th>
<th>Printer port connection number</th>
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