

HP OpenView Configuration Management Application Self-service Manager

for HP-UX, RedHat Linux, SuSE Linux, Solaris, and AIX operating
systems

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Installation and Configuration Guide

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Documentation Updates

This guide's title page contains the following identifying information:

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Table 1 lists new features added for the Configuration Management 5.00 release.

Table 1 New features added for Configuration Management 5.00

Chapter	Version	Changes
2	5.00	Page 30, System Requirements : Updated System Requirements for version 5.0.
2	5.00	Page 34, To install the CM agent : Updated installation: <ul style="list-style-type: none">• New panel to prompt user when to start CM Daemons.• New panel to prompt for WBEM server libraries link creation and search path.
3	5.00	Page 50, System Requirements : Updated System Requirements for version 5.00.
5	5.00	Page 94, Published Owner, Group, and Permission Considerations . Added DIRPERMS attribute information for the UNIXFILE class.
10	5.00	Page 210, Controlling Default Permissions for Directories and Objects . Added information for controlling the default permissions of objects and directories created by CM.

Table 2 indicates changes made to this document for earlier releases.

Table 2 Document changes

Chapter	Version	Changes
7	4.1	Configuring CM Client Operations Profiles added. CM Client Operations Profiles allow you to create redundancy and fail over capabilities for CM Configuration Servers and CM Proxy Servers, control hardware scans, diagnostic settings, and user interface options.
10	4.1	Table: Core Client Objects. added a row for SMINFO.
10	4.1	Page 207, Radskman Execution (PREFACE) : The following client objects are documented in this guide: ZCONFIG, SAPSTATS, SYNOPSIS, PREFACE, and SMINFO. Radskman Execution (PREFACE) was introduced in version 3.1. SAPSTATS and SYNOPSIS are used with CM Client Operations Profiles. Systems Management Information (SMINFO) is a new object that includes unique computer information taken from the agent computer's BIOS tables.
10	4.1	Page 209, Systems Management Information (SMINFO) : new section.

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1 Introduction

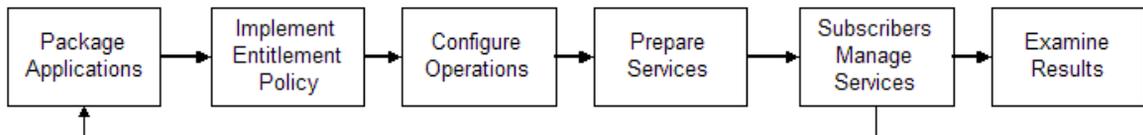
At the end of this chapter, you will:

- Understand the components of HP OpenView Configuration Management (CM) products.
- Be familiar with the structure of the HP OpenView Configuration Management Configuration Server Database (CM Configuration Server Database).
- Understand suggested deployment strategies.

About this Guide

This guide describes the *suggested* implementation for the HP OpenView Configuration Management Application Self-service Manager (CM Application Self-service Manager). Although you will tailor this strategy to meet your organization's needs, we recommend that you review this guide for a comprehensive understanding of the CM Application Self-service Manager. At the start of each chapter, you will find the following diagram to help you locate where you are in the implementation. The appropriate area will be shaded. Before you can manage software, you must install the CM agent and the CM Administrator.

Figure 1 Tasks completed in this guide



The *CM Application Self-service Manager Guide* describes the following:

- Chapter 2, [Installing the CM Agents](#)
This chapter describes how to install the CM agents.
- Chapter 3, [Installing the CM Administrator for UNIX](#)
This chapter describes how to install, repair, and remove the CM Administrator for UNIX and how to modify its installation.
- Chapter 4, [Installing the CM Administrator for Windows](#)
This chapter describes how to install, repair, and remove the CM Administrator for Windows and how to modify its installation.
- Chapter 5, [Packaging Applications and Content](#)
This chapter describes how to package applications using Component Selection Mode and Installation Monitor Mode.
- Chapter 6, [Implementing Entitlement Policy](#)
This chapter shows you how to define users and groups, and how to connect them to the appropriate applications.
- Chapter 7, [Configuring CM Client Operations Profiles](#)
This chapter explains how to configure your agents to use the most appropriate CM Configuration Servers and CM Proxy Servers, provide for fail over capabilities, and configure your CM agent.

- Chapter 8, [Preparing Services](#)
This chapter describes services options such as restarting the agent computer and implementing applications that have machine- and user-specific components.
- Chapter 9, [CM Application Self-service Manager User Interface](#)
This chapter explains how to use the CM Application Self-service Manager User Interface.
- Chapter 10, [CM Agent Directories and Objects](#)
This chapter shows you where to find and how to examine the results of your CM implementation.
- Chapter 11, [Deploying Mandatory Applications for the CM Application Self-service Manager](#)
This chapter describes how to designate applications as mandatory, and how to deploy them.

About HP OpenView Configuration Management Solutions

HP OpenView Configuration Management (CM) Solutions automate the management of data on target devices in your enterprise. These solutions manage devices based on parameters that you configure.

The following are some key characteristics of CM:

- **Desired State Approach**
You can configure and maintain the desired state of a device's operating system, applications, and configuration. If there is a difference between the device's desired state and the current state, the HP differencing technology determines the precise component-level changes that are required and sends only those changes to the managed device.
- **Policy based Management**
You can define entitlements, which control the deployment of data to authorized users or target devices. For example, an IT administrator may implement a policy that only permits access to certain financial databases by a select workgroup within an organization's finance department. Subsequent changes to entitlements cause data to be installed, changed, or removed for affected users or devices.

- **Adaptive Configuration Management**
As the policies change, the current state is differenced and reconfigured to correspond to the desired state.
- **End-to-End Lifecycle Management**
You can automate the policy-based management of data throughout the deployment life-cycle. With CM solutions you can:
 - Package applications.
 - Analyze the impact of packages prior to deployment.
 - Discover, collect, and report on hardware and software information.
 - Configure policy assignments to assign data to the appropriate device or user.
 - Distribute and install data across enterprise networks.
 - Repair data and configurations through the desired state process.
 - Deploy patches, service packs, hot fixes, and application updates.
 - Remove data from managed devices by changing entitlement policies.

With the CM products, you can manage data and continuously configure devices.

Terminology

The following terms are used throughout this guide, and it may be helpful to become familiar with them.

agent

The software (such as the CM Application Self-service Manager, CM Application Manager, CM Inventory Manager, CM Patch Manager, or CM Application Usage Manager) that runs on a managed device and communicates with the CM Configuration Server.

agent connect

The process by which a managed device communicates with the HP OpenView Configuration Management Configuration Server.

CM Configuration Server

Used in conjunction with the CM Configuration Server Database, a server that stores, manages, and distributes application package information, and

manages policy relationships and information about managed devices. This server is the only product that is mandatory in the CM Solutions environment; without it, the infrastructure will not function.

desired state

The condition of a device defined by configuration parameters set in the CM Configuration Server Database.

device

In this document, a device is a piece of hardware, such as a computer or ATM, that may be either a managed device or a target device.

managed device

A computer, ATM, or other piece of hardware that is managed by CM Solutions.

package

(n) A unit of software or data that can be published to the CM Configuration Server Database.

(v) The process of grouping data into a unit that can be published to the CM Configuration Server Database.

policy

A designation of the services to which a user, a target device, or a managed device is entitled.

resolution

The process by which the object attribute values on a managed device are replaced with those that are required to achieve its desired state.

service

A group of related packages, methods, or behaviors organized into manageable units.

target device

A workstation or server on which you want to install, replace, or update software.

user or subscriber

In CM, the identity of the device or subscriber being managed.

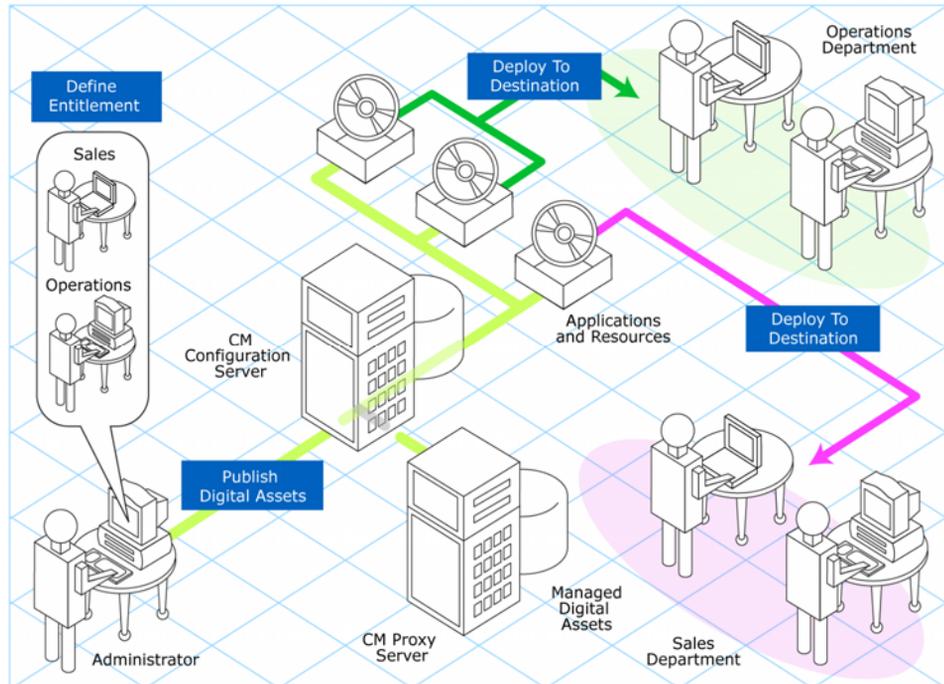
Desired State

CM manages the distribution of assets based on your **desired state**. This records the identities and intended configurations of your managed devices. The desired state can be simple or complex.

At a minimum, the desired state includes the following five elements:

- **Users**
The identity of the devices being managed. This can be either a computer name or a user name.
- **Applications**
The software that is being managed.
- **Application Resources**
The components that make up the applications.
- **Deployment Source**
The location where the application components are stored, such as on a HP OpenView Configuration Management Proxy Server (CM Proxy Server) or on an HP OpenView Configuration Management Configuration Server (CM Configuration Server), so they can be distributed to the users.
- **Deployment Destinations**
The location to which the application and its files will be distributed such as desktop computers, servers, PDAs, and laptops.

Figure 2 Elements in a desired state.



Use CM Products to manage all of these components. You will publish **packages** of data, determine entitlement policy, and define how the packages will be deployed.

▶ A package is a unit of distributable software or data.

The CM Configuration Server Database

The HP OpenView Configuration Management Configuration Server Database (CM Configuration Server Database), located on the HP OpenView Configuration Management Configuration Server (CM Configuration Server), records your enterprise's desired state model. This model is composed of the data to be distributed, policies that define the services to which users or devices are entitled, and security and access rules for administrators. Refer to the *HP OpenView Configuration Management Configuration Server*

Database Reference Guide (CM Database Reference Guide) for information on the structure and usage of CM classes.

The database is hierarchically structured as follows:

- **Files** are used to group similar domains. The PRIMARY File is used to define and maintain the desired state.
- **Domains** are logical file partitions used to group similar classes. For example, the POLICY Domain contains the classes needed to create users and groups.
- **Classes** are templates containing the attributes needed to create an instance. A class represents a category of the desired state. For example, the USER Class of the POLICY Domain defines users of managed applications. It defines all of the attributes necessary to identify the managed device.
- **Instances** are actual occurrences of classes. The attributes of a class instance contain data describing one specific entity of that class. For example, a USER Instance contains the information needed to identify a target device or user.
- **Attributes** are data elements of a class. The class contains the definition (e.g., the name, data type, description, and length) for each attribute belonging to the class. Each class instance created from the class contains a value for each of the attributes defined in the class. For example, the NAME attribute of a USER Class contains the name of the user.

Default Files and Domains

When you install the CM Configuration Server, LICENSE and PRIMARY are the only two files available. As you use CM, your database may change. Some of the management infrastructure products add other domains. For example, CM Patch Manager adds the PATCHMGR Domain, and CM Application Usage Manager adds the USAGE Domain.

- The LICENSE File is read-only and is used for CM Configuration Server processing. This file is for HP use only, and should not be modified.
- The PRIMARY File is where you will find most information regarding software management. The PRIMARY File contains seven default domains.
 - Use the ADMIN Domain to define administrative rights and rules for connecting classes.
 - Use the AUDIT Domain to configure tasks that will inventory assets on your devices.

- Use the CLIENT Domain to configure CM Client Operations Profiles. This includes defining which CM Configuration Servers, and CM Proxy Server the managed device can use.
- Use the POLICY Domain to create users and groups, and to assign users to groups.
- Use the PRDMAINT Domain to store packages for self-maintenance. The agent software uses this domain to heal and update itself.
- The SOFTWARE Domain contains information about the software being managed and the methods used to deploy the software.
- The SYSTEM Domain contains administrative and process control definitions.

As you begin to use CM, the PROFILE File appears after the first device has registered with the CM Configuration Server. This file contains information that is collected from managed devices. This information is used to connect to devices to deploy data managed by CM, and to see the configuration of the managed device.

The NOTIFY File contains information about attempts by the Notify function to update, remove or e-mail subscribers. This file appears after the first attempted Notify. For more information about Notify, see Chapter 11, [Deploying Mandatory Applications for the CM Application Self-service Manager](#).

CM Infrastructure

Use CM infrastructure components to take full advantage of their ability to manage your enterprise's computing environment. Depending on your enterprise's configuration, your infrastructure may be enhanced by any combination of these components. The CM components can be divided into four categories.

- CM management applications
- CM management infrastructure
- CM extended infrastructure
- CM management extensions

Some of the basic CM infrastructure components are described below. For more information on all of the CM products, see the *HP OpenView Configuration Management Configuration Server and Portal Getting Started*

Guide (CM Configuration Server and Portal Getting Started Guide) on the HP OpenView web site.

CM Configuration Server

The CM Configuration Server is part of the CM management infrastructure, and resides on a single server or across a network of servers. Applications and information about the subscribers and agent computers are stored in the CM Configuration Server Database. The CM Configuration Server distributes packages based on policies established by the CM administrator. See the *CM Configuration Server Guide* for more information.

CM Portal

The CM Portal is a Web-based interface that you can use to manage your CM infrastructure. The CM Portal is part of the CM extended infrastructure. Whether you are already using CM, or are just beginning, you can use the portal to create a graphical representation of your infrastructure. Refer to the *HP OpenView Configuration Management Portal Guide (CM Portal Guide)* for more information.

CM Proxy Server

If you want to reduce the load on the CM Configuration Server, or store your data closer to your agent computers, consider using a CM Proxy Server. The CM Proxy Server stores a copy of the data that are available to subscribers attached to the CM Proxy Server. The CM Proxy Server is also part of the CM extended infrastructure. Evaluate the potential benefits for each server and its attached subscribers individually. For more information, refer to the *CM Proxy Server Guide*.



Contact your HP representative for details on the CM Portal and the CM Proxy Server.

CM Administrator

CM comes with a set of tools used to carry out software management functions. You should become familiar with these tools. This is part of the CM management infrastructure. These include:

- **CM Administrator Packager (Windows Only)**
Use the CM Admin Packager to create groups of components, called packages, and promote them to the CM Configuration Server. Refer to the *CM Application Manager Guide for Windows* for more information.
 - **CM Configuration Server Database Editor (Windows Only)**
Use the CM Configuration Server DB Editor (CM-CSDB Editor) to view and to manipulate the CM Configuration Server Database. In addition to this publication, refer to the *CM Configuration Server Database Editor Guide* for more information.
 - **CM Administrator Agent Explorer**
Use the CM Administrator Agent Explorer to view and to manipulate CM objects on the agent computer.
 - **CM Administrator Screen Painter (Windows Only)**
Use the CM Admin Screen Painter to create custom dialog boxes.
 - **CM Administrator Publisher**
Use the CM Administrator Publisher to create groups of components, called packages, and promote them to the CM Configuration Server Database.
- ▶ The CM Admin Publisher for Windows is used to publish Windows Installer files. Refer to the *CM Administrator Publisher Guide* for more information

Management Applications

Management Applications (agents) allow you to automate deployment, update, repair, and deletion activities, and inspect hardware and software. Install the CM management applications onto the subscriber's computer.

There are six types of management applications available for communicating with the CM Configuration Server. Install the only those agents for which you have obtained a license.

- **HP OpenView Configuration Management Application Manager (CM Application Manager)**
Use this agent to distribute mandatory applications throughout the enterprise. This agent is described in this book.
- **HP OpenView Configuration Management Application Self-service Manager (CM Application Self-service Manager)**

Subscribers install, remove, or update optional applications that are available to them in a service list. For more information, refer to the *CM Application Self-service Manager Guide*.

- **HP OpenView Configuration Management Inventory Manager (CM Inventory Manager)**

This agent allows you to collect hardware information and send it to the CM Inventory Manager for collection and reporting. Refer to the *CM Inventory Manager Guide* for details.

- **The HP OpenView Configuration Management Patch Manager (CM Patch Manager)**

The CM Patch Manager analyzes and manages security patches. Refer to the *HP OpenView Configuration Management Patch Manager Guide (CM Patch Manager Guide)*.

- **HP OpenView Configuration Management OS Manager (CM OS Manager)**

The CM OS Manager controls the provisioning of operating systems. Refer to the *HP OpenView Configuration Management OS Manager Guide (CM OS Manager Guide)*.

- **HP OpenView Configuration Management Server Management (CM Server Management)**

Server Management includes the capabilities to control server applications, analyze settings and baselines. Refer to the *HP Openview Configuration Management Server Management Guides*.

If you install both the CM Application Self-service Manager and the CM Application Manager feature sets, you decide if an application is mandatory or optional, and specify who controls the installation of the application. Add the CM Inventory Manager to also find out the hardware and software configurations of the agent computer.

Summary

- CM gives you the flexibility and control to efficiently manage desktop software.
- The CM Configuration Server Database includes all the information needed to manage your software.
- We provide suggested deployment strategies that you should tailor to your organization's needs.

2 Installing the CM Agents

At the end of this chapter, you will:

- Understand the system requirements and permissions necessary to deploy the CM agent.
- Be able to install the CM agent using either the graphical or non-graphical mode.



Install only the CM agents for which you have licenses. If you do not have a license, the CM agent will not authenticate with the CM Configuration Server.

System Requirements

- TCP/IP connection to a computer running CM Configuration Server.
- CM agent requires 20 MB free disk space.

Platform Support

For detailed information about supported platforms, see the release note document that accompanies this release.

Prerequisites

- We strongly recommend that you install the CM agents as root. Root authority is required to apply owner and group designators to managed resources.
- Install the CM agent on a local file system.
- The installation program must be run from within UNIX. Although you can continue to work within UNIX (performing other tasks and operations) while the installation program is being executed, we strongly recommend that you do not.
- If you intend to run any of the graphical components of the CM agent software, make sure the UNIX environment variable `DISPLAY` is set in your environment. If it is not, you will need to set this variable to indicate the hostname or IP address to which you would like to redirect the graphical display.

Table 3 [PROPERTIES] section of `INSTALL.INI`

In a.....	Type....
C shell	setenv DISPLAY IP address or hostname:0.0
Bourne, Bash, or Korn shell	DISPLAY=IP address or hostname:0.0 export DISPLAY



If there is an existing installation in the current working directory, we urge you to relocate it before beginning installation. You will be prompted for this during the installation. If you choose to overwrite your existing agent, all your customized data will be lost.

When installing the CM agent, you must know the subscribers' operating systems. After setup and configuration, CM executables and library files will not be changing with the same frequency as that of your site's user files.

To successfully run CM applications, standard UNIX environment variables are required. Minimally, these environment variables should include the fully qualified path of the installed agent executables, the path to the operating system-specific Motif libraries, and the standard UNIX operating system paths for operating system executables and shared libraries. We recommend that these be included as part of the logon scripts of the UNIX user ID who installs, and will maintain the CM agents.

Table 4 Environment Variables

Platforms	Examples
Solaris	LD_LIBRARY_PATH=/lib:\$IDMSYS:\$MOTIF:\$LD_LIBRARY_PATH PATH=/bin:/usr/bin:\$IDMSYS:\$MOTIF:\$PATH
HP-UX	SHLIB_PATH=/lib:\$IDMSYS:\$MOTIF:\$SHLIB_PATH PATH= /bin:/usr/bin:\$IDMSYS:\$MOTIF:\$PATH
AIX	LIBPATH=/lib:\$IDMSYS:\$MOTIF:\$LIBPATH PATH=/bin:/usr/bin:\$IDMSYS:\$MOTIF:\$PATH
Linux	LD_LIBRARY_PATH=/lib:/usr/lib:\$IDMSYS:\$LD_LIBRARY_PATH PATH=/bin:/usr/bin:\$IDMSYS:\$PATH

In Table 4 above, `$IDMSYS` represents the fully-qualified path to the CM agent executables, often referred to as the `IDMSYS` location. `MOTIF` represents the fully-qualified path to the Motif libraries installed with the operating system.



The inclusion of the `MOTIF` libraries is required only when running CM agent or CM Administrator graphical tools such as the CM Admin Publisher, the CM Admin Agent Explorer, and the presentation of the CM agent logon panel.

After the CM agent is installed, the file `.nvdr` is placed in the `HOME` directory of the UNIX user ID who performed the installation. This file aids you in setting the required environment variables needed to use the CM agents. We recommend adding a line to the appropriate logon scripts to invoke this shell script:

```
. $HOME/.nvdr
```

Recommendations

- After you perform an installation, make sure the CM agent is successfully connected to the CM Configuration Server. This registers the subscriber in the CM Configuration Server DB. After it is registered, the subscriber appears in the PROFILE File. Make sure to verify that all ports are active and that you have full connectivity to the CM Configuration Server.

Before you install the CM agent, consider the following:

- You can perform a local installation of the CM agents.
- Your CM systems administrator can perform a Remote Installation Setup. This process stores the installation media in a selected directory path. Later agent installations can be initiated from any number of intended agent workstations providing they have access to the directory path selected during the Remote Installation Setup.
- Performing an installation from a customized configuration file provides a number of benefits.
 - Replication of precise installation details on multiple agents.
 - Ability to use a pre-installation method that runs any script or executable before the CM agent installation.
 - Ability to use a post-installation method, which runs any script or executable after the CM agent is installed.
 - You can configure the installation to force an agent connection to the CM Configuration Server immediately after the installation.
 - You can pre-configure the IP address and port number of the CM Configuration Server that the CM agent will be connecting to.
 - Ability to use an object update text file that can be used to update CM objects after the installation.

Installation Methods

You can install the CM agents by:

- Executing the installation procedure directly from the CM media.

- Copying the files from the CD media into a temporary directory and executing the installation procedure.

Several parameters can be used on the command line when installing the CM agents. These parameters are used to install the CM agent using the graphical mode, non-graphical mode, plain mode, or silent mode. [Table 5](#) below, describes the installation parameters.

Table 5 Command line installation parameters

Parameter	Example	Description
<code>-mode plain</code>	<code>./install -mode plain</code>	Installs the CM agent in plain mode. The installation graphics are displayed with no animations. This is useful for remote installations where network bandwidth may be an issue.
<code>-mode text</code>	<code>./install -mode text</code>	Installs the CM agent in text mode using the non-graphical installation. The installation takes place completely on the command line. The installation will default to text mode if the DISPLAY environment variable is not set.

Including Maintenance Files with the Agent Installation

If additional maintenance files are available, for example, service packs or hot fixes, you can include these files with your agent installation by creating a maintenance tar file.

Within your agent installation media `/ram` directory, create a file called `maint.tar` that includes all updated files.

The agent installation will check for `maint.tar` and if found, the agent installation will extract all updated files into the `IDMSYS` directory.

Installing the CM agent

This section describes both the graphical (using a GUI) and non-graphical (using a command line) installations of the CM agent for UNIX.



In order for CM to install correctly on HP-UX platforms, you must mount the media using `pfs_mount`.

The CM media is created using the Rock Ridge format. Since the HP-UX standard mount procedure is incompatible with the Rock Ridge file system type, HP has made available the PFS package (Portable File System) that allows their workstations to recognize this format. Specific instructions follow:

Insert the CM media and mount by typing:

```
/usr/sbin/pfs_mount -v -x unix /dvdrom/mnt
```

where `/dvdrom` is your physical media device.

To un-mount, type:

```
/usr/sbin/pfs_umount /mnt
```

See your local UNIX systems administrator and UNIX man pages for more information.

Graphical Installation

This section describes how to install the CM agents both to a local and to a remote computer using a graphical user interface (GUI).

Local Installation

This section describes how to install the CM agents to a local computer using a GUI.

To install the CM agent to a local computer using a GUI



These instructions will guide you through the local graphical installation of the CM agent. For the non-graphical installation instructions, see [Non-graphical Installation](#) on page 43.

- 1 Depending on your version of UNIX, change your current working directory to the correct Agents platform subdirectory on the installation media.

Example: For HP-UX, type: `cd /dvdrom/Agents/hpux`

- 2 Type `./install`, and then press **Enter**.
- 3 The Welcome window opens.



At any point during the installation, you can return to a previous window by clicking **Back**. Also, if you would like to exit the installation at any time, click **Cancel**.

4 Click **Next**.

The End User License Agreement window opens.

5 Read the agreement and click **Accept** to continue.

The Select Components to Install window opens.

6 Select the **CM Application Manager** check box.

7 Click **Next**.

The CM Daemons window opens.

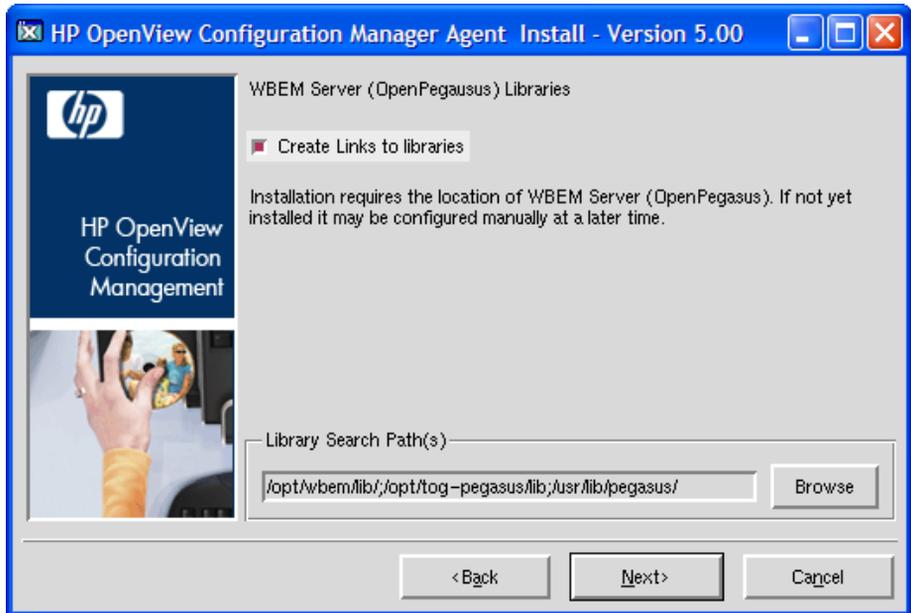
8 Select when you want the CM Daemons to start. The CM Daemons run on the agent computer and perform CM management tasks. See [About CM Daemons in UNIX](#) on page 45 for additional information.

— Select **Start after installation** to start the daemons after the Agent installation is complete.

— Select **Automatic start after reboot via init scripts** to configure the daemons to start automatically each time the device is restarted.

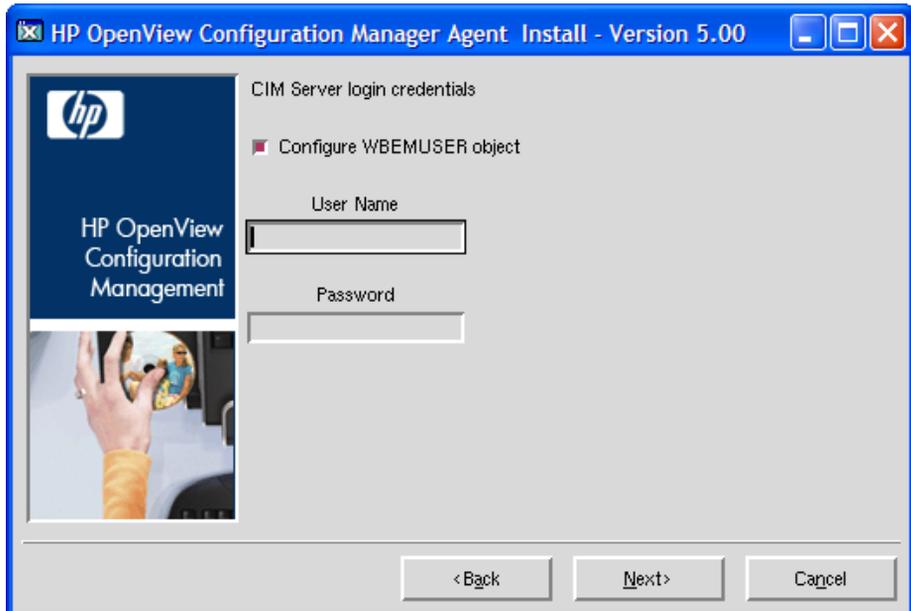
9 Click **Next**.

The WBEM Server (OpenPegasus) Libraries window opens. If you are running the installation on a Solaris device, you will be prompted for CIM server login credentials, see below.



Select **Create Links to libraries** to create a link to existing WBEM Server libraries. Enter the location in the text box. Links can be created after the CM Agent is installed.

If you are running the installation on a Solaris device, the CIM Server logon credentials window opens.



- 10 Select to configure the WBEMUSER object by adding a user name and password (Solaris only).
- 11 Click **Next**.

The Select Installation Type window opens.
- 12 Select **Local Install** to install the CM agent onto a local computer, and then click **Next**.

The CM Agent Location window opens.
- 13 Type the name of the directory where you want to install the CM agent, or click **Browse** to navigate to it.
- 14 Click **Next**.

If the specified directory already exists you will be prompted to verify this location.

 - If you would like to update the existing directory, click **OK**.
 - If you want to specify a different location, click **Cancel**.

The Lib Directory window opens.
- 15 Type the name of the directory where you would like to store proprietary information created by CM (the `lib` directory), or click **Browse** to navigate to it.
- 16 Click **Next**.

The Log Directory window opens.
- 17 Type the name of the directory where you would like to store the log files generated by CM, or click **Browse** to navigate to it.
- 18 Click **Next**.

The CM Configuration Server IP Address window opens.
- 19 Type the IP address (format: `xxx.xxx.xxx.xxx`) of the CM Configuration Server to which the CM agent will connect. Specify a valid IP address or hostname recognized by the agent workstation.
- 20 Click **Next**.

The CM Configuration Server Port Number window opens.
- 21 Type the CM Configuration Server's port number (default is 3464).
- 22 Click **Next**.

The Package Settings window opens.

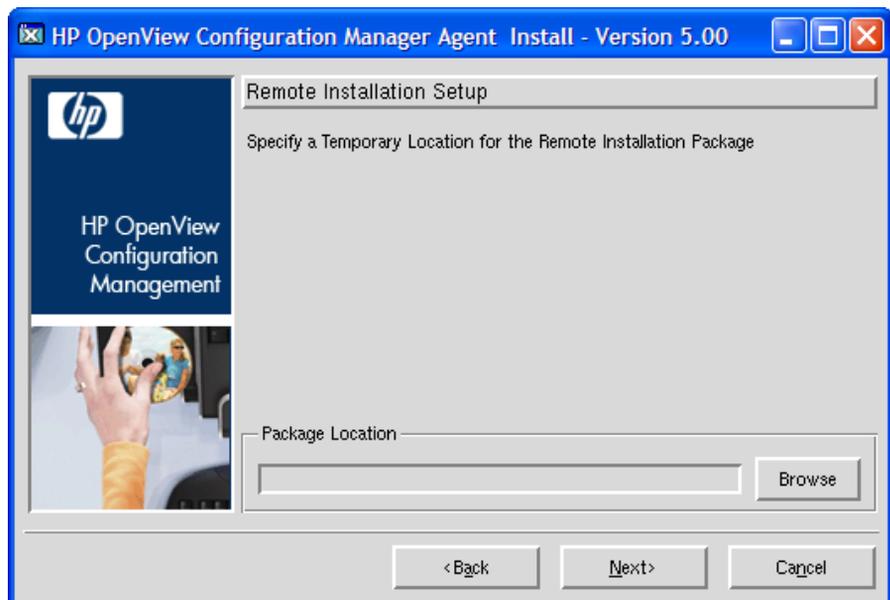
- 23 Review the settings displayed in the Package Settings window. If you would like to change any of the settings, click **Back** until you get to the appropriate window.
- 24 When you are satisfied with the settings, click **Install** to install the CM agent with these settings.
- 25 When the installation is complete, click **Finish** to exit the program.
The CM agent has been successfully installed.

Remote Installation Setup

This section describes how to create a CM agent installation configuration file that can be used to install the CM agent in silent mode or to a remote computer.

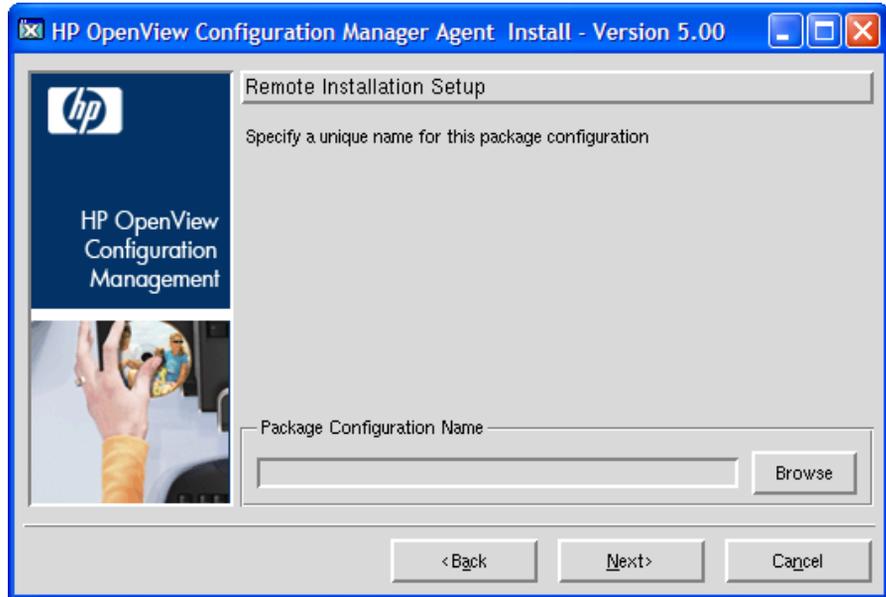
After the Remote Installation Setup is finished, a configuration file is saved in a directory you specify. Use the `-cfg` installation option to use the configuration file you created.

The remote installation is identical to the local installation with the exception of two additional steps required for creating the remote installation package. Follow the steps for a local installation, above, and when prompted, enter the required information for creating the remote installation package.



- Type the fully qualified path to a directory where you would like to store the CM agent installation media for future agent installations, or click **Browse** to navigate to it.
- Click **Next**.

The Package Configuration Name window opens.



- Type the fully qualified path to a configuration file that you would like to use for silent installations, or click **Browse** to navigate to it. The configuration file you specify will contain the installation information you chose during the Remote Installation Setup.

After a remote installation is complete, the CM agent installation media is stored on disk for future installations.

After the media has been stored for other computers to use for remote installations, you should become familiar with the variables in the configuration file.

Customizing the Installation Configuration File

A configuration file supplies the default responses for silent CM agent installations. These responses would normally be provided during an interactive CM agent installation. When performing silent installations, additional installation options are also available in the configuration file.

[Table 6](#), on page 40 describes the variables available in the configuration file.

Table 6 Configuration File variables

Variable	Sample Value	Description
REMOTE	0	0 designates a local installation. 1 designates a Remote Installation Setup.
INSTDIR	/opt/HP/CM/Agent	The default installation directory.
IDMLOG	/opt/HP/CM/Agent/log	This can be defined to designate a directory for IDMLOG other than the default INSTDIR/log.
IDMLIB	/opt/HP/CM/Agent/lib	This can be defined to designate a directory or IDMLIB other than the default INSTDIR/lib.
PREPROC		The fully qualified name of a script or executable to run pre-installation.
PREPARAM		Any parameters that may be required by the pre-installation method specified in the variable PREPROC.
POSTPROC		The fully qualified name of a script or executable to be run post-installation.
POSTPARAM		Any parameters required by the post-installation method specified in the variable POSTPROC.
MGRIP	192.168.123.40	The default IP address for connection to the CM Configuration Server.
MGRPORT	3464	The default port number for connection to the CM Configuration Server.
NTFYPORT	3465	The default Notify port used.

Variable	Sample Value	Description
CONNECT	Y	Connects to the CM Configuration Server immediately after the installation. Default behavior is N. Set to Y if you want your CM agent to connect to the CM Configuration Server automatically after the installation.
OBJECTS	./object.txt	The file that is used to create or update CM attributes after the installation.
DUAL	1	0 designates RAM only selected. 1 designates more than one component selected.

Using a Pre- or Post-Installation Script

You can create and run custom executables or shell scripts prior to or after the silent installation of a CM agent. For example, your post-installation script can initiate a connection to the CM Configuration Server in order to process mandatory applications. The example below is part of a shell script that initiates the connection to the CM Configuration Server and processes mandatory applications.

```
#!/bin/sh
#
cd /opt/HP/CM/Agent

# ZIPADDR is the IP address or hostname of the manager
ZIPADDR="xxx.xxx.xxx.xxx"
# ZDSTSOCK is the TCP port the manager is running on
ZDSTSOCK="3464"

# To manage the machine
# 1. .edmprof must exist in root's home directory
# 2. The connect must be run as root

/opt/HP/CM/Agent/radskman mname=NVDM,dname=SOFTWARE,ip=$ZIPADDR,
port=$ZDSTSOCK,cat=prompt,ind=y,uid=\$MACHINE,startdir=SYSTEM,ulo
gon=n
```

Customizing Installed Object Variable Content

The configuration file option `OBJECTS` allows you to specify the fully qualified path to a file name that contains data in the form:

```
OBJECT_NAME VARIABLE_NAME VARIABLE_VALUE
```

An example of a valid object file is:

```
ZMASTER ZTRACE N
ZMASTER ZTRACEL 000
```

When creating an object text file:

- A pound sign (#) at the beginning of a line identifies a comment.
- A pound sign (#) on any other part of a line identifies data.
- The format is `OBJECT_NAME` followed by `VARIABLE_NAME`. Everything after the `VARIABLE_NAME` is considered `VARIABLE_VALUE`.
- The `VARIABLE_VALUE` text should not be enclosed by any special characters.

Performing a Silent Installation of a CM Agent



We recommend that the agent be installed as root.

Performing a silent installation of the CM agent using stored CM agent installation media requires that:

- your CM system administrator has already run the Remote Installation Setup installation method.
- the workstation running the silent installation is able to access the directory path where the installation media was stored.

Several parameters can be used on the command line when performing a silent installation of the CM agent. [Table 7](#) below describes these.

Table 7 Silent installation command line parameters

Parameter	Example	Description
<code>-cfg</code>	<code>./install - cfg install.cfg</code>	The file name specified after <code>-cfg</code> is the name of the configuration file used during the installation. For information about configuration files, see Customizing the Installation Configuration File on page 39.

<pre>-mode silent</pre>	<pre>./install - mode silent -cfg install.cfg</pre>	<p>Installs the CM agent in silent mode based on the parameters set in the configuration file specified after the <code>-cfg</code> parameter. For information about configuration files, see Customizing the Installation Configuration File on page 39.</p>
-------------------------	---	---

Non-graphical Installation

This section describes a non-graphical (using a command line) installation of the CM agent for UNIX.

To install the CM agent for UNIX using a command line



These instructions guide you through the local non-graphical installation of the CM agent for UNIX. For the graphical installation, see [Graphical Installation](#) on page 34.

- 1 Depending on your version of UNIX, change your current working directory to the correct Agents subdirectory on the installation media.
Example: For HP-UX, type: `cd /cdrom/Agents/hpux`
- 2 Type `./install -mode text`, and then press **Enter**.
The CM agent installation begins.
- 3 Type **C**, and press **Enter**.
- 4 Read the license agreement, type **Accept** and press **Enter**.
- 5 In the next few steps, select which agents to install. Type **Y** or **N** and press **Enter** at each prompt.
 - CM Application Manager
 - CM Inventory Manager
 - CM Application Self-service Manager
 - CM OS Manager
 - CM Patch Manager
 - CM Server Management

- 6 You are prompted to start the CM Daemons after installation. Press **Enter** to accept the default (Y) and start the CM Daemons after install or type N and press **Enter** to start them later.
- 7 You are then prompted to automatically start the CM Daemons after a reboot via init scripts. Press **Enter** to accept the default (N) and **not** start the CM Daemons each time the device is restarted or type **Y** and press **Enter** to allow CM Daemons to automatically start when the device is rebooted.
- 8 If you are installing to a Solaris device, you will be prompted to configure the WBEMUSER object. If you select Y, you will be prompted to supply a user name and password for the WBEMUSER object.
- 9 Select the type of installation. The default is 1, a local installation.
Type **1**, and then press **Enter** to install the CM agent locally.
or
Type **2**, and then press **Enter** to set up remote installation media.
For this example, we accepted the default.
- 10 Specify the installation location for the CM agent, and then press **Enter**.
- 11 Specify the location for the CM proprietary objects (IDMLIB), and then press **Enter**.
- 12 Specify the location for the log files created by CM (IDMLOG), and then press **Enter**.
- 13 Specify the IP address of the CM Configuration Server, and then press **Enter**.
- 14 Specify the port number for the CM Configuration Server, and then press **Enter**.
- 15 Review the installation settings you have chosen.
- 16 If you would like to install the CM agent with these parameters, press **Enter** to accept the default answer of **Y**.
If you want to change any of these settings, type **N** to re-enter the installation information.
- 17 When you are satisfied with the settings, press **Enter** to install the CM agent.
The CM agent is installed.

About CM Daemons in UNIX

The CM agent installation program installs the following daemon executables:

- **CM Notify (default port 3465)**
Use CM Notify, **radexecd**, to push updates to subscribers or to remove applications. A Notify message is sent from the CM Configuration Server to this daemon. When the daemon receives the Notify message, the CM agent connects to the CM Configuration Server and performs the action initiated by the Notify operation.



If you want to send a Notify to subscribers of a particular application, that application *must* be installed on their computers in order for them to be eligible for notification.

- **CM Scheduler**
Use the CM Scheduler service, **radsched**, to schedule timer-based deployments of applications.

The installation of **radexecd** and **radsched** as services on a UNIX workstation is not automated within the context of the installation. The starting of services on UNIX workstations is operating system dependent. For information about installing CM daemons as system services at boot time, see your local UNIX system administrator or refer to your UNIX operating system's manual.

Sample Shell Scripts

The installation of the CM agent includes a subdirectory called "sample." It contains a sample shell script called **daemons.sh** that you can use to start, stop, and restart the **radexecd** and **radsched** daemons.

- To start the radexecd and radsched daemons, type: `daemons.sh start`
- To stop the radexecd and radsched daemons, type: `daemons.sh stop`
- To stop, then restart the radexec and radsched daemons, type:
`daemons.sh restart`

Troubleshooting the Agent Installation

If you encounter any problems while installing the CM agent, perform the following steps before contacting technical support:

- Enable diagnostic tracing by appending the text `-loglevel 9` to the installation command line and re-run the installation.
- Have this log file (`tmp/setup/setup.log`) located in the home directory of the UNIX user ID who ran the install.



The installation option `-loglevel 9` should only be used to diagnose installation problems.

Summary

- We strongly recommend that you install and run the CM agents as root.
- The CM agents can be installed using either the graphical or non-graphical modes.

3 Installing the CM Administrator for UNIX

At the end of this chapter, you will:

- Understand the system requirements and permissions necessary to install the CM Administrator for UNIX.
- Be able to install the CM Administrator using either the graphical or non-graphical mode.

If you are responsible for packaging applications or configuring them for distribution, install the CM Administrator on your administrator computer. Use the CM Admin Publisher to create software or data packages, and then promote them to the CM Configuration Server DB.

System Requirements

- TCP/IP connection to a computer running CM Configuration Server.

Platform Support

For detailed information about supported platforms, see the release note document that accompanies this release.

Prerequisites

- We strongly recommend that you install the CM agents as root.
- Install the CM agent on a local file system.
- If you intend to run any of the graphical components of the CM Administrator software, make sure the UNIX environment variable `DISPLAY` is set in your environment. If it is not, you will need to set this variable to indicate the hostname or IP address to which you would like to redirect the graphical display.

Table 8 **Setting the `DISPLAY` Variable**

In a.....	Type....
C shell	setenv DISPLAY IP address or hostname:0.0
Bourne, Bash, or Korn shell	DISPLAY=IP address or hostname:0.0 export DISPLAY

- ▶ If the DISPLAY environment variable is not set in your environment, the installation will default to a non-graphical installation.

Troubleshooting

If you encounter any problems while installing the CM UNIX agent, please perform the following steps before contacting technical support:

- Enable diagnostic tracing by appending the text `-loglevel 9` to the installation command line and re-run the installation.
- Put this log file (`tmp/setup/setup.log`) located in the home directory of the UNIX user ID who ran the install.

- ▶ The install option `-loglevel 9` should only be used to diagnose installation problems.

Recommendations

- We strongly recommend that you install and run the CM Administrator as root.

- ▶ Root authority is required to apply owner and group designators to managed resources.

Installation Methods

You can install the CM Administrator by:

- Executing the installation procedure directly from the CD-ROM.
- Copying the files from the CD-ROM into a temporary directory and executing the installation procedure.

Several parameters can be used on the command line when installing the CM Administrator.

Table 9 Command Line Parameters

Parameter	Example	Description
<code>-mode plain</code>	<code>./install -mode plain</code>	Installs the CM Administrator in plain mode. The installation graphics are displayed in plain mode (no moving graphics). This is useful for remote installations where network bandwidth may be an issue.
<code>-mode text</code>	<code>./install -mode text</code>	Installs the CM Administrator in text mode using the non-graphical installation. The installation takes place completely on the command line. The installation will default to text mode if the DISPLAY environment variable is not set.

Installing the CM Administrator for UNIX

This section describes both the graphical (using a GUI) and non-graphical (using a command line) installations of the CM Administrator for UNIX.

Graphical Installation

This section describes how to install the CM Administrator for UNIX using a graphical user interface (GUI).

To install the CM Administrator for UNIX using a GUI



These instructions will guide you through the graphical installation of the CM Administrator. For non-graphical instructions, see [Non-graphical Installation](#) on page 54.

If the UNIX user ID of the person performing the CM Administrator installation has previously installed a CM agent, the location of the CM Administrator will default to the location of the CM agent executables.

- 1 Depending on your version of UNIX, change your current working directory to the correct UNIX subdirectory on the installation media.

Example: For HP-UX:

```
/Configuration Server/management_infrastructure/  
administrator_workstation/hpux/
```

- 2 Type `./install`, and then press **Enter**.

The Welcome window opens.

- 3 Click **Next**.



If you are installing the CM Administrator to a computer with the same UNIX user ID that had previously installed a CM agent, the installation program will prompt you for the CM Configuration Server's IP address next. The next three windows: CM Administrator Location, `Lib` directory, and Log directory, are only needed if you are installing the CM Administrator to a computer that does not have a CM Agent already installed.

The HP Software License terms window opens.

- 4 Read the software license terms and click **Accept**.

The CM Administrator Location window opens.

- 5 Type the name of the directory where you are installing the CM Administrator, or click **Browse** to navigate to it.

- 6 Click **Next**.

If the specified directory already exists you will be prompted to verify this location.

— If you would like to update the existing directory, click **OK**.

— If you would like to change the directory location, click **Cancel**.

The Lib Directory window opens.

- 7 Type the name of the directory where you would like to store proprietary information created by CM (the `lib` directory), or click **Browse** to navigate to it.

- 8 Click **Next**.

The Log Directory window opens.

- 9 Type the name of the directory where you would like to store the log files generated by CM, or click **Browse** to navigate to it.

- 10 Click **Next**.

The CM Configuration Server IP Address window opens

11 Type the IP address (format: xxx.xxx.xxx.xxx) or host name of the CM Configuration Server you will be publishing to.

12 Click **Next**.

The CM Configuration Server Port Number window opens.

13 Type the port number of your CM Configuration Server (default is 3464).

14 Click **Next**.

The Package Settings window opens.

15 Review the settings displayed in the Package Settings window. If you would like to change any of the settings, click **Back** until you get to the appropriate window.

16 When you are satisfied with the Package Settings, click **Install**.

The CM Administrator is installed.

Non-graphical Installation

This section describes a non-graphical (using a command line) installation of the CM Administrator for UNIX.

To install the CM Administrator for UNIX using a command line



These instructions guide you through the non-graphical installation of the CM Administrator. For the graphical installation, see [Graphical Installation](#) on page 52.

Task 1 Depending on your version of UNIX, change your current working directory to the correct subdirectory on the installation media.

Example: For HP-UX:

```
/Configuration Server/management_infrastructure  
/administrator_workstation/hpux/
```

1 Type `./install -mode text`, and then press **Enter**.

The CM Administrator installation begins.

2 Type **C**, and then press **Enter**.



If you are installing the CM Administrator to a computer with the same UNIX user ID that had previously installed a CM agent, the installation program will prompt you for the CM Configuration Server's IP address next. The next three sections: CM Administrator Location, `Lib` directory, and `Log` directory, are only needed if you are installing the CM Administrator to a computer that does *not* have a CM agent already installed.

- 3 Specify the installation location for the CM Administrator, and then press **Enter**.
- 4 Specify the location for the CM proprietary objects (`IDMLIB`), and then press **Enter**.
- 5 Specify the location for the log files created by CM (`IDMLOG`), and then press **Enter**.
- 6 Specify the IP address of the CM Configuration Server, and then press **Enter**. Specify the port number of the CM Configuration Server, and then press **Enter**. Review the installation settings you have chosen.
- 7 If you would like to install the CM Administrator with these settings, press **Enter** to accept the default (Y) and begin the installation or type **N**, to re-enter your installation information.
- 8 To complete the configured installation process, press **Enter**.

The CM Administrator is installed.

Summary

- We strongly recommend that you install and run the CM Administrator as root.
- Install the CM Administrator for UNIX using either the graphical or non-graphical mode.

4 Installing the CM Administrator for Windows

At the end of this chapter, you will:

- Understand the system requirements for installing the HP OpenView Configuration Management Administrator (CM Administrator).
- Be familiar with the installation files.
- Know how to install the CM Administrator using the Installation Wizard and command lines.
- Understand the feature settings of the CM Administrator.
- Know how to remove and repair the CM Administrator using the Installation Wizard and command lines.

The CM Administrator installation program uses Microsoft Windows Installer. The program consists of one MSI package with six feature sets—CM Admin Packager, CM Admin Configuration Server DB Editor, CM Admin Agent Explorer, CM Admin Publisher, CM Admin Screen Painter, and CM AMP Editor.

System Requirements

- Clean computer. (A **clean computer** is a computer with only the target subscriber's operating system installed.)
- Windows 2000, Server 2003, XP or Vista. (x86 or x64 where applicable).
- TCP/IP connection to the CM Configuration Server.
- Minimum resolution of 800 x 600.
- MS Windows Installer Version 2.0 or higher.
The MSI 2.0 installation program is available in the `managementinfrastructure\administratorworkstation\win32\msi` folder on the CM Infrastructure media. If Windows Installer does not exist, or if an earlier version is detected on the computer, the MSI 2.0 installation program runs automatically.
- For Windows NT, 2000, Server 2003, or XP or Vista, you must have administrator rights to the computer to install the CM Administrator.

About the Installation Files

`setup.exe`

`setup.exe` is stored on the CM infrastructure media in the `managementinfrastructure\administratorworkstation\win32\` folder. It accepts any command line parameters and passes them to Windows Installer.

You can also create a Windows Installer Administrative Installation Point (AIP) for network installations.



A Windows Installer Administrative Installation Point (AIP) is also known as an Administrative Control Point (ACP).

The AIP starts Windows Installer and passes any command line parameters to it. To create the Windows Installer Administrative Installation Point (AIP) in a specified target directory, type:

```
SETUP.EXE /a TARGETDIR=drive:\targetdirectory /qb
```

The target directory contains `CM-ADMIN50.MSI`, the installation folders, and `setup.exe`.

CM-ADMIN50.MSI

`CM-ADMIN50.MSI` is the MSI database file, which contains the default configuration information for the installation. This file is stored on the CM media in the `managementinfrastructure\administratorworkstation\win32\` folder.

Installing the CM Administrator

This section describes how to install the CM Administrator using the Installation Wizard and using a command line.

Using the Installation Wizard to Install the CM Administrator

This section describes how to install the CM Administrator for Windows using the Installation Wizard.

To install the CM Administrator using the Installation Wizard

- 1 From the folder containing the CM Administrator installation files, run `setup.exe`.

The CM Administrator Installation Wizard opens.

- 2 Click **Next**.

The License Agreement window opens.

- 3 After reading and accepting the license agreement, click **Next**.

If the CM agent is not installed on the computer, the Destination Folder window opens.



If the CM agent is already installed on the computer, this window will not open and the CM Administrator is installed in the same location as the CM agent.

If you want to select a different destination for the CM Administrator, click **Browse**, and then navigate to the appropriate destination folder.

Click **OK** to continue.

- 4 Click **Next**.

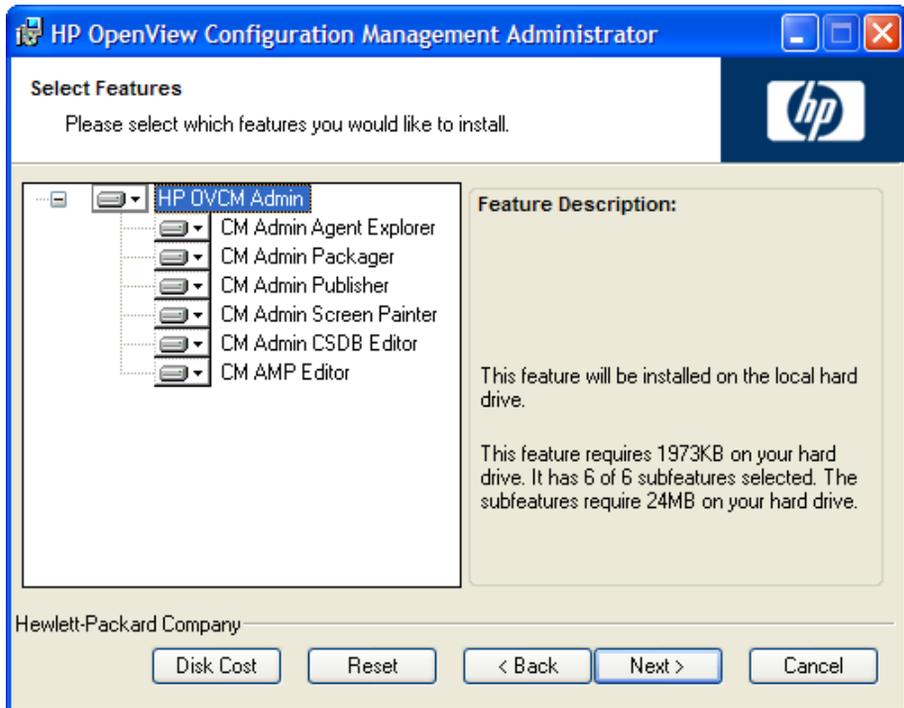
The CM Configuration Server window opens.

- 5 In the IP Address text box, type the IP address for the CM Configuration Server.

- 6 In the Port text box, type the port number (default is 3464).

- 7 Click **Next**.

The Select Features window opens.



- 8 Click  to select the features that you would like to install.



If you want to set the same options for all of the features, you can click  next to CM Administrator and select the appropriate option to apply the setting to all features.

Click **Disk Cost** to see an overview of the disk space needed for the installation.

Each time you click  a shortcut menu for that feature opens.

- 9 From the shortcut menu, select an installation option. These options are described in [Table 10](#) below.

Table 10 Feature settings for the CM Administrator

Option	Description
Will be installed on local hard drive	Installs the top-level feature on the local hard drive, but not any sub-features listed below.

Option	Description
Entire feature will be installed on local hard drive	Installs the entire feature, including any sub-features listed below. Note: In this installation program, selecting this option or the "Will be installed on local hard drive" option for any of the features results in the same installation because these features do not contain sub-features.
Entire feature will be unavailable	The feature will not be installed. If previously installed, this feature will be removed.

10 Click **Next**.

The Ready to Install the Application window opens.

11 Click **Install** to begin the installation.

When the installation is done, the CM Administrator has been successfully installed window opens.

12 Click **Finish** to exit the installation.

Using a Command Line to Install the CM Administrator

You can also use a command line to run the CM Administrator installation program, for example, if you want to install only the CM Admin Packager on a computer, the command line that you run from the directory containing the CM Administrator installation files might be:

```
SETUP.EXE ADDLOCAL=NVDINSTALLPACKAGER
```

Specifying the Features to Install

To specify the features that you want to install, use the appropriate feature state argument, such as ADDLOCAL, and specify the features that you want to install.

Table 11 CM Administrator feature state arguments

Specify the following arguments	To set the feature state
ADDLOCAL	Type a comma-delimited list of features that you want set to "Will be installed on local hard drive."
ADDSOURCE	Type a comma-delimited list of features that you want set to "Will be installed to run from network."
ADVERTISE	Type a comma-delimited list of features that you want set to "Feature will be installed when required."
REMOVE	Type a comma-delimited list of features that you want set to "Entire feature will be unavailable." This only removes the features—not the entire product. Therefore, if you use the REMOVE property and type each of the feature names, the core product will still be stored on your computer. If you want to remove the entire product, type REMOVE=ALL.

When specifying features on the command line, reference the CM Administrator features as follows:

- NVDINSTALLPACKAGER CM Admin Packager
- NVDINSTALLPUBLISHER CM Admin Publisher
- NVDINSTALLSYSTEMEXPLORER CM Admin CSDB Editor
- NVDINSTALLCLIENTEXPLORER CM Admin Agent Explorer
- NVDINSTALLSCREENPAINTER CM Admin Screen Painter
- NVDINSTALLAMPEDITOR CM AMP Editor

For example, if you want to install the CM Admin Configuration Server DB Editor and the CM Admin Agent Explorer to the computer, type the following command line:

```
SETUP.EXE ADDLOCAL=  
NVDINSTALLSYSTEMEXPLORER,NVDINSTALLCLIENTEXPLORER
```



If you run the installation from a command line, be sure to pass the IP address for the CM Configuration Server to the installation. For example:

```
SETUP.EXE NVDOBJZMASTER_ZIPADDR=10.10.10.1
```

Additional Command Line Arguments

Table 12 below describes some additional arguments that you can pass to the installation program on the command line.

Table 12 Command Line Arguments

Argument	Description
/qn	Performs a silent installation.
/qb	Displays the progress bar only during the installation.
/l*v drive:\install.log	Creates a detailed Windows Installer log. Note: Using this option may impact the performance of the installation.
/a TARGETDIR= drive: \targetdirectory	Creates a Windows Installer AIP in the specified target directory. Note: A Windows Installer Administrative Installation Point (AIP) is also known as an Administrative Control Point (ACP). The target directory contains CM-ADMIN50.MSI, the installation folders, and setup.exe. After you have created the AIP, you can run setup.exe and pass the appropriate command line parameters. This starts the Windows Installer and passes the specified parameters to it.

Removing the CM Administrator

The Windows Installer installation program offers the ability to remove the CM Administrator. This section describes how to remove the CM Administrator using the Installation Wizard and using a command line.

Using the Installation Wizard to Remove the CM Administrator

This section describes how to remove (uninstall) the CM Administrator using the Installation Wizard.

- ▶ To remove specific features of the CM Administrator, use the Modify option on the Application Maintenance window. See [Modifying the CM Administrator Installation](#) on page 67.

To remove the CM Administrator using the Installation Wizard

- 1 From the folder containing the CM Administrator installation files, double-click **setup.exe**.
The Application Maintenance window opens.
- 2 Select the **Remove** option.
- 3 Click **Next**.
The CM Administrator Uninstall window opens.
- 4 Click **Next**.
The files for the CM Administrator are removed from the computer.
The CM Administrator has been successfully uninstalled window opens.
- 5 Click **Finish**.

Using a Command Line to Remove the CM Administrator

This section describes how to remove (uninstall) the CM Administrator using a command line.

To remove the CM Administrator using a command line

- From the folder containing the CM Administrator installation files, type the following command line:

```
SETUP.EXE REMOVE=ALL
```

or

If you would like to remove a single CM Administrator feature, type a comma-delimited list of the features that you want to remove on the command line.

Example

If you want to silently remove the CM Admin CSDB Editor and CM Admin Agent Explorer, type:

```
SETUP.EXE REMOVE=NVDINSTALLSYSTEMEXPLORER,  
NVDINSTALLCLIENTEXPLORER /qn
```

Reference the features for the CM Administrators as follows:

- CM Admin Packager NVDINSTALLPACKAGER
- CM Admin Publisher NVDINSTALLPUBLISHER
- CM Admin CSDB Editor NVDINSTALLSYSTEMEXPLORER
- CM Admin Agent Explorer NVDINSTALLCLIENTEXPLORER
- CM Admin Screen Painter NVDINSTALLSCREENPAINTER
- CM AMP Editor NVDINSTALLAMPEDITOR



This only removes the features—not the entire product. Therefore, if you use the REMOVE property and type each of the feature names, the core product will still be stored on your computer.

Repairing the CM Administrator

The Windows Installer installation program offers the ability to repair the CM Administrator. For example, if you have a missing CM Administrator module, you can use this tool to repair the installation. This tool will not overwrite modules that exist on the computer if they are newer than the ones provided with the installation.

This section describes how to repair the CM Administrator using the Installation Wizard and using a command line.

Using the Installation Wizard to Repair the CM Administrator

This section describes how to repair the CM Administrator using the Installation Wizard.

To repair the CM Administrator using the Installation Wizard

- 1 From the folder containing the CM Administrator installation files, double-click **setup.exe**.

The Application Maintenance window opens.

- 2 Select the **Repair** option.

- 3 Click **Next**.

The Ready to Repair the Application window opens.

- 4 Click **Next**.

When the repair is done, the CM Administrator has been successfully installed window opens.

- 5 Click **Finish**.

Using a Command Line to Repair the CM Administrator

This section describes how to repair the CM Administrator using a command line.

To repair the CM Administrator using a command line

- From the folder containing the CM Administrator installation files, type the following command line:

```
msiexec /f Cm-Admin50.Msi
```



Additional parameters can be used with this command line. For more information, see your Windows Installer documentation.

Modifying the CM Administrator Installation

The Windows Installer installation program offers the ability to modify the CM Administrator installation by adding or removing individual features. This section describes how to modify the installation of the CM Administrator using the Installation Wizard and using a command line.

Using the Installation Wizard to Modify the CM Administrator

This section describes how to modify the installation of the CM Administrator using the Installation Wizard.

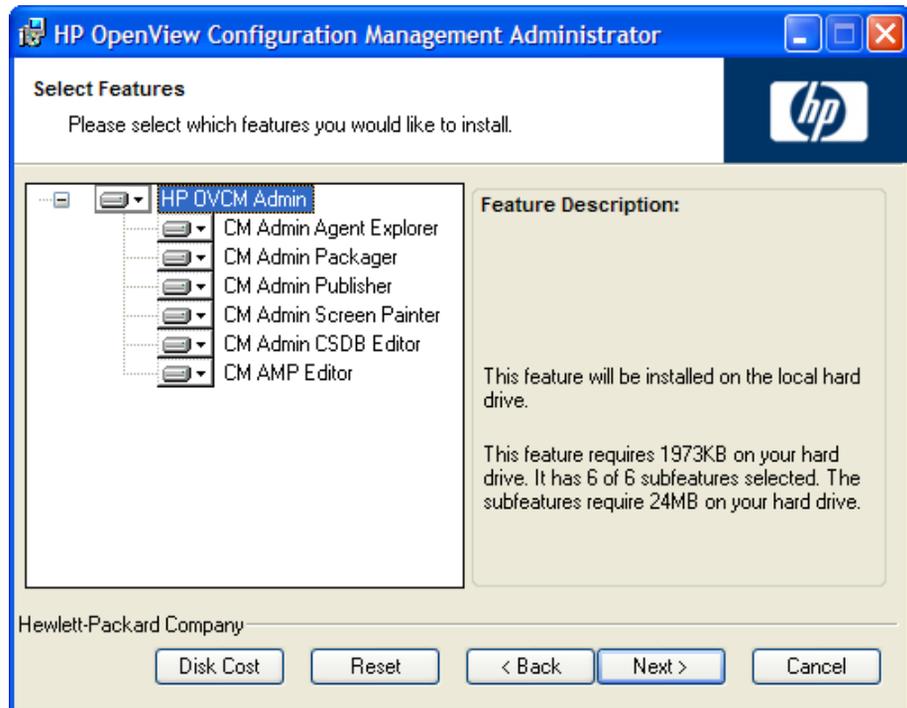
To modify the CM Administrator installation using the Installation Wizard

- 1 From the folder containing the CM Administrator installation files, double-click **setup.exe**.

The Application Maintenance window opens.

- 2 Select the **Modify** option.
- 3 Click **Next**.

The Select Features window opens. See [Installing the CM Administrator](#) on page 60 for information about how to use this window.



- 4 Click **Next**.

The Ready to Modify the Application window opens.

- 5 Click **Next**.

The CM Administrator has been successfully installed window opens.

- 6 Click **Finish** to close the installation program.

Using a Command Line to Modify the CM Administrator Installation

To modify the CM Administrator installation using a command line

- From the folder containing the CM Administrator installation files, type the following command line:

```
SETUP.EXE FeatureStateArgument=feature1,feature2
```

See [Table 11](#) on page 63 for more information.

Example

To install the CM Admin Packager to the local hard drive, and to make the CM Admin CSDB Editor and CM Admin Explorer unavailable, type the following command line:

```
SETUP.EXE ADDLOCAL=NVDINSTALLPACKAGER  
REMOVE=NVDINSTALLSYSTEMEXPLORER,NVDINSTALLCLIENTEXPLORER
```

See [Additional Command Line Arguments](#) on page 64 for additional arguments.

Summary

- The CM Administrator consists of one package with six feature sets: CM Admin Publisher, CM Admin Packager, CM Admin CSDB Editor, CM Admin Agent Explorer, CM Admin Screen Painter, and CM AMP Editor.
- Install the CM Administrator on a clean computer.
- You can install the CM Administrator using a command line or using the Installation Wizard.

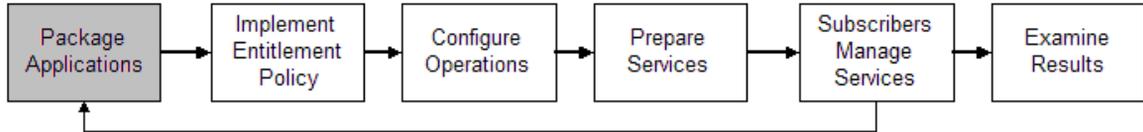
5 Packaging Applications and Content

At the end of this chapter, you will:

- Understand the packaging process.
- Be able to publish an application using Component Selection Mode.
- Be aware of the CM Batch Publisher.
- Use the New Application Wizard in the CM Admin CSDB Editor to create a service.
- Be able to prepare and distribute maintenance packages to the CM Application Self-service Manager.

This guide describes the suggested implementation for the CM Application Self-service Manager. Although you will tailor this strategy to meet your organization's needs, we recommend that you review this guide for a comprehensive understanding of the CM Application Self-service Manager. This chapter focuses on packaging.

Figure 3 Tasks completed in this guide



About Packaging and Publishing

Packaging is the process of identifying resources, editing those resource's installation attributes, defining how they are to be installed, and saving the resources and installation instructions in a machine-readable file format. A package typically contains one or more files and configuration settings.

Publishing is the process of importing a package and its imbedded information to the CM Configuration Server Database (CM-CSDB). A package must be published before its content can be distributed and deployed into your environment.

For the UNIX version of the CM Administrator Publisher, there is one publishing mode available, Component Selection Mode. In Component Selection Mode, you select the individual components that make up the application, such as files, directories, and links.

After you create a package, you promote it to the CM Configuration Server Database. The package is copied to the CM Configuration Server Database and several instances are created, as described below.

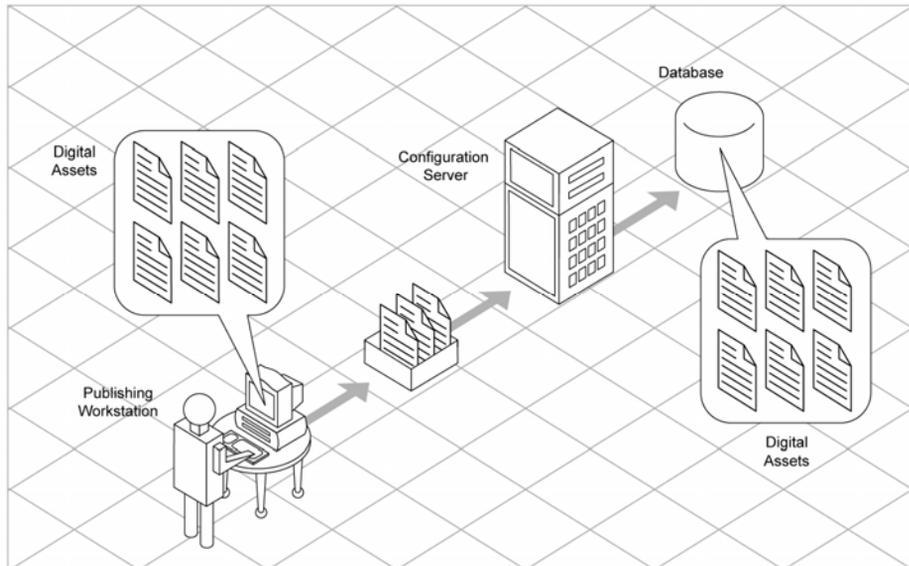
- An **Application Packages (PACKAGE)** instance that represents the promoted package.
- One **UNIX File Resources (UNIXFILE)** instance for each file in the package.
- One **Path (PATH)** instance for each unique path to one or more components on the computer where the software is installed.

- Above are some of the default classes available in the SOFTWARE Domain. You can also add your own classes to the CM Configuration Server Database. Refer to the *CM Admin CSDB Editor Guide* for information on how to add a class.

Then, you will use the CM Admin CSDB Editor to create a service, assign policies, and prepare the package for deployment. See Chapter 6, [Implementing Entitlement Policy](#) and Chapter 11, [Deploying Mandatory Applications for the CM Application Self-service Manager](#) for more information.

- The CM Admin CSDB Editor is currently available for Windows platforms. For more information, refer to the *CM Admin CSDB Editor Guide*.

Figure 4 Packaging data



Packaging Considerations Checklist

Before packaging your data, there are several items that you need to consider.

General

- What do you know about the data to be packaged?
- What is the name of the package? Follow your naming conventions.
- Do you have a unique session ID? Follow your conventions.

System Configuration

- What operating systems are your target computers (workstations or servers) using?
- How much RAM is needed to handle the data?
- What is the minimum processor needed to handle the data?

Activation Options

- When do you want to activate the application - immediately on distribution or later?
- Which version of the application do you want to distribute, and when do you want to activate it?

Data Options

- What type of compression do you want to use?
- Will your data be stored in the CM Configuration Server DB or on a CM Proxy Server?
- Are you distributing maintenance to the CM Application Self-service Manager agent?
- How do you want to promote the resources? Will you use the force lock method?
- Are you sending out an update and only want to deploy the changes?

Verify Options

- Do you want to use the standard, default verification options?
- Is this a first time installation? Is there anything that you need to verify?
- When deploying files, what types of statistics do you want to check – date, time, size?
- Do you want to update all files, or only newer files?
- If a file already exists, do you want to deploy it again to overwrite any changes that may have been made?
- Do you want to use the internal version to determine whether a file should be deployed?

Delivery Options

- Do your files or methods need to be deployed in a particular order?
- Is the data mandatory or optional? Note: You can only deliver mandatory files if the CM Application Manager is installed.
- Do you want the data deployed under the user or machine context?

Agent Behaviors

- After the file is deployed, do you want to run any methods? If so, what are they?
- Does anything need to happen to enable the file after it is deployed? If so, what method will you run to enable it?
- If the subscriber is no longer subscribed to the software, do you want to delete the file?
- Do you want to compare the old and new version of the file that you are deploying? If so, what method do you want to use?

Using Component Selection Mode

In Component Selection Mode, you select the individual components that make up the application, such as files, directories, and links, to create a package.

Publishing in Component Selection Mode involves four phases:

- 1 **Select** the individual files to be published.
- 2 **Edit** the file properties and methods.
- 3 **Configure** the package and service options.
- 4 **Publish** the files to the CM Configuration Server DB.

Prerequisites

Before publishing your application in Component Selection Mode:

- Install the target application on your packaging machine. This ensures that the files you need to select reside on the computer.

Publishing

This section guides you through publishing a sample application using Component Selection Mode and provides detailed information about each screen that you encounter.

Use this example to become familiar with Component Selection Mode. However, please remember that there are many variables when publishing applications.

Task 1 Logging on to CM Admin Publisher

- 1 Log on as root.
- 2 Launch the CM Admin Publisher by running `./publishr` from the location where you installed the CM Administrator.
- 3 Type your User ID and Password in the appropriate fields.



The factory set user ID is RAD_MAST. No password is necessary. This might have changed during installation. You can change this by selecting the Change Password check box and typing the new password in the New Password and Verify New Password text boxes.

The User ID and password are case-sensitive.

- 4 In the **Type of data to publish** drop-down box, leave the default choice of **Component Select**. (This is the only Publishing mode currently available)
- 5 Click **OK**.

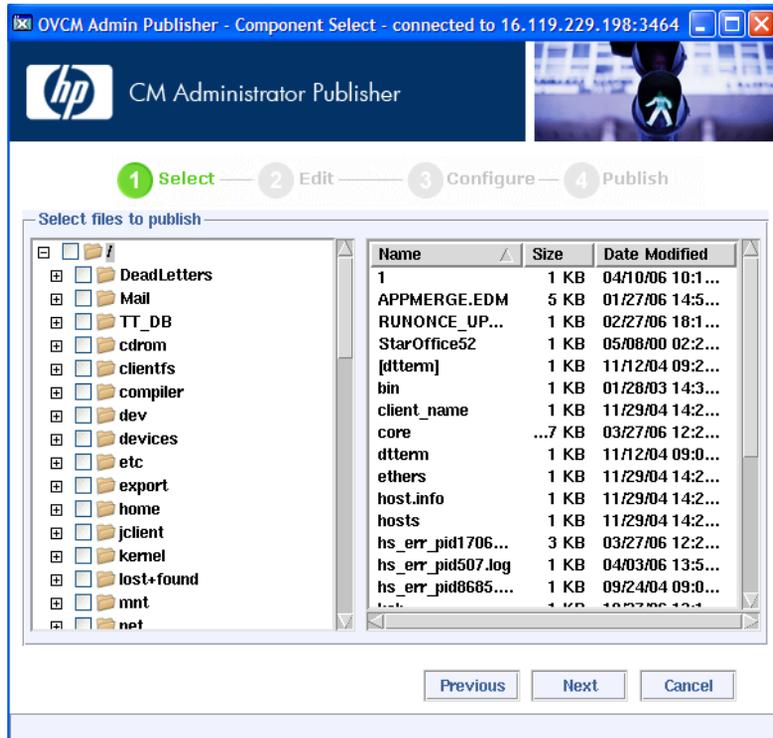
The Select files to Publish window opens.

Task 2 Selecting Files to Publish

Use the **Select files to publish** window to select all files that need to be included in the package.

To select the files to publish

- Navigate through your file system (shown in the figure below) and select the files or directories to be included in the package. Click a check box again to clear a selection.



The file selection window displays the files available in order by:

- An alphabetized list of directories.
- Then, an alphabetized list of files.
- An alphabetized list of UNIX links.
- Re-size the file selection window by positioning your mouse over the vertical bar separating the two windows, clicking and dragging to the left or right.

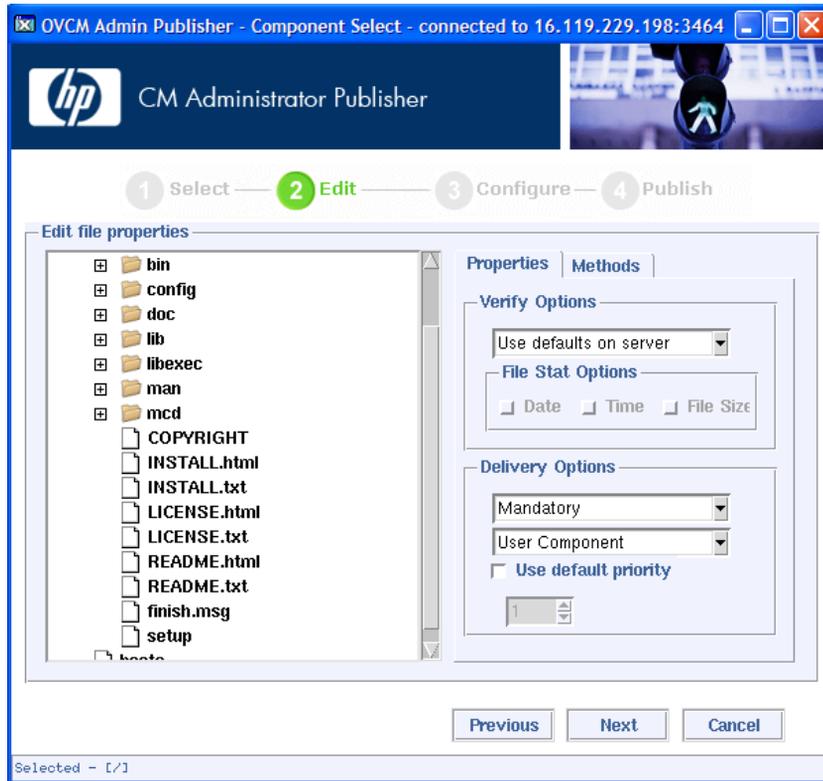
Click **Next** to go to the **Edit file properties** window.

Task 3 Editing Properties and Methods

Use the tree-view on the left to see all files and folders that will be included in the package. Use the tabs in the right-hand pane to adjust file properties and methods.

Properties

File properties consist of verification and delivery options.



Verify Options

- **Use defaults on server** (default)

Select this option so that verification options for these files or directories are inherited from the base instance of the UNIXFILE Class.

Use the CM Admin CSDB Editor to look at the ZRSCVRFY attribute of the base instance of the UNIXFILE Class to determine what verification options apply, by default. For example, in the next image, ZRSCVRFY=Y.



The following figure and bullet points refer to the CM Admin CSDB Editor. The CM Admin CSDB Editor is currently available for 32-bit Windows platforms. For more information, refer to the *CM Admin CSDB Editor Guide*.

- **File statistics**

Select this option so that the CM agent checks the selected statistics (Date, Time, or File Size) for the files or directories on the computer.

Select the Date, Time, or File Size using the check boxes below the Verify options drop-down list.

The CM Configuration Server DB or CM Staging Server deploy the files or directories if the statistics of the files or directories on the computer are different from the statistics for these files or directories. You can also use CM Admin CSDB Editor to set this option: ZRSCVRFY=D, ZRSCVRFY=S, ZRSCVRFY=T, or ZRSCVRFY=Y.

- **Content check using CRC**

Select this option to perform content CRC checking for the resource. This populates the ZRSCCRC attribute of the resource's UNIXFILE Class. ZRSCVRFY is set to Y.



Content CRC checking is a time consuming process and should be used sparingly.

- **Update if newer**

Select this option so that these files or directories are deployed if the files or directories in the CM Configuration Server DB (or CM Staging Server) have a later date/time stamp than those on the subscriber's computer.

You can also use the CM Admin CSDB Editor to set this option: ZRSCVRFY=U.

- **Existence only**

Select this option so that these files or directories are deployed if they are not on the subscriber's computer. No action is taken if the files or directories already exist on the subscriber's computer, even if the statistics differ from those in the CM Configuration Server DB. You can also use the CM Admin CSDB Editor to set this option: ZRSCVRFY=E.

- **None**

Select this option so that the files are deployed the first time the application is deployed. No subsequent action is taken. You can also use the CM Admin CSDB Editor to set this option: ZRSCVRFY=N.

Delivery Options

The following options apply only if there is not enough space on the subscriber's computer to install the entire application.

Select if the application will be Mandatory or Optional.

- **Mandatory**

Select this option to indicate that these files or directories are critical to the application. If there is not enough space on the subscriber's computer for the entire application, CM will deploy only mandatory files. If there is not enough space for the mandatory files, then the application is not deployed at all. You can also use the CM Admin CSDB Editor to set this option: ZRSCMO=M.

- **Optional** (default)
Select this option to indicate that files or directories are not critical to the application. If there is not enough space on the subscriber's computer for the entire application, CM will not deploy optional files. You can also use the CM Admin CSDB Editor to set this option: ZRSCMO=O.

The following options apply only to operating systems supporting multiple users with a required sign on.

- **User Component**
Select User if you want to indicate that the file will be deployed only to the subscriber logged on when the application is initially deployed. You can also use the CM Admin CSDB Editor to set this option: ZCONTEXT=U.
- **Machine Component**
Select Machine to indicate that the file will be deployed to all users of the computer. You can also use the CM Admin CSDB Editor to set this option: ZCONTEXT=M.

Select **Use default priority** (this is selected by default) to use the default priority of 50. Priority determines the order of deployment, from highest priority to lowest priority. You can also use the CM Admin CSDB Editor to set this option: ZRSCPRI=50.

If you de-select the check box, you can enter a number from 1 to 99 to override the default priority of 50. 1 is the highest priority and 99 is the lowest. You can also use the CM Admin CSDB Editor to set this option: ZRSCPRI=1.

Methods

The command lines that you type in the following dialog boxes are stored in variables in the UNIXFILE Class instances in the SOFTWARE Domain.

- **Resource Initialization Method** (Variable in database: ZINIT)
Type the method to run when the files or directories are stored on the subscriber's computer.
- **Method to Install Resource** (Variable in database: ZCREATE)
Type the method to run after the file is stored on the computer. This is used if some processing is required to enable the file to be used on the computer.
- **Method to Uninstall Resource** (Variable in database: ZDELETE)
Normally, files are removed if the subscription to the software is cancelled. If a file, such as a shared object file, should not be deleted from

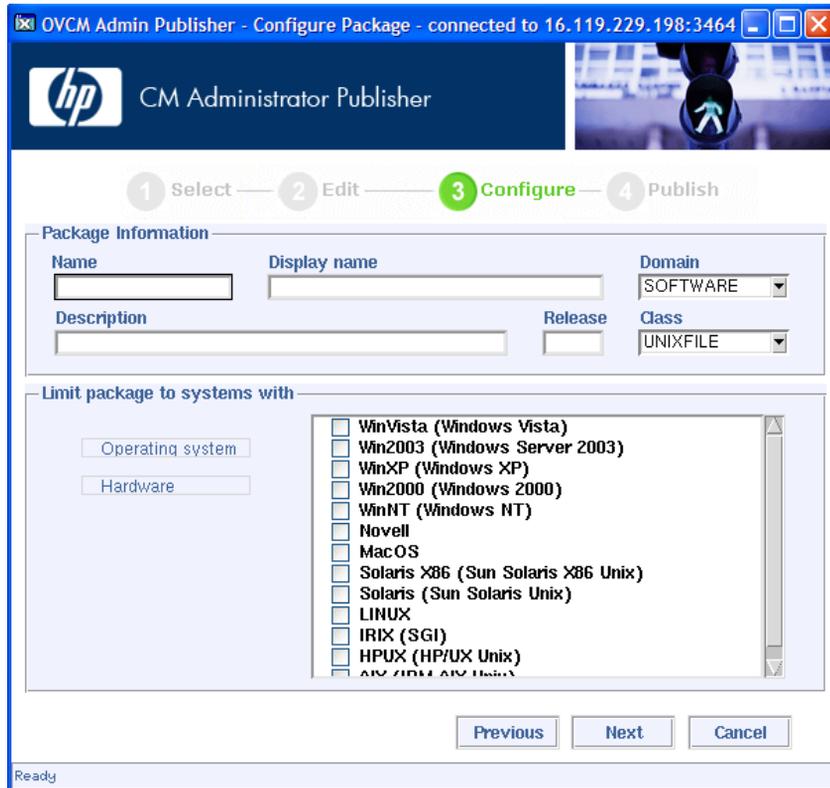
the subscriber's computer, even if the subscription to the software is cancelled, type **`_NONE_`** (with the underscores) as the value for **Method to De-install Resource**.

- **Instance Update Method** (Variable in database: ZUPDATE)
Type the method to run when the instance is modified on the computer, after the file has been deployed.
- **File Update/Add Method** (Variable in database: ZFILEUPD)
Type the method to run when the file is new or has been updated. The method executes just before the file is deployed to the computer.
- **File Arbitration Method** (Variable in database: ARBITRAT)
Type the method to run if files or directories are about to be replaced. This method examines the version information of the files or directories that exist and the files or directories that are going to replace it, and then determines which to keep.

Click **Next** to view the **Package Properties** window.

Task 4 Entering Package Properties

Use the Package Properties window to name the package and include additional descriptive information as well as set package deployment limitations based on hardware and operating system settings.



Package Information

- Name**
 Type a name for the package. This is the name for the PACKAGE Class instance in the CM Configuration Server DB and should conform to your naming conventions. Note that the name cannot contain any spaces.
 -  You may want to establish a naming convention to ensure that identifiers are unique. CM Admin Publisher uses this identifier to construct data objects and file names. See Appendix A, [Naming Conventions](#) for more information.
- Display Name**
 Enter a display name for the package. This is the friendly name used in the CM Admin CSDB Editor.
- Domain**
 Select the domain in which to store the instance. This is normally the SOFTWARE Domain unless you customized the CM Configuration

Server DB with proprietary domains. As shipped, the default domains are ADMIN, AUDIT, PATCH, POLICY, SOFTWARE, and SYSTEM.

See Chapter 1, [Introduction](#) for more information about the domains.

- **Description**
Type a description for the package.
- **Release**
Type the release number of the software.

Package Deployment Limitations

Use the **Limit package to systems with** section to limit the distribution of the package to computers that meet specific requirements. If none of the options is selected, the package will be available to all eligible subscribers.

- **Operating system**
Select the operating systems for which this package applies..
- **Hardware**
To limit distribution based on minimum RAM or processor speed, select the check box before the appropriate configuration option and enter the minimum requirement in the text box provided.

Click **Next** to go to the Service Information window.

Task 5 Entering Service Information

Select whether you want to create a new service (**Create new**), use an existing service (**Use existing**), or skip creating a service (**No service**) at this time.



If you want to create only a package, select **No service**. This is useful if, for example, you have a single service, but want to create multiple packages and later connect them to the existing service using the CM Admin CSDB Editor.

Enter the appropriate information in the service description text boxes. If you are using an existing service, make sure you enter the service name correctly.

In the **Assignment type** section, select whether the service is mandatory or optional. By default, **Mandatory** is selected. This will distribute this service to all available subscribers. Optional services are only available if you are using the CM Application Self-service Manager agent.

In the **Management type** section, indicate how the application will be managed after it is deployed.

Management Type and Assignment Type correspond to the ZSVCMO service attribute value. This field can contain two values, depending on what you select for each type. The table below displays the possible attribute values.

Table 13 ZSVCMO Variables

Assignment Type	Management Type	Resulting ZSVCMO Value	Explanation
Mandatory	Automatic	M	Service is deployed to all subscribers and managed by CM.
Mandatory	Manual	MO	Service is deployed to all subscribers. It is not managed by CM after deployment.
Optional	Automatic	OM	Service is deployed to only those subscribers that accept it. Service is managed by CM.
Optional	Manual	O	Service is deployed to only those subscribers that accept it. It is not managed by CM after deployment.

In the Report on the following events section, select each check box next to the events you would like to record. If you would like to use the default application reporting events available in the Base Instance, select **Use Base**.

Click **Next** to open the **Summary** window.

Task 6 Viewing Summary information and Promoting the Package

Use the Summary window to view the package and service information before publishing.



If you need to change or modify your selections, click **Previous** until you reach the appropriate window. When you are satisfied with the package, click **Next** until you arrive back at this window.

You can also use the buttons in the toolbar to return to a previous screen.

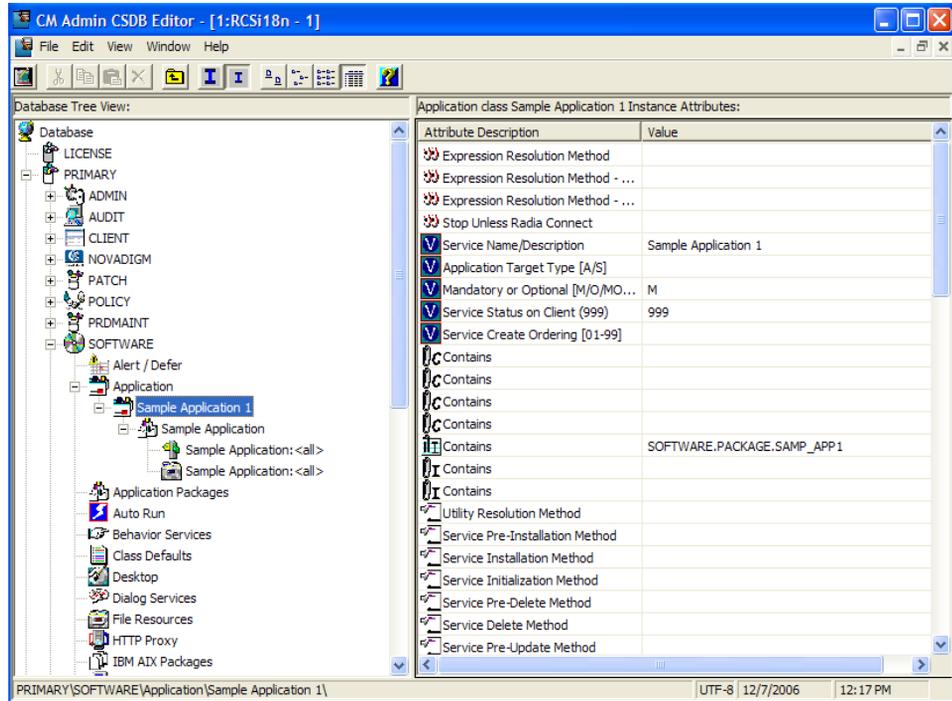
To publish the package

- 1 Click **Publish**. The package is promoted to the database.

- 2 Click **Finish** when you receive the message that the process completed successfully.
- 3 Click **Yes** to confirm that you want to exit.

View the published service in the CM Admin CSDB Editor

Figure 5 Sample Application viewed in database



CM Batch Publisher

The CM Batch Publisher is a command-line alternative to using Component Selection Mode, which offers an automated, repeatable command-line process to create CM packages and store them in the CM Configuration Server DB for distribution.

The CM Batch Publisher can:

- Search for files on multiple drives/file systems.
- Search for, and publish files, from any mapped file/drive system.

- Be configured to limit the subdirectories that are searched.
- Include or exclude at the file level.
- Select files by type.

The CM Batch Publisher can also accommodate frequent patching of internal applications. Its capacity to revise content material is reliable, and can be designed to perform continuously, at designated times, and in predetermined intervals. The CM Batch Publisher can be easily executed from within any script or code capable of calling a command prompt.

CM Native Packaging

CM Native Packaging, is a feature of the CM Batch Publisher specifically designed for UNIX environments. CM Native Packaging is a command-line driven content-publishing tool supporting native HP-UX and Solaris software. CM Native Packaging is installed during the regular installation of the CM Batch Publisher on a UNIX system.

CM Native Packaging explores UNIX native software depots, searches for available native packages and publishes wrapped native packages to the CM Configuration Server. CM Native Packaging will publish all necessary information that will allow you immediate installation of native software to end agents. When the CM Application Manager agent is installed, a Tcl script is included in the `IDMSYS` directory that is required when packages published using CM Native Packaging are deployed. For more information, refer to the *CM Batch Publisher Guide*.



The CM Batch Publisher is an optional feature available from HP. Contact your sales representative for more details.

Creating a Service

If you did not create a service when you published your application, you can use CM Admin CSDB Editor to create the service from the package you promoted.

Use the New Application Wizard in the CM Admin CSDB Editor to create a service. Use the CM Admin CSDB Editor to see services listed in the Application (ZSERVICE) Class.

Using the New Application Wizard to Create a Service



The following instructions use the CM Admin CSDB Editor. The CM Admin CSDB Editor is currently available for 32-bit Windows platforms. For more information, refer to the *CM Admin CSDB Editor Guide*.

Task 1 Accessing the CM Admin CSDB Editor

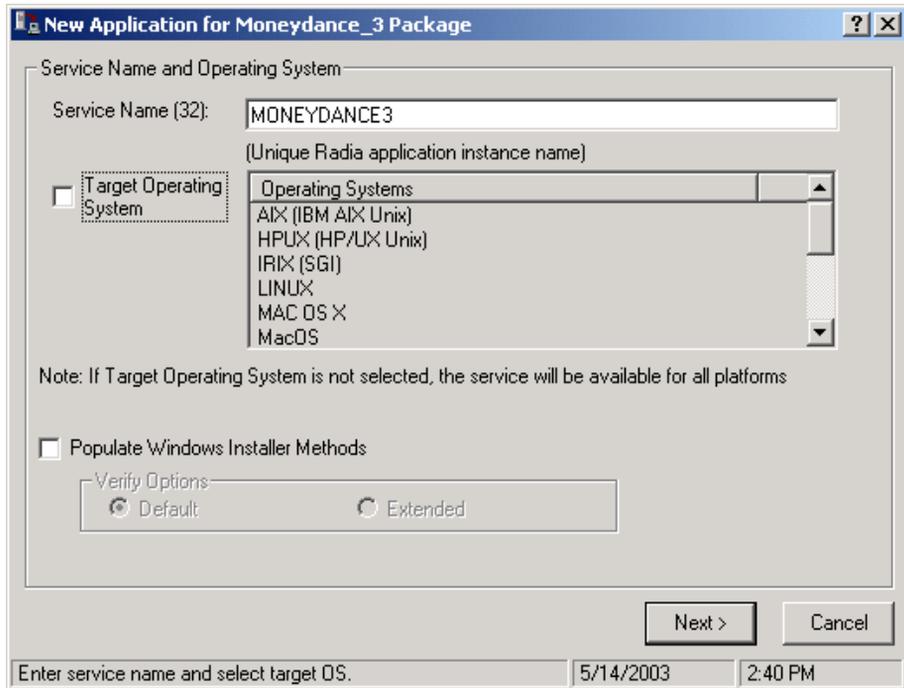
- 1 Go to **Start** → **Programs** → **HP OVCM Admin** → **CM Admin CSDB Editor**.
- 2 In the CM Admin CSDB Editor Security Information dialog box, type your User ID and Password in the appropriate fields.
- 3 Click **OK**.

Task 2 Navigating to the PACKAGE Class of the SOFTWARE Domain

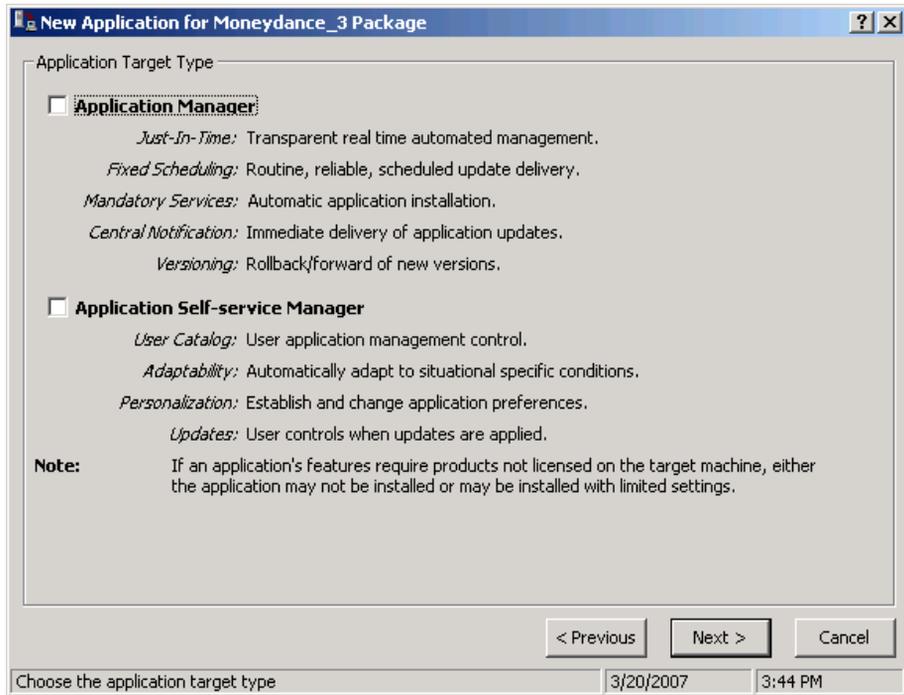
- 1 Double-click **PRIMARY**. The domains of the PRIMARY File appear beneath its icon in the tree view and in the list view.
- 2 Double-click **SOFTWARE**. The classes of the SOFTWARE Domain appear beneath its icon in the tree view and in the list view.
- 3 Double-click **Application Packages (PACKAGE)** to open the PACKAGE Class. The instances of the PACKAGE Class appear beneath its icon in the tree view and in the list view.

Task 3 Using the New Application Wizard to Create a Service

- 1 In the PACKAGE Class of the SOFTWARE Domain, right-click an application instance and select **New Application Wizard** from the shortcut menu.



- 2 In the Service Name (32) text box, type a name for the Application (ZSERVICE) instance.
- 3 Select the **Target Operating System** check box only if your intended target operating system appears in the list, and the specific operating system for which the package applies is selected.
- 4 If you are creating a service for a Windows Installer-enabled application, you must select the **Populate Windows Installer Methods** check box. Do not select this check box for this exercise. This option is not applicable to UNIX-specific packages.
- 5 Click **Next** to select the application target type.



- 6 Select the Application **Self-service Manager** check box. This designates the service as an optional application for your subscribers.
 - ▶ When using the CM Application Manager, applications *must* be mandatory in order to deploy them to your subscribers.
- 7 Click **Next** to enter the application properties.

New Application for MONEYDANCE_3 Package

Application Properties

Service Name: MONEYDANCE3

Long Description: Moneydance 3.0 Personal Finance Software

Short Description: Moneydance

Vendor: Appgen, Inc.

Version: 3.0

Author: Appgen Personal Software, L.L.C

Web URL: www.moneydance.com

< Previous Next > Cancel

Enter the application properties 5/3/2001 10:29 AM

- 8 Type the appropriate information into each Application Properties field.
- 9 Click **Next** to select the events that the CM agent will report on.

New Application for MONEYDANCE_3 Package

Application Level Event Reporting

The Client Should Report the Following Application Level Events:

<input checked="" type="checkbox"/> Application Installation	<input type="radio"/> Success	<input type="radio"/> Failure	<input checked="" type="radio"/> Both
<input checked="" type="checkbox"/> Application Deinstallation	<input type="radio"/> Success	<input type="radio"/> Failure	<input checked="" type="radio"/> Both
<input checked="" type="checkbox"/> Application Update	<input type="radio"/> Success	<input type="radio"/> Failure	<input checked="" type="radio"/> Both
<input checked="" type="checkbox"/> Application Repair	<input type="radio"/> Success	<input type="radio"/> Failure	<input checked="" type="radio"/> Both
<input checked="" type="checkbox"/> Application Verify	<input type="radio"/> Success	<input type="radio"/> Failure	<input checked="" type="radio"/> Both
<input checked="" type="checkbox"/> Version Activation	<input type="radio"/> Success	<input type="radio"/> Failure	<input checked="" type="radio"/> Both
<input checked="" type="checkbox"/> Version Deactivation	<input type="radio"/> Success	<input type="radio"/> Failure	<input checked="" type="radio"/> Both

Use Base Save as Default

< Previous Next > Cancel

Select the events the client should report on. 6/5/2001 11:25 AM

- 10 Click the check box for each event that you want to report on. Then, select the appropriate option button to indicate whether to report on the event's success, failure, or both.

or

Click **Use Base** if you want to inherit the values for the ERTYPE and EVENTS variables from the base instance of the Application (ZSERVICE) instance. These variables control event reporting.

For this example, we selected every Application Event to be reported in the event of a success or failure.

For more information about these variables and the APPEVENT object, see Chapter 10, [CM Agent Directories and Objects](#).

If you want to save the current settings as the default settings for the Application Event Panel, click **Save as Default**.

- 11 Click **Next** to review your selections.
- 12 Click **Finish** to create the application instance.
- 13 Click **OK** when you are prompted with a message indicating that the application has been added. The instance appears in the ZSERVICE Class.



If you want to modify any of the information that you entered in the New Application Wizard, locate the corresponding variable and change its value.

Now, you are ready to set up policies identifying *which* subscriber receives *what* software. See Chapter 6, [Implementing Entitlement Policy](#) for more information.

Service Groups

CM manages products that require more than one service-package to establish full product installation or operation. You can use CM Service Groups when a product requires other service packages or has dependencies on other services.

This includes products where:

- A product may utilize more than one service-package.

- A large product may need to be split into smaller sub-services to install only specific parts of the product suite.

For detailed information on creating CM Service Groups, refer to the *CM Admin CSDB Editor Guide*.

UNIX File Resources (UNIXFILE)

During the publication process, the UNIXFILE attributes are defined. These attributes define the owner and group associations and permissions of each published resource. Each package published has a corresponding UNIXFILE instance within the PRIMARY File Use the CM Admin CSDB Editor to view and modify these attributes.

 The following instructions use the CM Admin CSDB Editor. The CM Admin CSDB Editor is currently available for 32-bit Windows platforms. For more information, refer to the *CM Admin CSDB Editor Guide*.

To view the UNIXFILE Class instances using the CM Admin CSDB Editor

- 1 Go to **Start** → **Programs** → **HP OVCM Admin** → **CM Admin CSDB Editor**.

The CM Admin CSDB Editor Security Information dialog box opens.

- 2 If necessary, type a User ID and Password, and then click **OK**.

 The factory set user ID is RAD_MAST. No password is necessary. This might have changed during installation. You can change this by selecting the Change Password check box and typing the new password in the New Password and Verify New Password text boxes.

- 3 Double-click **PRIMARY**.
- 4 Double-click **SOFTWARE**.
- 5 Double-click **Unix File Resources (UNIXFILE)**.
- 6 Double-click the appropriate application. The attributes for the UNIXFILE instances for that application appear in the list view.

To change any instance attribute, double-click the attribute name in the list view. Make your desired changes in the box that opens, and click **OK** when finished.

Published Owner, Group, and Permission Considerations

The UNIXFILE Class contains the attributes ZPERUID and ZPERGID. They define the user ID and group association of the promoted resource. These attributes are populated during the publishing session and reflect the user ID and group association of the resources being promoted. In addition, permission characteristics are captured during publishing and stored in the UNIXFILE.ZRSCRASH attribute. These attributes can be changed using the CM Admin CSDB Editor.

Table 14 Attributes Exclusive to the UNIXFILE Class

Attribute	Description
ZPERUID	UNIX user ID associated with the promoted resource. The resource will be owned by this user ID when deployed, providing the CM agent is run by root and the user ID exists on the agent workstation.
ZPERGID	UNIX group ID associated with the promoted resource. The resource will be associated with this group when deployed, providing the CM Agent is run by root and the group exists on the agent workstation.
ZRSCRASH	This should be a four-digit octal notation of the managed resources permissions (example: 7555). This is populated during the publishing session based on the characteristics of the published resources.
DIRPERMS	Permissions assigned to unmanaged folders that are created when the directory structure does not exist. CM assigns permissions based on umask settings if this attribute is not defined. For example, if the managed file "file.txt" is placed in /opt/newlocation, and the directory /newlocation does not exist, it will be created. This is an unmanaged directory. If more than one file is installed to a new location, the first one installed determines the assigned permissions.

If the CM agent is run as a non-root user ID:

- All deployed resources will be associated with the user ID and group of the user ID who is running the CM agent.
- During publishing, the owner and group of the resource is stored in the UNIXFILE instance data. The owner and group attributes within the

instance are only applied if the CM agent is run as root for only root has the ability to perform changes in owner and group characteristics.

- CM agent capabilities are limited to the permission constraints of the current user ID and group membership for the UNIX user ID running the connect.
- CM will be unable to deploy to directories where the directory permissions prohibit the non-root user and or group membership to write.
- CM may be unable to set permissions on resources placed under CM Management that are already on the agent workstation though owned by a different UID and/or GID.
- CM will be unable to launch agent methods requiring root authority.

If the CM Application Manager is run as root and:

- If the owner name of the resource, as defined in ZPERUID, and the user ID exist on the agent workstation, the resource will be owned by the UNIX user ID specified.
- If the group name of the resource, as defined in ZPERGID, and the group exist on the agent workstation, the resource will be associated with the UNIX group specified.



To prevent security breaches please note the following:

If the owner of a resource, as defined in ZPERUID, does not exist on the agent workstation, the owner designation of the managed resource will be set to "nobody" (uid 60001).

If the group of a resource, as defined in ZPERGID, does not exist on the agent workstation, the group designation of the managed resource will be set to "nobody" (gid 60001).

Optimizing Services

- Service Optimization uses byte level differencing and its ability to generate patches to recreate original data. A **patch** allows administrators to upgrade data to reflect bug fixes, feature additions, and added information. These patches contain the minimum number of bytes required to fix a flawed program and/or complete software upgrades. These patches are smaller than the data, thus conserving network bandwidth at the expense of CPU overhead.

- The CM Admin Publisher automatically creates components that are eligible for byte-level differencing patching, assuming the component class contains the proper signature attributes as specified in the CM Configuration Server specifications.



Initially, to allow for the functionality of byte level differencing, the following limitations are set:

- Patches will be managed at the SOFTWARE.ZSERVICE level between PACKAGES instances that are hierarchically connected together.
- Patches can only be created between components with the same fully qualified names.
- Patches can only be created for components that contain a signature. Initially, only MD5 is supported.

Components being used for patching must be published from the same location, or computer, to qualify for byte-level differencing patching. This will populate the eight-byte CRC found in the suffix of the instance names.

For detailed information, refer to the *CM Admin CSDB Editor Guide*.

Summary

- Publishing is the process of identifying the components of the software or content and organizing them into packages.
- To publish packages, install the CM Admin Publisher onto a clean computer. To configure applications you must use the CM Admin CSDB Editor.
- Install the CM Admin Publisher onto a machine you will be using for publishing applications.
- You can use Component Selection Mode for packaging simple applications by selecting the individual components that make up the software.
- Use the CM Batch Publisher as an alternative to Component Selection Mode.
- After publishing applications, use the New Application Wizard in the CM Admin CSDB Editor to create a service.
- You can use CM to prepare and distribute maintenance to the CM Application Self-service Manager.

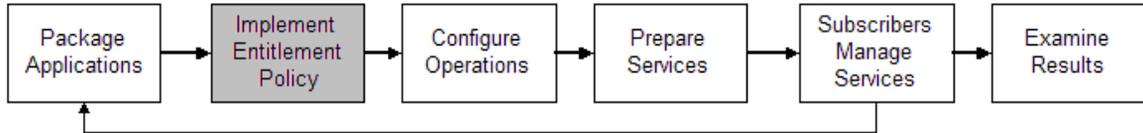
6 Implementing Entitlement Policy

At the end of this chapter, you will:

- Understand how Configuration Management (CM) can integrate with your existing policy information.
- Understand the POLICY Domain.
- Be able to create new users and assign them to groups for use in simple environments.
- Be able to connect services to groups.

This guide describes the suggested implementation for the HP OpenView Configuration Management Application Self-service Manager (CM Application Self-service Manager). Although you will tailor this strategy to meet your organization's needs, we recommend that you review this guide for a comprehensive understanding of the CM Application Self-service Manager. This chapter describes how to implement entitlement policy, assigning users to groups, and connecting applications to users.

Figure 6 Tasks completed in this guide



About Policy Management

As your organization grows and changes, you may need to make changes to who has access to what software. With CM, you have the advantage of using your existing policy information, while using CM to manage your data.

CM can use real-time policy information from:

- NT Domains
- Active Directory
- NDS
- iPlanet
- ISOCOR
- SQL Server, Oracle, or Sybase
- SQL 92-compliant (ODBC) data sources
- Any LDAP-compliant directory

You can continue to use the tools that you are already familiar with to administer policies. And, as you modify group assignments, subscriptions to data are kept up-to-date.

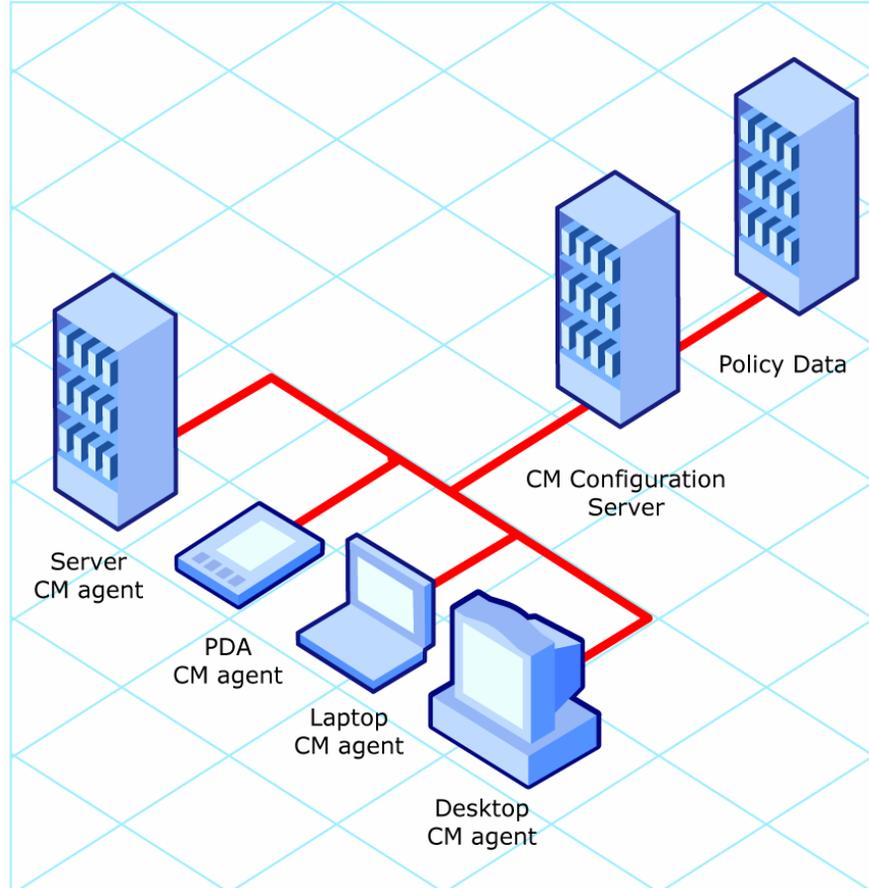
Accessing Existing External Policy Information

When a CM agent connects to the HP OpenView Configuration Management Configuration Server (CM Configuration Server), CM retrieves policy information in real-time from the appropriate data stores. In the simplest environment, such as a lab used for testing, you might want CM to search the CM Configuration Server Database (CM-CSDB) for this information. However, typically, you will want CM to search your existing policy stores. This information is sent back to the CM Configuration Server, which determines which data are to be managed for the user, group, or computer.



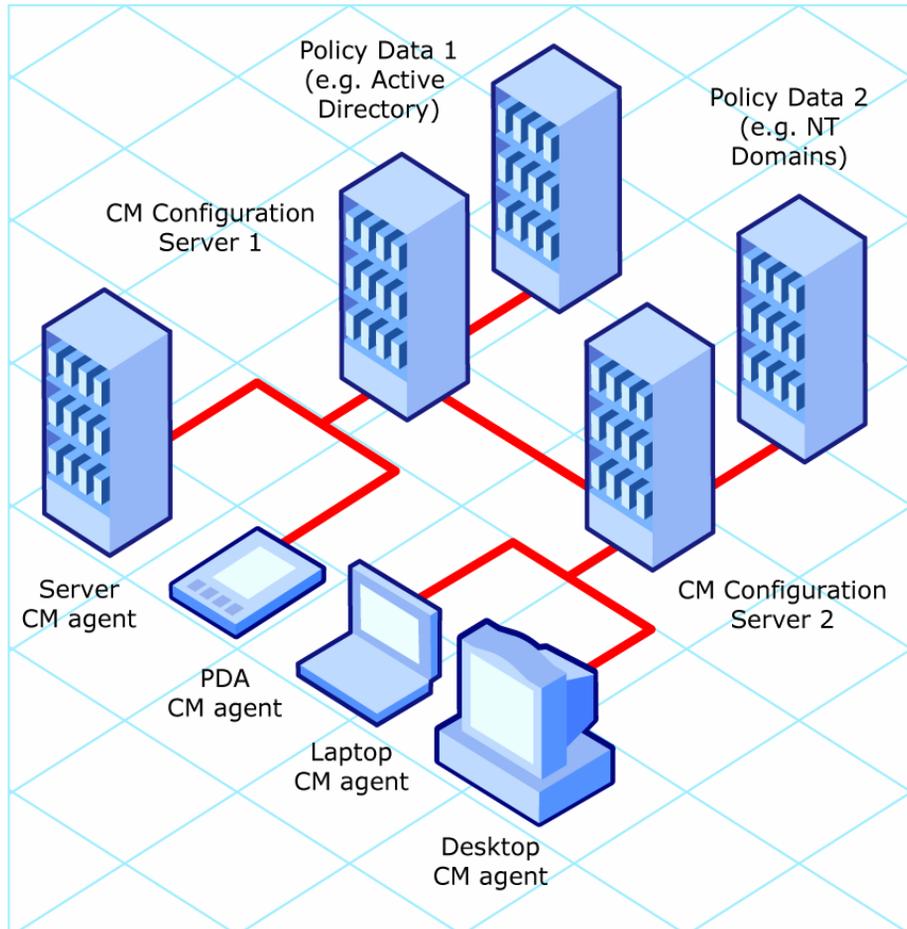
For technical details about integrating your existing policy using the CM Policy Server, see the HP OpenView web site and the *HP OpenView Configuration Management Policy Server Installation and Configuration Guide (CM Policy Server Guide)*.

Figure 7 Policy information from an external source



CM also supports using multiple CM Configuration Servers with multiple types of external policy stores. This is especially useful in migration scenarios where you may be consolidating multiple external policy stores over a period of time. During this time, you can continue to use as many existing policy stores as necessary.

Figure 8 Policy information from multiple external sources



Integrating with Existing External Policy

In order to use real-time policy information from an external source to manage your data, CM must communicate with your policy system. Each policy system has its own interface; some are proprietary, some are standardized.



For technical details about integrating your existing policy with CM, see the HP OpenView web site.

Directories-Based Entitlement

(such as Active Directory and NDS)

Use the CM Policy Server to leverage your investment in LDAP-based directory services or SQL-based databases. The CM Policy Server is a plug-in to the CM Integration Server that is used for administration purposes such as mapping services to users in the directory tree. The CM Configuration Server can be configured to query the CM Policy Server to determine what services should be distributed and managed for the agent that is currently logged on.



The CM Policy Server is an optional feature available from HP. Contact your HP sales representative for details.
See the *CM Policy Server Guide* for more information.

CM integrates with existing policy, thereby greatly reducing the total cost of ownership of your environment by allowing you to continue to manage policies from your existing repository while CM manages your data.

About the POLICY Domain

If you are using real-time policy information from an external source to manage your data, you may need to configure a connection from your external policy store to the POLICY Domain in the CM-CSDB. The configuration may vary based on the policy store.

This section provides you with an overview of the POLICY Domain. Most medium to large organizations will use their existing policy information and will have limited use for this domain. However, in the simplest environment,

you can use the POLICY Domain in the CM-CSDB to organize subscribers into logical groups in preparation for distributing software.

In this section, you will learn:

- About the classes in the POLICY Domain.
- How to create users and groups.
- How to assign users to groups.

After you are familiar with the POLICY Domain and understand the basics of managing policy information within CM, you can extend that knowledge to learn how to integrate your existing policy information with CM. This information may also be useful if you want to create a simple lab environment to test the management of your data.

 The following section uses the CM Admin CSDB Editor, which is available for 32-bit Windows platforms. For more information, refer to the *CM Admin CSDB Editor Guide*.

To access the POLICY Domain

1 Go to **Start** → **Programs** → **HP OVCM Administrator** → **CM Admin CSDB Editor**. The CM Admin CSDB Editor Security Information dialog box opens.

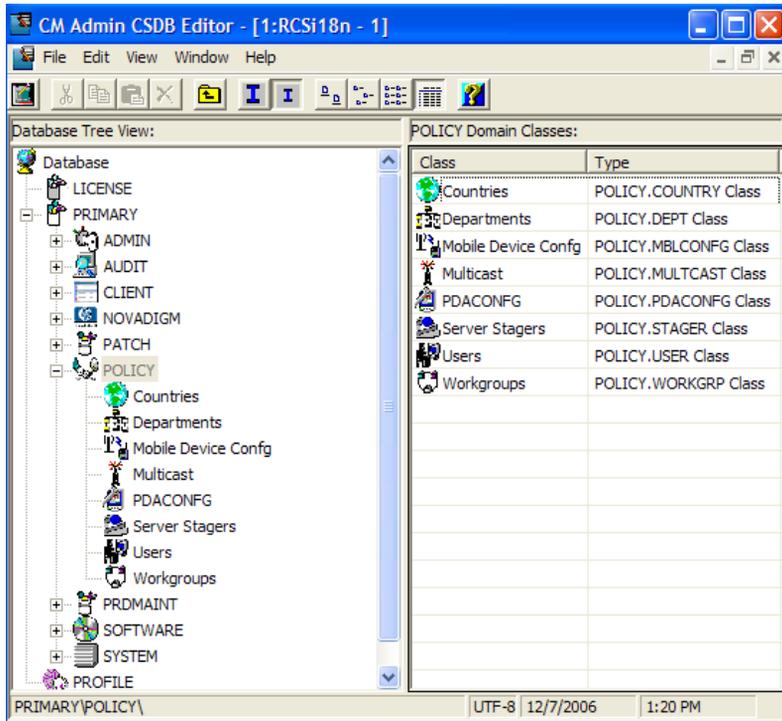
2 If necessary, type a User ID and Password, and then click **OK**.

 The factory set user ID is RAD_MAST. No password is necessary. This might have changed during installation. You can change this by selecting the Change Password check box and typing the new password in the New Password and Verify New Password text boxes.

The CM Admin CSDB Editor window opens.

3 Double-click **PRIMARY**.

4 Double-click **POLICY**.



Classes in the POLICY Domain

The POLICY Domain has eight default classes, Countries (COUNTRY), Departments (DEPT), Mobile Device Config (MBLCONFIG), Multicast (MULTICAST), PDACONFIG (PDACONFIG), Server Stagers (STAGER), Users (USER), and Workgroups (WORKGRP), as described in [Table 15](#), below.

Table 15 Classes in the POLICY Domain

Class	Description	Instance Examples
Countries (COUNTRY)	Use for clock synchronizations with the CM Configuration Server. Do not assign services to this class.	France, Japan, Italy
Departments (DEPT)	Use to group subscribers into departments.	Finance, Customer Service, Manufacturing
Mobile Device Config (MBLCONFIG)	Defines the parameters for mobile device configuration when using the Mobility Server.	RmmUser

Class	Description	Instance Examples
Multicast (MULTICAST)	Use the MULTICAST class to configure agent computers to use multicasting.	MCast1, Mcast2
PDACONFIG (PDACONFIG)	This class defines the parameters for PDA configuration.	PDAUser
Server Stagers (STAGER)	Use to define CM Staging Servers within your distribution network. Also, use to define storage locations on a CM Staging Server computer.	CDROM, Stager, Server001
Users (USER)	Use to define individual subscribers.	William, John Doe, SSampson
Workgroups (WORKGRP)	Use to group subscribers into functional groups. For example, a project team may be composed of subscribers from several different departments.	Project Planning, Managers, ABC Project Team

You can also add other classes to the POLICY Domain, as per your organization's needs. For example, if your organization is an insurance company, you may add an AGENTS or OFFICES class. Or, if your organization is a bank, you might add classes such as BRANCHES or TELLERS to organize your subscribers.



Refer to the *CM Admin CSDB Editor Guide* for information about creating new classes.

Creating Users or Groups

You may need to create individual users or groups in CM. For example, you might want to create a lab environment used to test the distribution and management of your data. To create a simple environment, create several users, assign them to groups, and then assign services to the groups.

In this section, you will learn how to create a user in the Users (USER) Class in the POLICY Domain of the CM Configuration Server Database. You can follow the same steps to create a new Workgroups (WORKGRP) instance or Departments (DEPT) instance by substituting the appropriate class name.

In the following example, you will use the CM Admin CSDB Editor to create a new user in the USER class.

 The following instructions use the CM Admin CSDB Editor. The CM Admin CSDB Editor is currently available for 32-bit Windows platforms. For more information, refer to the *CM Admin CSDB Editor Guide*.

To create a new user

- 1 Go to **Start** → **Programs** → **HP OVCM Administrator** → **CM Admin CSDB Editor**. The CM Admin CSDB Editor Security Information dialog box opens.
- 2 If necessary, type a User ID and Password, and then click **OK**.

 The factory set user ID is RAD_MAST. No password is necessary. This might have changed during installation. You can change this by selecting the Change Password check box and typing the new password in the New Password and Verify New Password text boxes.

The CM Admin CSDB Editor window opens.

- 3 Double-click **PRIMARY**.
- 4 Double-click **POLICY**.
- 5 Right-click **Users (USER)**.
- 6 Select **New Instance**.
- 7 In the Create Instance dialog box, type a display name (up to 25 characters) and instance name (up to 25 characters).

- 8 Click **OK**.

The user instance is created.

Assigning Users to Groups

If you have created several users, you might want to assign them to one or more groups. In the following example, we will use the CM Admin CSDB Editor to assign a user to the Sales department.

▶ The Sales instance may not appear in your CM-CSDB. To add this instance (or instances that are appropriate to your organization), follow the procedure [To create a new user](#) on page 108. However, instead of right-clicking **USER**, you would right-click the appropriate class, such as Departments (**DEPT**).

▶ The following instructions use the CM Admin CSDB Editor. The CM Admin CSDB Editor is currently available for 32-bit Windows platforms. For more information, refer to the *CM Admin CSDB Editor Guide*.

To assign a user to a department

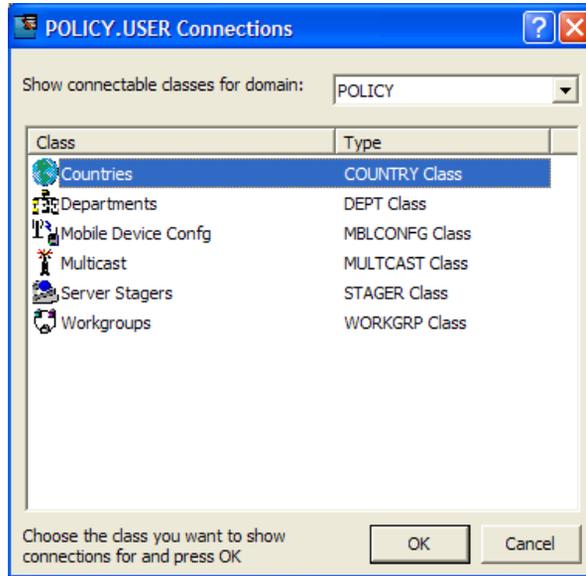
- 1 Go to **Start** → **Programs** → **HP OVCM Administrator** → **CM Admin CSDB Editor**. The CM Admin CSDB Editor Security Information dialog box opens.
- 2 If necessary, type a User ID and Password, and then click **OK**.

▶ The factory set user ID is **RAD_MAST**. No password is necessary. This might have changed during installation. You can change this by selecting the Change Password check box and typing the new password in the New Password and Verify New Password text boxes.

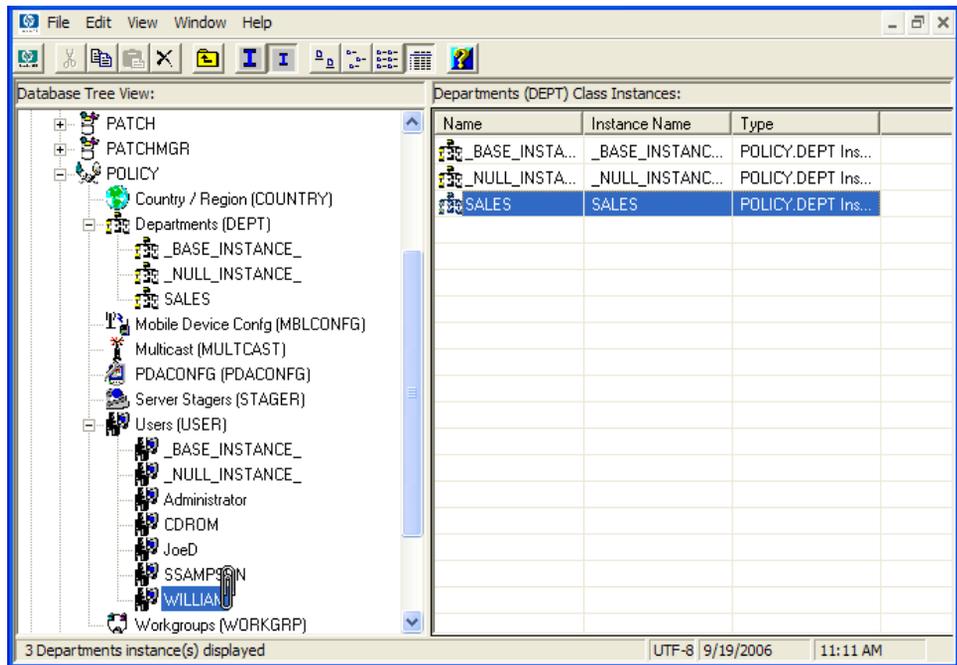
The CM Admin CSDB Editor window opens.

- 3 Double-click **PRIMARY**.
- 4 Double-click **POLICY**.
- 5 Double-click **Users (USER)** to open the list of all user instances.
- 6 Right-click a user instance and select **Show Connections**.

The POLICY.USER Connections dialog box opens. This dialog box displays a list of classes that you can connect the selected instance to.

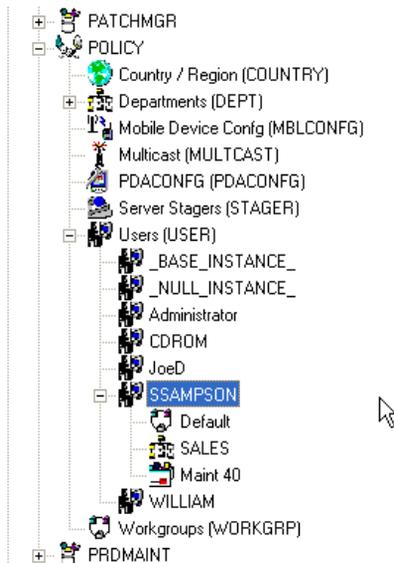


- 7 Select **Departments (DEPT)** and then click **OK**. The DEPT class instances appear in the list view of the CM Admin CSDB Editor. This allows you to make a connection easily between an instance in the DEPT class and an instance in the USER Class.
- 8 Select the **Sales** instance from the list view and drag it to the appropriate Users instance. When your cursor turns into a paper clip, release the mouse button.



- 9 The Select Connection Attribute dialog box opens.
- 10 Click **Copy** to create the connection from Users.Robin to Department.Sales.
- 11 Click **Yes** to confirm the connection.
- 12 Click **OK** when you receive the confirmation that "Robin has been connected to Sales."

In the CM Admin CSDB Editor tree view, notice that Sales is now listed under the user instance, which indicates that user is part of the Sales department.



Connecting Services to Groups

Whether you are using an external policy source, or you are managing policy within CM, you will need to define the services that your subscribers will receive.

▶ If you are using the CM Policy Server, refer to the *CM Policy Server Guide* for more information.

In this section, you will learn how to connect users and groups to the services that CM manages. In the following example, we will use the CM Admin CSDB Editor to authorize all subscribers in the Sales department for a sample application.

▶ The following instructions use the CM Admin CSDB Editor. The CM Admin CSDB Editor is currently available for 32-bit Windows platforms. For more information, refer to the *CM Admin CSDB Editor Guide*.

To connect an application to the Sales Department

- 1 Go to **Start** → **Programs** → **HP OVCM Administrator** → **CM Admin CSDB Editor**. The CM Admin CSDB Editor Security Information dialog box opens.
- 2 If necessary, type a User ID and Password, and then click **OK**.



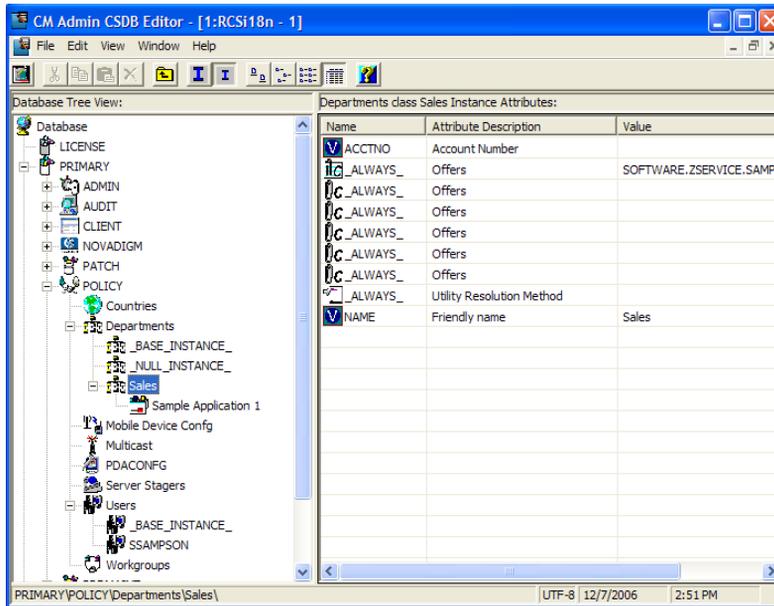
The factory set user ID is RAD_MAST. No password is necessary. This might have changed during installation.

You can change this by selecting the Change Password check box and typing the new password in the New Password and Verify New Password text boxes.

The CM Admin CSDB Editor window opens.

- 3 Double-click **PRIMARY**.
- 4 Double-click **POLICY**.
- 5 Double-click **Departments (DEPT)** to open the Departments class.
- 6 Right-click the **Sales** instance (in the tree view), and from the shortcut menu select **Show Connections**. The POLICY.DEPT Connections dialog box opens. This dialog box displays a list of classes that you can connect the selected instance to.
- 7 From the Show connectable classes for domain drop-down list, select **SOFTWARE**.
- 8 Click **Application (ZSERVICE)**, and then click **OK**. The instances in the ZSERVICE Class appear in the list view.
- 9 Select an application instance from the list view and then drag it to the appropriate Department instance. When your cursor turns into a paper clip (see the next figure), release the mouse button.
- 10 The Select Connection Attribute dialog box opens.
- 11 Click **Copy** to create the connection from Departments.Sales to the application.
- 12 Click **Yes** to confirm the connection.
- 13 Click **OK** when you receive the confirmation.

In the CM Admin CSDB Editor tree view (see the next figure), notice that the application is listed under the Sales department instance, which indicates that the entire Sales department is now authorized to receive the application.



Notice now that the user instance you created listed in the Users (USER) Class, is part of the Sales department. You can also see that the sample application has been authorized for the entire Sales department. Therefore, as long as the user SSampson is part of the Sales department, CM will manage the sample application on his computer.

You can see how using groups simplifies assigning applications to users. You can modify the applications that the individuals in the Sales department are authorized for simply by manipulating the connections between the applications and the Sales department group. And, you can add users to the Sales department, quickly authorizing them for a series of applications. Or, you can remove users from the Sales department, taking away their authorization to applications.

Summary

- CM can integrate with your existing policy information.
- The POLICY Domain organizes subscribers into logical groups.
- You can create new users and assign them to groups.
- Assign the services managed by CM to the appropriate groups.

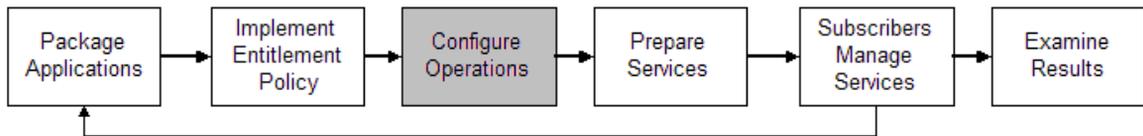
7 Configuring CM Client Operations Profiles

At the end of this chapter, you will:

- Understand the benefits of CM Client Operations Profiles (CM COPs).
- Know how to implement CM COPs.
- See a simple implementation example.

This guide describes the standard implementation for the HP OpenView Configuration Management Application Self-service Manager (CM Application Self-service Manager). Although you will tailor this strategy to meet your organization's needs, we recommend that you review this guide for a comprehensive understanding of the CM Application Self-service Manager. This chapter shows you how to configure the operations of your CM agent. It describes the CLIENT Domain, and provides information on providing failover capabilities, designating servers for an agent based on criteria you set, controlling trouble shooting settings, hardware scan settings and user interface settings.

Figure 9 Tasks completed in this guide



CM Client Operations Profiles

If you have multiple CM Configuration Servers, CM Proxy Servers, or want to store files for managing applications on a local CD-ROM, you may want to reconfigure the CM agent before connecting to the CM Configuration Server. Use CM Client Operations Profiles to do this. CM Client Operations Profiles, along with the CM object oriented schema, allow you to control certain agent behaviors based on any attribute from an agent object. Benefits of using CM Client Operations Profiles include, but are not limited to:

- Failover capability for CM servers.
- Dynamic assignment and selection of an agent computer's available servers based on network location, speed, or other criteria.
- Defining which CM Configuration Server to use based on its functional role, allowing for load balancing among CM Configuration Servers.
- Enhanced diagnostics capabilities.

► To use CM Client Operations Profiles, you must be using the Application Manager version 3.1 or higher and the Configuration Server Database version 3.1 or higher.

The CLIENT Domain

The CLIENT Domain in the CM Configuration Server Database (CM-CSDB) controls CM COPs. It has six classes with sample instances that you can use to configure your CM agent computer's operations. We provide an example of using the agent computer's network location, stored in the ZCONFIG object, to prioritize the downloadable locations for application data for each agent computer. The six classes are:

- **Core Settings (SETTINGS)**
Use an instance in the SETTINGS Class to define how to use your Server Access Profile, to define scripts you want to use, and to set other global parameters.
- **Diagnostics (DIAGS)**
Use instances in this class to override tracing levels set on the CM agent.
- **Hardware Scan Config (RADHWCFG)**
Use an instance in this class to control the type of hardware scan that the CM agent should perform.
- **Network Location (LOCATION)**
Use the LOCATION Class to group users based on a location, such as their subnet.
- **RSM UI Preferences (RADUICFG)**
Use instances in this class to manage the display of the CM Application Self-service Manager User Interface.
- **Server Access Profile (SAP)**
Use instances in the Server Access Profile (SAP) class to define CM Configuration Servers and possible data access points for CM-managed services.

Recommendations

We make the following recommendations for using CM COPs.

- Use our Professional Services to help you implement this feature.
- Configure CM COPs only if you fully understand this process.
- Avoid single point of failure in all aspects, for servers of both types and for each role. Create redundancy where possible.
- Use base and null instances for unknown and new network addresses.

Implementing CM Client Operations Profiles

Use instances in the classes in the CLIENT Domain to customize the profiles to meet your enterprise's needs. There are five major steps for implementation.

- 1 Identify Servers.
- 2 Create Server Access Profile instances.
- 3 Set criteria for Server Access Profile instances.
- 4 Set priorities for Server Access Profile instances.
- 5 Enable CM Client Operations Profiles.

Each of these steps is detailed in the sections below. Before beginning this procedure, a discussion of Server Types and Roles is required.

Understanding Server Types and Roles

A Server Access Profile (SAP) is a generic way to define all possible data access points for a service. A SAP can be a CM Configuration Server, CM Proxy Server, or CD-ROM drive. CM COPs allow you to identify and prioritize data access points without the need to use additional customized scripts.

Before beginning this process, you must have an understanding of server types and roles. These are reflected, respectively, in the TYPE and ROLE attributes of the SAP class. A server can either be identified as an RCS or DATA type. Only a CM Configuration Server can be identified as type RCS. A CM Configuration Server, CM Proxy Server, or CD-ROM drive can be identified as DATA in the TYPE attribute. Use DATA type only for servers from which the agent will download applications.

In addition, each CM Configuration Server can have a role, or function, specified in the ROLE attribute of the SAP class. Possible roles are:

- **Client Operations Profiles (O)**
Use this CM Configuration Server to get the agent computer's CM Client Operations Profile.
- **Service resolution (S)**
Use this CM Configuration Server to resolve the agent computer's services.

- **Agent self maintenance (M)**
Use this CM Configuration Server to perform agent self-maintenance.
- **Reporting (R)**
Use this CM Configuration Server for storing reporting objects from the agent computer. These objects are stored in the PROFILE File in the CM Configuration Server Database.
- **Data download (D)**
Use this CM Configuration Server to download application data to the agent computer.
- **All (A)**
Use this CM Configuration Server for any of the roles listed above.

A CM Proxy Server or CD-ROM can only serve the role of data download (D). A CM Configuration Server can serve any of the above roles.



When an agent is ready to download files, the agent will first use servers with TYPE=DATA in order of priority set in the LOCATION Class. If a server with TYPE=DATA, has a ROLE of anything other than D, it will be skipped and not used for data download.

If the agent is still unable to download all the needed files after processing all servers with TYPE=DATA, then the agent will begin processing servers of TYPE=RCS in order of priority. In order to use a CM Configuration Server for data download, two conditions must be met:

The SETTINGS.RCSDATA attribute for the agent computer must be set to Y.

The SAP.ROLE for the CM Configuration Server must be either D or A.

Task 1 Identify CM Servers

Identify your CM Servers, and determine the type and role for each. Types are defined in the TYPE attribute of the SAP class. Roles are defined in the ROLE attribute of the SAP class. Your CM Server can be a CM Configuration Server, CM Proxy Server, or CD-ROM. CM Servers with TYPE=DATA, must have a role of Data download (D). CM Configuration Servers that are set to TYPE=RCS can serve many roles. You will need to decide which roles your CM Configuration Servers can perform.



Only a CM Configuration Server can be designated as anything other than data download. For all other SAP instances, if you specify anything other than data download, the SAP will be ignored.

Task 2 Create Server Access Profile Instances (SAP)

Use CM Admin CSDB Editor to create one SAP instance for each Server Access Profile. Table 16 below describes the attributes in the SAP class. We provide samples for each type of Server Access Profile in the CM Configuration Server Database. The next figure displays the SAP samples we provide.

Sample_Data CD	SAMPLE_DATA_CD_DRIVE
Sample_Data CD - Laptop Only	SAMPLE_DATA_CD_DRIVE_LAPTOP_ONLY
Sample_Data Legacy Stager	SAMPLE_DATA_LEGACY_STAGER_TCP
Sample_Data Legacy Stager - Coresident with ...	SAMPLE_DATA_STAGER_CORESIDENT
Sample_Data Radia Proxy - Coresident with RCS	SAMPLE_DATA_RPS_CORESIDENT
Sample_Data Radia Proxy East	SAMPLE_DATA_RPS_EAST
Sample_Data Radia Proxy West	SAMPLE_DATA_RPS_WEST
Sample_RCS - Role Client Maintenance	SAMPLE_RCS_ROLE_MAINT
Sample_RCS - Role Configuration Resolution	SAMPLE_RCS_ROLE_CONFIG
Sample_RCS - Role Reporting	SAMPLE_RCS_ROLE_REPORTING
Sample_RCS - Role Services	SAMPLE_RCS_ROLE_SERVICES
Sample_RCS - Role Services and Maintenance	SAMPLE_RCS_ROLE_SERVICES_MAINT
Sample_RCS East - Role All	SAMPLE_RCS_EAST
Sample_RCS West - Role All	SAMPLE_RCS_WEST

Use the CM Admin CSDB Editor to make a copy of the instance that most closely approximates the server type and role for which you need an SAP instance. After copying the instance, use Table 16 below to configure the instance for your enterprise.

▶ Instances in the SAP class are used before the IP specified in the `radskman` command line.

Table 16 Attributes of the SAP Class

Attributes	Description
ZSTOP00n	Expression Resolution Method Use a ZSTOP expression to stop the process from completing if certain requirements are met. For example, you may want to prevent a laptop computer from using this SAP.
NAME	Friendly Name Friendly name of the SAP instance.

Attributes	Description
TYPE	<p>Type [RCS /DATA]</p> <p>Specify the Type of CM server. Set to <code>RCS</code> if using CM Configuration Server. Set to <code>Data</code> for CM Proxy Server or CD-ROM.</p> <p>If the agent computer is unable to reach any of its Server Access Profile, then the agent will default to the last known CM Configuration Server.</p>
URI	<p>Universal Resource Identifier</p> <p>Create the Universal Resource Identifier to specify the CM Configuration Server or CM Proxy Server.</p>
ROLE	<p>RCS Role A,O,S,M,R,D</p> <p>Specifies the role of the SAP. Specify as many values as are needed separated by a comma. A blank or null value defaults to ALL. Possible values are</p> <p>A = all O = Client Operations Profiles S = Service Resolution M = Agent Self Maint R = Reporting, D = Data Download.</p> <p>Default: The default value is A.</p> <p>Note: Only a CM Configuration Server can be designated as anything other than type D. For servers where TYPE=DATA, if you specify anything other than D, that SAP instance will be skipped.</p>
ENABLED	<p>Enable SAP [Y/N]</p> <p>Specify if this SAP is enabled (Y) or disabled (N). If the variable is blank or non-existent, then this SAP is enabled.</p> <p>Default: The default value is Y.</p>
TIMEOUT	<p>Communications Timeout (0-3200)s</p> <p>Specify the timeout in seconds. This will override agent timeout (ZMASTER.ZTIMEO) if it contains a valid numeric value. If blank, then use existing variable value on agent.</p>

Attributes	Description
PUSHBACK	<p>Push Back (0-999 retries)</p> <p>Set to 0 to skip a CM Configuration Server if the CM Configuration Server pushes back on the agent connect. Set to 1 to 999 for number of retries if the CM Configuration Server pushes back.</p> <p>Default: The default setting is 0.</p>
THROTYPE	<p>Throttle [NONE/ADAPTIVE/RESERVED/]</p> <p>Type of bandwidth throttling to use.</p> <ul style="list-style-type: none"> • Set to <code>ADAPTIVE</code> to yield to other services that are using the network. • Set to <code>RESERVED</code> to allow for a specific reservation of the bandwidth. It is the maximum percentage of network bandwidth to use. • Set to <code>NONE</code> for no bandwidth throttling, and use the maximum available bandwidth. This attribute applies to Windows only. <p>This will override agent bandwidth throttling if it contains a valid value. If blank, then use existing variable value on the agent computer.</p>
BANDWIDTH	<p>Bandwidth Percentage (1-99)</p> <p>Specify the percentage of bandwidth to use between 1 and 99. If blank value or non-existent variable, then use all of the bandwidth. This attribute applies to Windows only.</p> <p>This will override agent bandwidth setting if it contains a valid value. If blank, then use existing variable value on agent computer.</p>
STREAM	<p>Enable Streaming [Y/N]</p> <p>Specify Y to use streaming. This will override the agent setting in <code>ZMASTER.ZNORSPNS</code>.</p> <p>Default: The default value is N.</p> <p>Caution: Streaming is not suitable for all network environments. Consult your network administrator before setting this to Y.</p>

Attributes	Description
PROXY	<p>Internet Proxy URI</p> <p><i>Do not modify.</i> The Internet proxy URI through which the agent will connect to the SAP. Maintained by agent.</p>
PRIORITY (&(LOCATION .SAPPRI))	<p>Selection Priority</p> <p><i>Do not modify.</i> The SAP obtains its priority by looking at the priority specified in the LOCATION Class.</p>
PRODUCT	<p>Product Filter</p> <p>Specify which types of CM agents can use this SAP instance. Specify multiple agents separated by a comma. Below are suggested identifiers for each CM agent:</p> <p>CM Application Manager: CM-AM CM Inventory Manager: CM-IM CM Application Self-service Manager: CM-ASM CM OS Manager: CM-OSM CM Patch Manager: CM-PATCH</p> <p>On your radskman command line, specify which products to filter by using the product parameter.</p> <p>For example, if this SAP should only be used by CM Application Manager, then you may want to set this attribute to CM-AM. Then, set product to CM-AM on your radskman command line.</p> <p>Default: Blank means that all products can use this SAP instance.</p>
FILTER	<p>Filter Expression [Obj.Var = Value]</p> <p>Use this attribute to filter the SAP based on any available object attribute. For example, if you only wanted to use this SAP for a specific service, specify APPINFO.ZOBJNAME=GS-CALC.</p> <p>Note: The ZSERVICE object is not available during installation. Use the APPINFO object instead. Appinfo, located in the service's LIB directory, is a copy of the service's instance from the ASERVICE object.</p>



If you want to override the use of the SAP object, add the RCSURI parameter to the `radskman` command line. RCSURI should be in the same format as the Universal Resource Identifier. For the syntax of this parameter, see [Table 17](#), below.

Creating the Universal Resource Identifier

For each instance of the SAP class, you will need to identify a URI (Universal Resource Identifier) for the Server Access Profile (SAP). RFC 1630 proposes the following format:

scheme:scheme specific format

where the scheme is usually the network protocol such as HTTP or TCP. If the scheme-specific format has slashes, it indicates a hierarchical path. Universal Resource Locator (URL) is a form of URI where the scheme specific format is defined as:

//user:password@host:port/url path

Details on how to access the specified resource are defined in the URL path. The most prevalent form is: *//host:port/url path*. Examples for specifying the URI are show in [Table 17](#), below:

Table 17 URI Example

SAP Type	URI and TYPE attributes are set to:
CM Configuration Server over TCP/IP using default port of 3464	URI = tcp://ovcmcs:3464 TYPE = RCS
CM Configuration Server over TCP/IP using port 7800	URI = tcp://ovcmcs:7800 TYPE = RCS
Configuration Server using SSL on port 443	URI = tcps://ovcmcssl:443 TYPE = RCS
CM Proxy Server using HTTP	URI = http://ovcmps:3466 TYPE = DATA
CD-ROM	URI = file://&(ZCONFIG.ZHDWCDDR) /DATA/ TYPE = DATA

Task 3 Set Criteria for each SAP Instance

After creating your SAP instances, you must decide how you are going to segment your enterprise. You may want to assign an SAP to an agent computer based on its subnet. If so, use CM Admin CSDB Editor to create one Location instance for each subnet. In the sample database, there are two locations, Sample_Location East and Sample_Location West.

The ZCONFIG object for an agent computer includes an attribute called ZNETLOC. The ZCONFIG.ZNETLOC variable identifies the agent computer's subnet using underscores instead of periods. You may want to name the Location instance based on possible subnets of your agent computers so that you can easily connect a user to their appropriate LOCATION instance based on their subnet. For example, if you have a subnet of 10.10.10.1, create a LOCATION instance called 10_10_10_0. [Enable Client Operations Profiles](#) on page 131 shows you how to connect the subscribers to the appropriate location class using the agent computer's ZCONFIG.ZNETLOC variable.

Task 4 Set Priority for each SAP for each Location

Use instances in the LOCATION Class to define the priorities of your Server Access Profile based on location criteria. The next figure shows one of the samples that we provide. The priority for a Server Access Profile is defined directly above the connection to that SAP instance in the SAPPRI attribute. Lower numbers have a higher priority. For example, SAP.SAMPLE_RCS_EAST has a priority of 10, and SAP.SAMPLE_DATA_RPS_EAST has a priority of 40.



The SAPPRI can be any whole number from 01 to 99. The SAPs do not need to be listed in the LOCATION instance in their priority order.

Attribute Description	Value
Friendly Name	Sample_Location East
Core Settings Class Connection	SETTINGS.DEFAULT_SETTINGS
Diagnostics Class Connection	DIAGS.DEFAULT_DIAGS
UI Class Connection	CLIENT.RADHWCFG.DEFAULT
Hardware Class Connection	
Connect To Class	
SAP Priority	10
Connect To	SAP.SAMPLE_RCS_EAST
SAP Priority	20
Connect To	SAP.SAMPLE_RCS_WEST
SAP Priority	30
Connect To	SAP.SAMPLE_DATA_CD_DRIVE_LAPTOP_ONLY
SAP Priority	40
Connect To	SAP.SAMPLE_DATA_RPS_EAST
SAP Priority	50
Connect To	SAP.SAMPLE_DATA_RPS_WEST
SAP Priority	60
Connect To	
SAP Priority	70
Connect To	

Table 18 below describes the attributes of an instance in the LOCATION Class. For example, if you want your SAMPLE_RCS_WEST to be used before your SAMPLE_RCS_EAST, increase its priority to 7. To do this, change the SAPPRI for SAMPLE_RCS_WEST to 7 as shown in the next figure.

Attribute Description	Value
Friendly Name	Sample_Location East
Core Settings Class Connection	SETTINGS.DEFAULT_SETTINGS
Diagnostics Class Connection	DIAGS.DEFAULT_DIAGS
UI Class Connection	CLIENT.RADHWCFG.DEFAULT
Hardware Class Connection	
Connect To Class	
SAP Priority	10
Connect To	SAP.SAMPLE_RCS_EAST
SAP Priority	7
Connect To	SAP.SAMPLE_RCS_WEST
SAP Priority	30
Connect To	SAP.SAMPLE_DATA_CD_DRIVE_LAPTOP_ONLY
SAP Priority	40
Connect To	SAP.SAMPLE_DATA_RPS_EAST
SAP Priority	50
Connect To	SAP.SAMPLE_DATA_RPS_WEST
SAP Priority	60
Connect To	
SAP Priority	70
Connect To	

Table 18 Attributes of the LOCATION Class

Attribute	Description
NAME	Friendly Name Type the friendly name of the instance.

Attribute	Description
ALWAYS	Core Settings Class Connection Specify an instance in the SETTINGS Class. Default: The default connection is SETTINGS.DEFAULT_SETTINGS.
ALWAYS	Diagnostics Class Connection Specify an instance in the DIAGS Class. Default: The default connection is DIAGS.DEFAULT_DIAGS.
ALWAYS	UI Class Connection Specify an instance in the RADUICFG Class.
ALWAYS	Hardware Class Connection Specify an instance in the RADHWCFG Class.
ALWAYS	Class Connection Specify an instance in any class to connect to this Location instance.
SAPPRI	SAP Priority Specify the priority of the SAP instance referenced in the _ALWAYS_ class connection below this attribute. Default: The SAP referenced in the connection below this instance has a priority of 10 by default.
ALWAYS	Connect to Specify an SAP instance for the priority entered into SAPPRI above this attribute. This SAP will default to a priority of 10.
SAPPRI	SAP Priority Specify the priority of the SAP instance referenced in the _ALWAYS_ class connection below this attribute. Default: The SAP referenced in the connection below this instance has a priority of 20 by default.
ALWAYS	Connect to Specify an SAP instance for the priority entered into SAPPRI above this attribute. This SAP will default to a priority of 20.

Attribute	Description
SAPPRI	<p>SAP Priority</p> <p>Specify the priority of the SAP instance referenced in the <u>_ALWAYS_</u> class connection below this attribute.</p> <p>Default: The SAP referenced in the connection below this instance has a priority of 30 by default.</p>
<u>_ALWAYS_</u>	<p>Connect to</p> <p>Specify an SAP instance for the priority entered into SAPPRI above this attribute. This SAP will default to a priority of 30.</p>
SAPPRI	<p>SAP Priority</p> <p>Specify the priority of the SAP instance referenced in the <u>_ALWAYS_</u> class connection below this attribute.</p> <p>Default: The SAP referenced in the connection below this instance has a priority of 40 by default.</p>
<u>_ALWAYS_</u>	<p>Connect to</p> <p>Specify an SAP instance for the priority entered into SAPPRI above this attribute. This SAP will default to a priority of 40.</p>
SAPPRI	<p>SAP Priority</p> <p>Specify the priority of the SAP instance referenced in the <u>_ALWAYS_</u> class connection below this attribute.</p> <p>Default: The SAP referenced in the connection below this instance has a priority of 50 by default.</p>
<u>_ALWAYS_</u>	<p>Connect to</p> <p>Specify an SAP instance for the priority entered into SAPPRI above this attribute. This SAP will default to a priority of 50.</p>
SAPPRI	<p>SAP Priority</p> <p>Specify the priority of the SAP instance referenced in the <u>_ALWAYS_</u> class connection below this attribute.</p> <p>Default: The SAP referenced in the connection below this instance has a priority of 60 by default.</p>

Attribute	Description
<code>_ALWAYS_</code>	Connect to Specify an SAP instance for the priority entered into SAPPRI above this attribute. This SAP will default to a priority of 60.
SAPPRI	SAP Priority Specify the priority of the SAP instance referenced in the <code>_ALWAYS_</code> class connection below this attribute. Default: The SAP referenced in the connection below this instance has a priority of 70 by default.
<code>_ALWAYS_</code>	Connect to Specify an SAP instance for the priority entered into SAPPRI above this attribute. This SAP will default to a priority of 70.

Task 5 Enable Client Operations Profiles

There are two phases to this step. First, you will need to create a process on the CM Configuration Server so that the objects associated with CM COPs are resolved. Second, you will need to enable the agent computer to use CM COPs.

Enable on the CM Configuration Server

To enable CM COPs, you must create a new instance called RADSETUP in the Processes (PROCESS) class in the SYSTEM Domain. After creating the instance, make a class connection to `CLIENT.LOCATION.&(ZCONFIG.ZNETLOC)`. This will map the user to its appropriate Location instance based on the ZNETLOC attribute in the agent computer's ZCONFIG object. The ZNETLOC attribute identifies the agent computer's subnet using underscores instead of periods to separate the four octets. Instances of the LOCATION Class must be defined to match each of the subnets in your environment to be able to dynamically assign CM Client Operations Profiles configuration settings based on locations within your network. The next figure shows an example.

COP=Y to enable CM Client Operations Profiles. The sample of code below shows the lines to add to your `initmeth.rex`. Be sure to deploy the updated `initmeth.rex`.

```
/* Sample INITMETH.REX to Enable the COP */
call edmget('RADSETUP',0)
RADSETUP.COP = 'Y'
call edmset 'RADSETUP'
```

- You can use the COP parameter of `radskman` to enable or disable CM COPs. To enable, add COP=Y to your list of parameters for `radskman`. This will only enable or disable CM COPs for this agent connect. Use `initmeth.rex` as shown above to enable COP for all agent connects or create a variable in `CLIENT.SETTINGS` called COP, and set the value to Y. Ultimately, both of these methods will create a COP attribute in the RADSETUP object with a value of Y. Alternatively, if you need to disable CM COPs after enabling it, run `radskman` with COP=N to disable for that agent connect only.

Additional Classes in the CLIENT Domain

There are two additional classes in the CLIENT Domain used for customizations and diagnosis. Define your own scripts to be used during the agent connect with the Core Settings (SETTINGS) class. Set tracing levels and use other diagnostic tools by configuring the attributes in the Diagnostics (DIAGS) Class

Core Settings (SETTINGS)

Use an instance in the SETTINGS Class to define how to use your Server Access Profile, define scripts you want to use in pre-configuration processing, and set other global parameters.



If similar attributes exist in both the SETTINGS and SAP classes, the attribute in the SAP class will be used.

Table 19 Attributes of the SETTINGS Class

Attribute	Description
NAME	Friendly Name Type the friendly name of the instance.

Attribute	Description
SAPPING	<p>Ping all SAP [Y/N]</p> <p>Set to Y if the agent should ping all of the SAPs. If EQUISORT is set to S, then you must set SAPPING to Y. A result reflecting the speed of the connection will be returned and stored in the SPEED attribute in the SAPSTATS object</p> <p>Default: The default setting is N.</p>
PUSHBACK	<p>Push Back (0-999 retries)</p> <p>Set to 0 to skip a CM Configuration Server if the CM Configuration Server pushes back on the agent connect. Set to 1 to 999 for number of retries if the CM Configuration Server pushes back.</p> <p>Default: The default setting is 0.</p>
EQUISORT	<p>Secondary SAP Priority [R/S]</p> <p>If several SAP instances have the same priority, set this to R to randomly select which one to use. Set to S to use the SAP with faster network speed. SAPPING must be set to Y to use EQUISORT= S. Use R for workload balancing.</p> <p>Default: The default setting is R.</p>
USELSAP	<p>Use Last SAP [N/Y]</p> <p>Set this Y to specify that the last SAP used in this agent connect should be the SAP used for all remaining services to be resolved. Use of SAPs with type of DATA is at the service level. If set to N, then the agent will go through the SAPs in priority for each service.</p> <p>During an agent connect, if a service has to go to a lower priority SAP to complete the data download, decide if you want the remaining services to continue from this SAP (USELSAP=Y) or go back to the highest priority DATA SAP to search for files for the next service (USELSAP=N) and to continue through the SAP priorities.</p> <p>Default: The default setting is Y.</p>

Attribute	Description
RCSDATA	<p>Download DATA from RCS [Y/N]</p> <p>After using all of the TYPE = DATA SAPS, if all the needed data has not been downloaded then specify Y to go to SAPs with TYPE = RCS. If you do not want the agent computers to use CM Configuration Servers, set RCSDATA to N.</p> <p>Default: The default setting is Y.</p>
ADINFO	<p>(Windows Only)</p> <p>Query Active Directory Info [Y/N]</p> <p>Specify Y if you want to collect the agent computer's active directory information. The information is stored in the ADINFO object in the RADSETUP directory. The default location for the RADSETUP directory is the Agent lib directory. This information will be sent to the CM Configuration Server for all resolution processes.</p> <p>Default: The default setting is Y.</p>
ZGRPINFO	<p>(Windows Only)</p> <p>Query NT User Group Info [Y/N]</p> <p>Specify Y if you want to collect the agent computer's Windows NT user group information. This information will be reflected in the NTGROUPS object in the RADSETUP directory. The default location for the RADSETUP directory is the Agent lib directory. This information will be sent to the CM Configuration Server for all resolution processes.</p> <p>Default: The default setting is Y.</p>

Attribute	Description
LSCRIPT	<p>Disable Connect on UI Reboot [Y/N]</p> <p>If you have set a service to perform an immediate reboot and you run <code>radskman</code> from a login script, set this to Y to run <code>radskman</code> from the login script.</p> <p>If you have set a service to perform an immediate reboot, and you want <code>radskman</code> to be restarted in the User context when a user logs, set this to N.</p> <p>In other words, if your users are configured to connect to CM Configuration Server when they log in, set this to N. If you want to do an immediate reboot with <code>context=u</code>, and you want the user to re-establish connection with the CM Configuration Server, then set <code>LSCRIPT=Y</code>. For more information on reboot options, see the section Restarting the Agent Computer on page 154.</p> <p>Default: The default setting is Y.</p>
ALWAYS D	<p>Always Download CFG Objects [Y/N]</p> <p>Set to Y to always download pre-configuration objects. This guarantees that your SAP or persistent objects are downloaded even if nothing has changed. If your SAP agent object is corrupted for any reason, then it will be re-downloaded even if the desired state did not change. In addition, if one of the variables is a substitution then you will download the object with the new values since a variable change by substitution does not change the desired state.</p> <p>Default: The default setting is Y.</p>
ALWAYS S	<p>Always Upload CFG Objects [Y/N]</p> <p>Set to Y to always upload all objects in the <code>RADSETUP</code> directory to the CM Configuration Server. The default location for the <code>RADSETUP</code> directory is the Agent lib directory. Set to N to prevent the objects from being sent.</p> <p>Default: The default setting is Y.</p>
EXBSETUP	<p>Pre Config Resolution Script</p> <p>Specify a script to run before pre-configuration processing. This script must be in the agent computer's <code>IDMSYS</code> directory. The default location is <code>/opt/HP/CM/Agent</code>.</p> <p>Default: The default setting is <code>PRESETUP.REX</code>.</p>

Attribute	Description
EXASETUP	<p>Post Config Resolution Script</p> <p>Specify a script to run after pre-configuration processing. This script must be in the agent computer's IDMSYS directory. The default location is /opt/HP/CM/Agent.</p>
CMETHOD	<p>Post Catalog Script</p> <p>Specify a script that can run after catalog resolution, but before service processing.</p>
EXBOUtbX	<p>Pre Outbox Script</p> <p>Specify a script that can run after service processing, but before the objects in the outbox are flushed to the CM Configuration Server.</p>
EXBEXIT	<p>Post Connection Script</p> <p>Specify a script to execute before radskman ends. If you are doing a customized reboot process, this is where you would specify it. This script must be in the agent computer's IDMSYS directory. The default location is /opt/HP/CM/Agent.</p> <p>Note: CM COPs must be enabled on the agent for the EXBEXIT to be used. If CM COPs are not enabled, the EXBEXIT will be ignored.</p>
TIMEOUT	<p>Communications Timeout (0-3200)s</p> <p>Specify the timeout in seconds for the Server Access Profile (SAP). This will override the agent timeout (ZMASTER.ZTIMEO) if it contains a valid numeric value. If the value is blank, then the agent will use the existing timeout value on agent.</p>
THROTYPE	<p>Throttle [RESERVED/ADAPTIVE/NONE/]</p> <p>Type of bandwidth throttling to use.</p> <ul style="list-style-type: none"> • Set to ADAPTIVE to yield to other services that are using the network. • Set to RESERVED to allow for a specific reservation of the bandwidth. It is the maximum percentage of network bandwidth to use. • Set to NONE for no bandwidth throttling, and use the maximum available bandwidth. NONE is the default. This attribute applies to Windows only.

Attribute	Description
BANDWIDTH	<p>Bandwidth Percentage (1-99)</p> <p>Specify the percentage of bandwidth to use between 1 and 99. If the value is blank or the variable does not exist, then all of the bandwidth will be used. This attribute applies to Windows only.</p>
RADTRAY	<p>(Windows Only)</p> <p>Radtray Command Line Arguments</p> <p>Set command line arguments you want to use for the CM System Tray. Specify Y for the first argument to enable the CM System Tray, and N to disable it. If set to Y, you can then specify other parameters separated from the Y with a comma. Possible parameters are:</p> <ul style="list-style-type: none"> • /C - Show the CM System Tray in console mode when it starts • /NOCANCEL - Hide the Cancel button. • /NOPAUSE - Hide the Pause button. • /D - Add debug message to the log for troubleshooting. <p>Example: Y, /C /NOPAUSE enables the CM System Tray in console mode and does not display the PAUSE button.</p>
USEDEFS	<p>Use Default SAP [Y/N]</p> <p>If a SAP cannot be found for the needed ROLE, specify Y to default to the CM Configuration Server set on the command line.</p>
DEFROLE	<p>Default SAP ROLE (A,O,S,M,R)</p> <p>Specify roles for the CM Configuration Server specified on the command line. If not specified, the ROLE is set to A (All), and the CM Configuration Server will be able to perform any ROLE.</p> <p>Note: USEDEFS must be set to Y to use DEFROLE.</p>
RAD2XUI	<p>Enable RADUI 2.x</p> <p>Default setting Y displays terminal messages. Set to N to turn off UNIX console messages.</p>

Attribute	Description
RSTROPT	<p>(Windows Only)</p> <p>Bandwidth Checkpoint Restart</p> <p>Use this attribute to determine when a file is eligible for checkpoint restart based on calculated network bandwidth. This will apply to <i>all</i> files to be downloaded in this agent connect. Specify eligibility in the format (Below Threshold limit, Network Threshold Value, Above Threshold). Suppose you set RSTROPT to 100 KB, 86 KB, 10 MB. First the agent calculates the network bandwidth. One of two scenarios will apply:</p> <ul style="list-style-type: none"> • If the network bandwidth is under 86 KB, the file size is compared to 100 KB. If the file size is over 100 KB, checkpoint restart is enabled for that file. • If the network bandwidth is over 86 KB, the file size is compared to 10 MB. If the file size is over 10 MB, checkpoint restart is enabled for that file.
DISKFREE	<p>Minimum Free Disk Space Threshold</p> <p>Specify a minimum of free disk space for CM to maintain. If a service is over the limit, it will not be installed.</p>
REMUNINS	<p>Allow Remote Notify Uninstall [Y/N]</p> <p>Specify Y to stops notifies from remote machines from uninstalling a service. This does not stop applications from being un-installed as part of a policy change if a normal agent connect is started from a remote notify. The remove notify string must contain the text req="Un-install."</p>
DETPROXY	<p>(Windows Only)</p> <p>Internet Proxy detection [Y/N]</p> <p>Set to N to skip running Internet proxy detection at the beginning of the agent connect.</p>

Attribute	Description
ACTMAINT	<p>Maintenance Activation [I/D/P]</p> <p>The CM maintenance module, upgrdmaint, processes all maintenance activities. Upgrdmaint can be launched by radskman immediately after the maintenance is staged or on an independent schedule.</p> <p>Note: The mnt parameter of radskman must be set to Y for maintenance to be processed.</p> <p>Set ACTMAINT to I (Immediate) to download maintenance files and immediately activate them. CM Application Self-service Manager subscribers will receive a dialog box showing just an OK button that the CM Application Self-service Manager needs to be updated. CM Application Self-service Manager will close, install maintenance, and then restart.</p> <p>Set to D to defer maintenance activation. Maintenance files are downloaded, but not activated. To activate maintenance, you can call radskman req="Self Maintenance" or call upgrdmaint directly using a timer or other method.</p> <p>Set to P to prompt CM Application Self-service Manager users. A dialog box will display stating that maintenance is available, but the subscriber will be given the option to cancel. The files are downloaded, but not activated. The subscriber will be prompted again at the next check for maintenance by the CM Application Self-service Manager Interface. P is the same as I for CM Application Manager users.</p> <p>Default: I</p>
SENRPT	<p>Send Reporting Object [I/D]</p> <p>Set to D to defer sending all reporting objects to CM Configuration Server at the end of agent connect. Usually, the reporting objects for each service, such as APPEVENT, CLISTATS, and ZSVCSTAT, are sent to the CM Configuration Server immediately (I) after they are created. This requires multiple disconnects and reconnects to the CM Configuration Server.</p> <p>Default: I</p>

Diagnostics (DIAGS)

Use this class to override default trace settings on the CM agent computer. In addition, you can set parameters for running the radstate program. Radstate is a diagnostic module designed to give an overview of the current state of the CM agent. The information in the radstate output is based on data retrieved from numerous CM agent objects. For additional information on radstate, see the HP OpenView web site.



Instances of this class allow you to easily set tracing levels and set parameters for `radstate` for a particular user, machine, or group of users for troubleshooting purposes. These attributes were intentionally put into their own transient class for this purpose.

To do this, set the `_ALWAYS_` Diagnostics Class Connection in the `_BASE_INSTANCE_` of the `LOCATION` Class to `DIAGS.&(ZCONFIG.ZHDWCOMP)`. Then, create an instance in the `DIAGS` class with the computer name of the CM agent computer that you want to set the tracing for. If the machine name does not exist in the `DIAGS` class, then the settings in the `DEFAULT_DIAGS` instance will be used.

Table 20 Attributes of the `DIAGS` Class

Attribute	Description
NAME	Friendly Name Type the friendly name of the instance.
RADSTATE	Command String for radstate This will run radstate with the parameters specified in this attribute. The base instance of the <code>DIAGS</code> Class is set to <code>VO</code> , which will run radstate in verbose mode, building the <code>ZRSTATE</code> and <code>ZRSTATES</code> objects. See the documentation on radstate for more information. If no parameters are specified, radstate will not run. Radstate must exist in the <code>IDMSYS</code> directory. You only need to specify the parameters for radstate, not the radstate executable. Refer to the document on radstate for additional information.

Attribute	Description
ZTRACE	<p>Communication Tracing [Y/S/N]</p> <ul style="list-style-type: none"> Specify N to turns off communication buffer tracing. Tracing is off by default. Specify S to provide summary communication buffer information to the agent log. This includes number of records read and written and the type of records processed. Specify Y to provide full communication buffer information to the agent log. All data transmitted and received will be echoed to the agent log file <p>Caution: Setting ZTRACE = Y may generate very large logs and severely impact performance of the agent. Do not set this unless instructed to do so by Technical Support.</p>
ZTRACEL	<p>Trace level (000/040/999)</p> <p>Specify tracing level. If blank, use existing value.</p> <p>Caution: Setting ZTRACEL to a higher number may generate very large logs and severely impact performance of the agent. Do not set this unless instructed to do so by Technical Support.</p>

Hardware Scan Options (RADHWCFG)

Use instances in the RADHWCFG class in the CLIENT Domain to specify the type of hardware scans you want performed on the agent device. Hardware scan information is reported in the ZCONFIG object. To implement the hardware scan options, connect an instance of the RADHWCFG class to an instance in the LOCATION Class.



CM Client Operations Profiles must be enabled to use the RADHWCFG class. For testing, you may want to create a RADHWCFG object on the agent device with all the attributes in the RADHWCFG class. Then, change the attributes to Y or N to see the result in the ZCONFIG object.

Attribute	Description
OS	<p>OS [Y/N]</p> <p>Specify Y to scan for Operating System information.</p> <p>ZCONFIG attributes: REBOOTD, REBOOTT, WTSSRVR, ZHDWLANG, ZHDWOS, ZHDWOSDB, ZHDWOSOG, ZHDWOSOW, ZHDWSVCP</p>
MEMORY	<p>Memory [Y/N]</p> <p>Specify Y to scan for memory information.</p> <p>ZCONFIG attributes: ZHDWMEM, ZHDWMEMF</p>
HDLOCAL	<p>Local Drives [Y/N]</p> <p>Specify Y to scan for internal hard drives.</p> <p>ZCONFIG attributes: ZHDWCDDR, ZHDWD00, ZHDW00C, ZHDWD00F, ZHDWD00S, ZHDW00T, ZHDWD01, ZHDW01C, ZHDWDF_A, ZHDWDLST, ZHDWDNUM</p>
HDREMOTE	<p>Remote Drives [Y/N]</p> <p>Specify Y to scan for external hard drives.</p> <p>ZCONFIG attributes: ZHDW00, ZHDWD00C, ZHDWD00F, ZHDW00S, ZHDW00T, ZHDWDLST, ZHDWDNUM</p>
NETWORK	<p>Network [Y/N]</p> <p>Specify Y to scan for network information.</p> <p>ZCONFIG attributes: GATEWY01, IPADDR01, LADAPT01, NETLOC01, SUBNET01, ZGATEWAY, ZHDWIPAD, ZHDWLANA, ZHDWNET1, ZHDWNNET, ZNETLOC, ZSUBNET</p>
PERIPHER	<p>Peripherals [Y/N]</p> <p>Specify Y to scan for peripherals such as keyboard and mouse.</p> <p>ZCONFIG attributes: ZHDWKYBD, ZHDWMOUS, ZHDWPPAR, ZHDWPSE, ZHDWVIDO, ZHDWVRES</p>
PRINTER	<p>Printers [Y/N]</p> <p>Specify Y to scan for printers.</p> <p>ZCONFIG attributes: ZHDWPA00, ZHDWPA01, ZHDWPPRN</p>

Attribute	Description
HAL_VER	<p>HAL Statistics [Y/N]</p> <p>Specify Y to scan for the HAL (Hardware Abstraction Layer) version.</p> <p>ZCONFIG attributes: HALCOMP, HALDATE, HALFNAME, HALFVER, HALINAME, HALLANG, HALPNAME, HALPVER, HALSIZE.</p>
APP_VER	<p>Application Version [Y/N]</p> <p>Specify Y to scan for versions of MSI (ZHDWVMSI) and IE (ZHDWVIE).</p>
WMISCAN	<p>Use WMI to collect data [Y/N]</p> <p>Specify Y to perform the scan using WMI (Windows Management Instrumentation).</p>
DSCAN00n	<p>Dynamic Scan 00n</p> <p>Specify Y to use the dynamic scan variable.</p>

Dynamic Scanning

In addition to the built in scans, create your own scans using the Dynamic Scan (DSCAN00n) instances. File is the only type of dynamic scan instance supported for the UNIX version of CM . The format for a dynamic scan is: VariableName = Type(Parm1, Parm2, ...) where VariableName is the attribute in ZCONFIG where you want the information to be reported, Type is File, and Parmn is the query for the information.

Example: File

Dynamic File scanning can return size (SIZE), date stamp (DATE), file version (FVER), product version (PVER), and time (TIME) stamp of a specified file. You may request any combination of these properties. To scan for the file /opt/temp/test, create a DSCAN002 similar to:

```
TEST####=FILE(/opt/temp/test;SIZE,DATE,FVER,PVER,TIME)
```

The #### will be replaced by the corresponding file property name. One attribute will be created in the ZCONFIG object for each file property for which you scanned. In this example, five variables will be created based on the information collected on the /opt/temp/test file, ZCONFIG.TESTSIZE, ZCONFIG.TESTDATE, ZCONFIG.TESTFVER, ZCONFIG.TESTPVER, and ZCONFIG.TESTTIME.

Setting User Interface Properties (RADUICFG)

Use the RADUICFG Class to specify settings for the CM Application Self-service Manager User Interface. You must be licensed for the CM agent. To implement the hardware scan options, connect an instance of the RADUICFG Class to an instance in the LOCATION Class.

 You must be licensed for and install the CM Application Self-service Manager to use this class.

Table 22 Attributes of the RADUICFG Class

Attribute	Description
BNHOME	Display Home Button [Y/N] Specify Y to display the Home button on the CM Bar.
BNMYSOFT	Display My Software [Y/N] Specify Y to display the My Software button on the CM Bar.
BNPREFER	Display Preferences [Y/N] Specify Y to display the Preferences button on the CM Bar.
BNHISTORY	Display History [Y/N] Specify Y to display the History button on the CM Bar.
SHWMENUS	Show Menus [Y/N/U] Specify U to allow the user to control appearance of the menu bar. Specify Y or N to turn the Menu bar on or off, and not allow the user to control its appearance.
SHWCATLG	Show Catalog [Y/N/U] Specify U to allow the user to control appearance of the list of catalogs. Specify Y or N to turn the catalog list on or off, and not allow the user to control its appearance.
STRTCHNG	Startup param modifications [Y/N] Specify Y to allow the user to modify the startup parameters in General Options in Preferences. Specify N to not allow the user to modify the startup parameters.

Attribute	Description
STRTRFILE	Startup parameter filename Specify the file name for the startup parameters found in the General Options in Preferences.
STRUPMSG	Warn if Startup file changes [Y/N] Specify Y to warn the user if the startup parameter file has changed.
ASKOFFL	Prompt for offline mode [Y/N/U] Specify U to allow the user to control prompting for offline use of CM Application Self-service Manager. Specify Y or N to turn the prompt on or off, and not allow the user to control the prompt.
STATSTRT	Status window on startup [Y/N] Set to Y to show the status window on start up.
CUSTTTLE	Custom Title on RSM Banner Specify the text to display in the CM Application Self-service Manager's title bar.
COLTYPE	Columns [Forced/Required] Set to <i>Forced</i> if you want only the columns specified in COLNAMES to appear. Set to <i>Required</i> if at least the columns specified in COLNAMES should appear. Name and Status are always displayed.
COLNAMES	Name of Columns (CSV format) Specify the columns you want displayed. Separate the columns with a comma.
EXPSITEM	Expand Active Service item [Y/N/U] Specify U to allow the user to control the expansion of the active Service List item. Specify Y or N to allow or not allow the user to expand the active item in the Service List.
SHWADVOP	Show Advanced Options [Y/N/U] Specify U to allow the user to control the display of Advanced Options. Specify Y or N to turn off or on the display of Advanced Options such as Download Only , Reconfigure , and Undo buttons.

Attribute	Description
BTNINST	Enable Install Button [Y/N] Specify Y to enable the Install button.
BTNU PDT	Enable Update Button [Y/N] Specify Y to enable the Update button.
BTNDWLD	Enable Download Button [Y/N] Specify Y to enable the Download button.
BTNVRFY	Enable Verify Button [Y/N] Specify Y to enable the Verify button.
BTNREPR	Enable Repair Button [Y/N] Specify Y to enable the Repair button.
BTNDEL	Enable Delete Button [Y/N] Specify Y to enable the Delete button.
BTNCANCL	Enable Cancel Button [Y/N] Specify Y to enable the Cancel button.
BTNPAUSE	Enable Pause Button [Y/N] Specify Y to enable the Pause button.
SHWCOLEX	Show Expand/Collapse Button [Y/N] Specify Y to show the Install button .
SHWINFO	Show/Hide Extended Info [Y/N] Specify Y to show the Extended Info button when a service item is expanded.
NAME	Friendly Name Friendly name of the instance.

CM Client Operations Profile Example

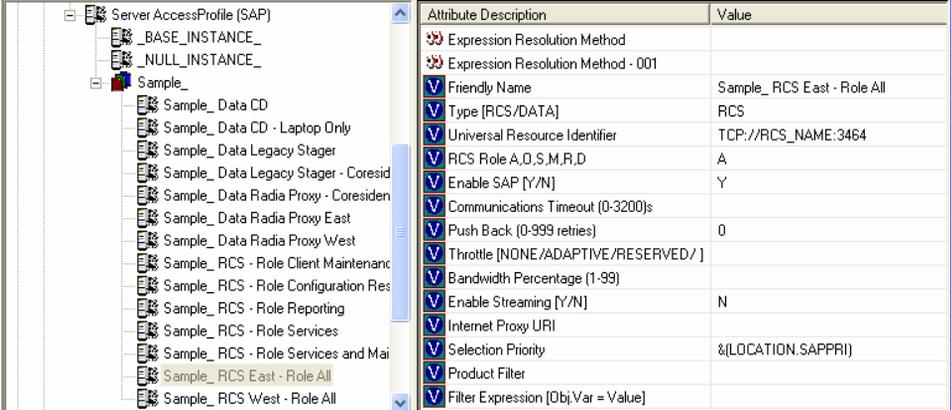
This section provides a simple example of how to configure a CM COPs. The driving force is to have your agent computers connect with the most appropriate CM Configuration Server. Usually, you will want to assign your agent computers to a CM Configuration Server based on network address.

Scenario

Suppose you divide your enterprise into two regions, EAST and WEST. All agent computers in the EAST region are in the 192.111.111.0 network, and all agent computers in the WEST region are in the 193.111.111.0 network. In addition, suppose you have two CM Configuration Servers, one called RCS_EAST as the primary CM server for the EAST region, and one called CM Configuration RCS_WEST as the primary CM server for the WEST region.

To configure the sample scenario

- 1 Build two Server Access Profile (SAP) instances, one for RCS_EAST and one for RCS_WEST. The next figure shows a SAMPLE_RCS_EAST.



Attribute Description	Value
Expression Resolution Method	
Expression Resolution Method - 001	
Friendly Name	Sample_RCS East - Role All
Type [RCS/DATA]	RCS
Universal Resource Identifier	TCP://RCS_NAME:3464
RCS Role A,O,S,M,R,D	A
Enable SAP [Y/N]	Y
Communications Timeout (0-3200)s	
Push Back (0-999 retries)	0
Throttle [NONE/ADAPTIVE/RESERVED/]	
Bandwidth Percentage (1-99)	
Enable Streaming [Y/N]	N
Internet Proxy URI	
Selection Priority	&(LOCATION.SAPPRI)
Product Filter	
Filter Expression [Obj\Var = Value]	

In the Server Access Profile (SAP) class use the TYPE attribute to specify a server as type DATA or RCS. In this example, we will be configuring only CM Configuration Servers. Therefore, all servers will have SAP.TYPE set to RCS.

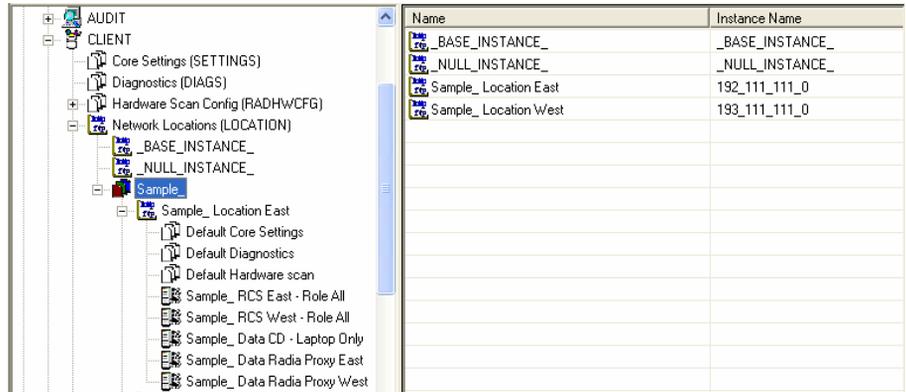
For each Server Access Profile instance, you must also identify a role. Again, for simplicity, we will set SAP.ROLE to A for all. This means that the CM Configuration Server can provide agent operations profiles, service resolution, maintenance, data, and reporting.

At a minimum, you will need to specify the Universal Resource Identifier (URI) attribute. Customize other variables as needed.

- 2 Build two location instances, one for the EAST region, and one for the WEST region.

Create a location instance called 192_111_111_0 with a friendly name of Sample_Location East, and a location instance called 193_111_111_0

with a friendly name of Sample_Location West. See the figure below for an example.



- 3 Connect the LOCATION instance to the appropriate Server Access Profile (SAP) instance.
 - In the LOCATION.Sample_Location East instance, define a connection to the SAP.Sample_RCS EAST.
 - In the LOCATION.Sample_Location West instance, define a connection to the SAP.Sample_RCS WEST.
- 4 Now, consider what you want to happen in the following cases:
 - Suppose you are an agent in the EAST Region and the RCS_EAST is unavailable. Your options are:
 - Abort
 - or
 - Go to RCS_WEST as a second choice.
 - Suppose you are an agent in the EAST region and the RCS_EAST is busy. In other words, the task limit defined in your CM Configuration Server settings file has been reached. Your options are:
 - Continue to retry the RCS_EAST until a connection is available
 - Or
 - Go to RCS_WEST as a second choice.

After you understand the concepts involved, and feel comfortable with this process, you can begin to add other components to the Client Operations Profile. After you finish with TYPE=RCS, configure your servers with TYPE=DATA. In addition, you can identify particular servers of TYPE=RCS to use different ROLES.

Summary

- Use CM COPs to provide redundancy in your environment.
- Select which servers will perform which roles.
- You can assign agent computers to specific servers based on network location or any other criteria.
- You must enable CM COPs in the CM-CSDB and on the agent computer.

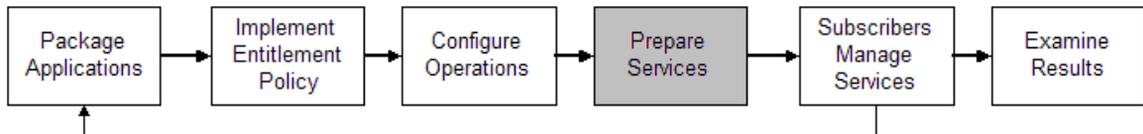
8 Preparing Services

At the end of this chapter, you will:

- Know how to install services with machine and user components and under the system account.
- Know how to restart the agent computer.
- Be aware of service options.

This guide describes the suggested implementation for the HP OpenView Configuration Management Application Self-service Manager (CM Application Self-service Manager). Although you will tailor this strategy to meet your organization's needs, we recommend that you review this guide for a comprehensive understanding of the CM Application Self-service Manager. This chapter describes preparing services.

Figure 10 Tasks completed in this guide



Restarting the Agent Computer

To restart an agent computer based on an application event, specify a reboot type and reboot modifiers in the ZSERVICE.REBOOT attribute. The modifiers allow you to:

- set the type of warning message
- handle a reboot with either a machine or user connect
- and cause an immediate restart after the application event.

➤ If the hreboot parameter is missing from the `radksman` command line, the parameter defaults to Y to handle service reboot requests. If you set hreboot to p, the agent computer will power down, regardless of whether or not there is a service requiring a reboot.

First, specify the application event that needs the reboot. [Table 23](#) on page 155 lists the codes for all possible application events. Set the application event code to a reboot type and any reboot modifier that you need to use. The sections below describe each type of reboot and all reboot modifiers.

If you need an application to immediately perform a hard reboot with no warning messages on application installation and repair, set the ZSERVICE.REBOOT variable to AI=HQI, AR=HQI.

➤ The parameters for the reboot attribute are not case-sensitive.

Table 23 Reboot Events and Codes

Application Events	Code	Description
Install	AI	Use AI to specify a reboot behavior for application installations. The default is no reboot.
Deinstall	AD	Use AD to specify a reboot behavior for application removals. The default is no reboot.
Locked File	AL	Use AL to specify a reboot behavior when a locked file is encountered. The default behavior when a locked file is encountered is to perform a Hard reboot with just an OK button (HY).
Update	AU	Use AU to specify a reboot behavior for application updates. The default is no reboot.
Repair	AR	Use AR to specify a reboot behavior for application repairs. The default is no reboot.
Version Activation	VA	Use AI to specify a reboot behavior for application version activations. The default is no reboot.

Reboot Types

After deciding which application events need a computer reboot, you will need to choose the type of reboot. CM sends a message to the operating system that the computer needs to reboot. There are three types of reboot.

- **Hard Reboot (H)**
All applications are shut down regardless of whether there are open, unsaved files or not. The subscriber will not be prompted to save open, modified files.
- **Soft Reboot (S)**
Users are prompted to save their data if applications have open, unsaved files. If applications have unsaved data, the reboot will wait for the user to respond to the application's request for the user to save his data.
- **No Reboot (N) (default reboot type)**
The computer will not restart after completing the specified application event. This is the default reboot type for all application events except a Locked File Event (AL). If you specify AL=N, then the agent computer will not perform a hard reboot with an OK and Cancel button when a locked file is encountered. If no restart type is specified for an application event, no restart will occur.

Reboot Modifier: Type of Warning Message

You can specify the type of warning message you want to send to the subscriber before the restart occurs. If you specify a type of reboot, but do not specify a type of warning message, the default warning message for that type will be displayed. There are three types of warning messages. Warning messages are displayed automatically for the CM Application Self-service Manager and Application Manager. If you do not want to show a warning message, specify `ask=N` in a `radskman` command line.

- **Quiet (Q)**
No reboot panel will be displayed.
- **OK Button (A)**
A warning message will display with an OK button only. Clicking the **OK** button will initiate the reboot. The user will not be able to cancel the restart.
- **OK and Cancel Button (Y)**
Clicking the **OK** button will initiate reboot. If the subscriber clicks **Cancel**, the reboot will be aborted.

▶ You can specify a timeout value for the Warning Message box by adding the `RTIMEOUT` value to the `radskman` command line. Set `RTIMEOUT` to the number of seconds you want the CM agent to wait before continuing with the reboot process.

Reboot Modifier: Immediate Restart

You can modify each type of reboot by adding `I` for Immediate. Use Immediate when you want the computer to restart immediately after resolving the current service. CM will resolve the rest of the subscriber's services after the computer restarts. If you specify `I`, but do not specify `H` or `S` as the type of reboot, a hard reboot will be performed.

Specifying Multiple Reboot Events

If you have two services that require a reboot event on the same agent connect, the most restrictive reboot type and reboot panel will be used. The least restrictive reboot type is No Reboot (`N`), followed by Soft Reboot (`S`), and the most restrictive is Hard Reboot (`H`). The least restrictive reboot warning message supplies both an OK and Cancel button (`Y`), followed by an OK button only (`A`), and the most restrictive is completely quiet (`Q`).

Suppose a subscriber is assigned an application that needs a soft reboot with just an OK button on installation, AI=SA. The subscriber is also assigned a second application that needs a hard reboot that displays both an OK and Cancel button, AI=HY. After all of the subscriber's application events are completed, a Hard Reboot (H) with only an OK button displayed (A) will be performed.

Application (ZSERVICE) Attributes

This section describes the attributes that you will see if you open an Application (ZSERVICE) instance in the CM Admin CSDB Editor. Many of the values for these attributes are set when using the HP OVCM Administrator, such as the CM Admin Publisher or the New Application Wizard in the CM Admin CSDB Editor. You can also use the CM Admin CSDB Editor to modify the values of these attributes in the SOFTWARE.ZSERVICE Class.

You may notice that some attributes do not have values, or their values are not displayed in the CM Admin CSDB Editor. The CM agent uses these attributes. For example, an attribute such as INSTDATE is used to record the date the service was installed on the agent computer. The value for this attribute is stored in the PROFILE File for the agent computer in the CM Configuration Server Database.

Table 24 Modifiable SOFTWARE.ZSERVICE Attributes

Attribute	Description
BDELETE	Service Pre-Delete Method. Run before agent operations profile resolution.
BREPAIR	Service Pre-Repair Method. Run before agent operations profile resolution.
BUPDATE	Service Pre-Update Method. Run before agent operations profile resolution.

Attribute	Description
ZSTOPnmm	<p>Expression Resolution Method</p> <p>Stops resolution if the expression evaluates to TRUE.</p> <p>Example: WORDPOS(EDMGETV(ZMASTER,ZOS),'UNIXHPUX UNIXLNUX')=0</p> <p>This example expression will stop resolution on the instance if the agent computer's operating system if the operating system is <i>not</i> HP-UX or Linux. In other words, the application will not be installed unless the agent computer is running HP-UX or Linux.</p>
ZSVCNAME	<p>Service Name/Description</p> <p>Name of the service used for display in the CM Application Self-service Manager user interface. Value is set initially in the Short Description field in the New Application Wizard.</p>
ZSVCTTYP	<p>Application Target Type [A/S]</p> <p>Indicates which CM agent this application was packaged for, Application Manager or CM Application Self-service Manager. Value is set initially in the New Application Wizard. Possible values are A for Application Manager and S for CM Application Self-service Manager.</p>
ZSVCMO	<p>Mandatory or Optional Service [M/O]</p> <p>Designates a service as mandatory or optional. This value is set initially based on the setting for the application target type (ZSVCTTYP) in the New Application Wizard. Usually, when using the Application Manager, services are marked as mandatory, M. When using the CM Application Self-service Manager, services are usually marked as optional, O.</p> <p>If you are using Application Manager and CM Application Self-service Manager, you could also specify mandatory and then optional, MO, or optional then mandatory, OM. The first character indicates how the application should be handled before installation. The second character indicates how the application should be handled after installation. For example, suppose you want a CM Application Self-service Manager subscriber to have the option of installing the application, but, after it is installed, want the maintenance or removal of the application to be mandatory, set ZSVCMO to be OM.</p> <p>Note: If you may need to edit the ZSERVICE Class template, to allow you to set ZSVCMO to OM. See the CM Admin CSDB Editor Guide for more information on editing a class template. To process mandatory applications using CM Application Self-service Manager, add "enterprisemanagement=auto" to the args.xml file.</p>

Attribute	Description
ZSVCPRI	Service Create Ordering [01-99] Set the priority level for the service. Services are created based their priority. The lower the number the higher the service's priority. A service with ZSVCPRI set to 01 would have the highest priority while a service set to 99 would have the lowest priority.
<u>_ALWAYS_</u>	Contains Any method that you specify for this attribute is unconditionally executed when this instance is resolved. Example: A valid method name such as ZSYSTEM.ZMETHOD.PUT HIST_ZERROR.
ZCREATE	Service Installation Method Method that runs when the service is installed. For example, a command to start a service that was stopped to install files.
ZINIT	Service Initialization Method Method that runs when the service is initialized. For example, a command to stop a service before installing files that the service might lock.
ZDELETE	Service Delete Method Method to run when the service is deleted.
ZUPDATE	Service Update Method Method to run when the service is updated.
ZVERIFY	Service Verify Method Method to run when the service is verified.
ZREPAIR	Service Repair Method Method to run when the service is repaired.
PUBDATE	Published Date of Service <i>Reserved for future use.</i>
UPDDDATE	Upgrade Date (Programmatic) <i>Reserved for future use.</i>
AUTHOR	Author Name Name of the author of the service that appears in the extended information area in the CM Application Self-service Manager user interface. Value is set initially in the Author field in the New Application Wizard.

Attribute	Description
DESCRIPT	<p>Application Description</p> <p>Description of the service that appears in the properties for the service in the Service List. Value is set initially in the Long Description field in the New Application Wizard.</p>
VENDOR	<p>Vendor Name</p> <p>Name of the vendor of the service that appears in the CM Application Self-service Manager user interface. Value is set initially in the Vendor field in the New Application Wizard.</p>
URL	<p>WEB URL Name</p> <p>Address of a Web page where the subscriber can find additional information about the service. This appears in the properties for the service in the CM Application Self-service Manager user interface. Value is set initially in the Web URL field in the New Application Wizard</p>
CATGROUP	<p>Catalog Group Name</p> <p>Use CATGROUP to group a set of applications into a group. You can display applications based on their group in the CM Application Self-service Manager user interface.</p>
PRICE	<p>Price</p> <p>Type in the price of an application to be displayed to subscribers in the extended information area in the CM Application Self-service Manager user interface.</p>
SCHEDOK	<p>Update Schedule Locally [Y/N]</p> <p><i>For CM Application Self-service Manager only.</i> Specify Y to allow the subscriber to change the update schedule locally. Specify N to maintain control on the CM Configuration Server.</p>
VERSION	<p>Version Description</p> <p>Version of the software. This appears in the properties for the service in CM Application Self-service Manager user interface. The value is set initially in the Version field in the New Application Wizard.</p>
NAME	<p>Friendly Name</p> <p>This name appears in the properties for the service in the CM Application Self-service Manager user interface. The value is set initially in the Short Description field in the New Application Wizard.</p>
OWNER	<p>Application Contact</p> <p><i>Reserved for future use.</i></p>

Attribute	Description
RUNDLG	<p>Dialog Processing [Y/N]</p> <p>Specifies whether to enable processing of instances in the DIALOG class during the installation of the service. Specify Y for Yes and N = No.</p> <p>Default: N</p>
REBOOT	<p>Install/Update/Delete/Version Chang</p> <p>Used to restart the agent computer based on application event. Specify your action by equating an application event to a reboot type, panel, or connect.</p> <p>Event to restart on:</p> <p>AI = Install</p> <p>AD = Deinstall</p> <p>AU = Update</p> <p>AR = Repair</p> <p>AV = Verify</p> <p>Type of reboot:</p> <p>S = Soft Boot (Default of type Y panel.)</p> <p>H = Hard Boot (Default of type A panel.)</p> <p>N = None</p> <p>Type of panel:</p> <p>Q = No panel.</p> <p>A = OK button only.</p> <p>Y = OK and Cancel button.</p> <p>Type of connect:</p> <p>None specified: Reboot on Machine connect (context = m).</p> <p>U = reboot on user connect only (context = u).</p> <p>MU = reboot when both machine and user parts of the service have been installed.</p> <p>Example: AI=S performs a soft boot on application installation</p>

Attribute	Description
EVENTS	<p>Events to Report</p> <p>Indicates which events to report on. Specify your event by equating an application event to an event type.</p> <p>AI: Application Install AD: Application Deinstall AU: Application Update AR: Application Repair AV: Application Verify VA: Version Activation VD: Version Deactivation</p> <p>What to report on:</p> <p>S: Success F: Failure B: Both Success and Failure N: None</p> <p>Default: AI=B,AD=B,AU=F,AR=N,VA=F,VD=F</p>
ERTYPE	<p>Event Reporting Method [O/E/X]</p> <p>Set this attribute to send an APPEVENT object. Currently, this supports object (O) format only.</p> <p>Default: O</p>
ADAPTIVE	<p>Auto Adaptability [Y/N]</p> <p>Indicates whether the installed package is dependent on agent settings that must be monitored periodically, such as plug and play devices. If the settings change, the agent must reconnect to the CM Configuration Server to get new or different components. Specify Y for Yes and N for No.</p>
LREPAIR	<p>Local Repair [Y/N]</p> <p>Enables local repair of broken applications. If an application is broken because of missing files, the files (stored locally) can be used to repair the application. Specify Y for Yes and N for No.</p> <p>Default: N</p>

Attribute	Description
REMOVAL	<p>Un-Managed Behavior [A/D/U] Controls how the application is managed when a service is removed.</p> <ul style="list-style-type: none"> • Set REMOVAL to A (Abandon) to delete the service's objects on the agent, but leave the application components. The service will no longer be managed by CM. • Set REMOVAL to D (Delete) to delete the service's objects and components. The service will still be managed by CM. • Set REMOVAL to U (Unmanage) to stop management of the service by CM. Neither the objects nor the components are deleted. This applies only to optional applications (ZVSCMO set to O) that are removed based on entitlement policy. <p>If a subscriber removes an optional application, the service's objects are always removed no matter what REMOVAL is set to. Default: D</p>
RECONFIG	<p>Reconfiguration Enabled [Y/N] Indicates whether an application can be relocated after it has been installed. Specify Y for Yes and N for No. For example, this allows you to move an application that was installed on the C drive to the D drive without removing and re-installing the application.</p>
ZSVCCAT	<p>Service Visible in Catalog [Y/N] Specifies whether the service is visible in the CM Application Self-service Manager Catalog. For optional applications, the default is Y. For mandatory applications, the default is N. Specify Y for Yes and N for No if you want to override these defaults.</p>
UIOPTION	<p>Progress Indicator [NONE/FULL/INFO] Controls whether the service status window appears. Possible values are: NONE = No interface appears. FULL = Interface appears and Cancel button is available. INFO = Interface appears with no option to cancel.</p>
CACHE	<p>App Element Caching [Y/N] <i>For Windows Installer applications only.</i> Enables element caching. Specify Y for Yes and N for No. Default: N</p>

Attribute	Description
CACHELOC	<p>CACHE Location On Client <i>For Windows Installer applications only.</i></p> <p>Location of the folder on the agent computer that is used to cache the compressed application files needed for the product.</p> <p>CM support for Windows Installer tags the PROGUID value to this value to create the folder. For example,</p> <p>If CACHELOC=C:\progra~1\HP and PROGUID = 12345_XXXX, then the cache folder would be: c:\progra~1\HP\12345_XXXX\cache.</p> <p>Note: The folder \cache is automatically appended to PROGUID. If you are not deploying a Windows Installer-enabled application, the files will be cached in IDMDATA.</p> <p>Default: _UNDEF_</p>
CACHELIM	<p>Perent Disk Limit For Cache <i>For Windows Installer applications only.</i></p> <p>Cache limit, which is defined as the percentage of used drive space. Type a number between 000 and 100. If the percentage of used space is greater than the cache limit, then all of the cached files for the product are removed and the cache folder is deleted.</p> <p>This is checked after every file is cached on the disk.</p>
ZDISCONN	<p>Disconnect on Install [Y/N]</p> <p>Allows the agent to disconnect from the CM Configuration Server if there is an open session with the CM Configuration Server.</p> <ul style="list-style-type: none"> • Specify Y to disconnect the agent from the CM Configuration Server. • Specify N to keep the agent connected to the agent from the CM Configuration Server. <p>Default: N</p>
ZSYSACCT	<p>Install under System Account [Y/N]</p> <p>Specifies whether to install the service under the system account or the user's account.</p> <ul style="list-style-type: none"> • Specify Y to install the application using the system rights. • Specify N to install the application using the rights of the logged on user. <p>Default: N</p>

Attribute	Description
MCELIGBL	<p>Service Multicast Eligible [Y/N]</p> <p>Indicates if the application is eligible for multi-casting. Specify Y for Yes and N for No.</p> <p>Default: Y</p>
RSTRSIZE	<p>Download restart threshold (bytes)</p> <p>Use the RSTRSIZE attribute in the appropriate ZSERVICE Class instance to control which files are enabled for check point restart based on the amount of data being downloaded (in bytes).</p>
ZSVCMODE	<p>Application Context [M/U/MU/EMU]</p> <ul style="list-style-type: none"> • Set ZSVCMODE to M if the service has only machine components. This service will be ignored if context is set to u on the radskman command line. • Set ZSVCMODE to U if the service has only user components. This service will be installed if context is set to u or is left blank on the radskman command line. You may want to set ZSVCMODE to u if the application consists only of user registry changes or user desktop shortcuts. • Set ZSVCMODE to MU if the service has both machine and user components. The user connect will verify that the machine components have been installed before installing the user components. You will need to run two radskman connects, one with context set to m and one with context set to u. • Set ZSVCMODE to EMU if the agent connect is being made in the user context, but the machine side of the application has not yet been installed, this will force the machine connect. After the machine connect completes successfully, the user connect is initiated to install the user components. Use this for optional applications that the user controls through the CM Application Self-service Manager. • Leave ZSVCMODE blank to treat the service as single mode that can be installed independently by the machine or the user. In other words, install the entire service ignoring the component's ZCONTEXT.

Reporting Attributes in ZSERVICE

Some of the attributes in the ZSERVICE Class are calculated. They are updated when the service is installed, verified, updated, repaired or deleted

and reported in the agent computer's service objects. These attributes should not be modified using CM Admin CSDB Editor.

Table 25 Calculated ZSERVICE attributes – DO NOT MODIFY

Attribute	Description
ZSVCCSTA	<p>Service Status on Client</p> <p>Status code for the service. Used to determine why files for a service may not be deployed correctly. Values range from 000-999.</p>
SIZE	<p>Application Size - Uncompressed</p> <p>The size of the uncompressed application displayed to the subscribers in the extended information area in the CM Application Self-service Manager user interface. Since this is a calculated field, do not modify it. It is the cumulative value of the SIZE defined in the PACKAGE Class.</p>
COMPSIZE	<p>Application Size - Compressed</p> <p>The size of the compressed application displayed to the subscribers in the extended information area in the CM Application Self-service Manager user interface. Since this is a calculated field, do not modify it. This is the cumulative value of the COMPSIZE defined in the PACKAGE Class.</p>
ZAVIS	<p>Available, Verified, Installed, Sync F</p> <p>The CM agent manages and maintains this attribute to show the different states of the application in the catalog. The four states are:</p> <ul style="list-style-type: none"> • Available indicates whether a service is available from the CM Configuration Server. • Verified indicates whether a service has been verified. • Installed indicates whether the service has been installed. • Synchronized indicates whether the installed service has all of the latest changes from the CM Configuration Server. <p>The possible values for each are:</p> <p>Y = Yes N = No X = Unknown</p>

Attribute	Description
VERDATE	<p>Verified Date of Service</p> <p>Indicates when the application was last verified (in local time) on the agent computer. The CM agent manages and maintains this attribute. This is displayed to the subscribers in the extended information area in the CM Application Self-service Manager user interface. This attribute is useful for reporting purposes. The value is in the format of MMM DD,YYYY HH:MM:SS.</p> <p>Example: Jul 28, 2003 16:10:00</p>
UPGDATE	<p>When Application was Upgrade on De</p> <p>The CM agent manages and maintains this attribute. It indicates when the application was last updated (in local time) on the agent computer. This attribute is useful for reporting purposes. The value is in the format of MMM DD,YYYY HH:MM:SS.</p> <p>Example: Jul 28, 2003 16:10:00</p>
INSTDATE	<p>Installed Date</p> <p>Indicates when the application was installed (in local time) on the agent computer. The CM agent manages and maintains this attribute. This is displayed to the subscribers in the extended information area in the CM Application Self-service Manager user interface. This attribute is useful for reporting purposes. The value is in the format of MMM DD,YYYY HH:MM:SS.</p> <p>Example: Jul 28, 2003 16:10:00</p>
DELDATE	<p>Delete Date</p> <p>Indicates when the application was removed (in local time) from the agent computer. The CM agent manages and maintains this attribute. This attribute is useful for reporting purposes. The value is in the format of MMM DD,YYYY HH:MM:SS.</p> <p>Example: Jul 28, 2003 16:10:00</p>

Summary

- Set the appropriate context for a service using the ZSVCMODE attribute.
- If a service requires a reboot of the agent computer, use the REBOOT attribute in the Application (ZSERVICE) Class.
- Be aware of all of your service options in the Application (ZSERVICE) Class.

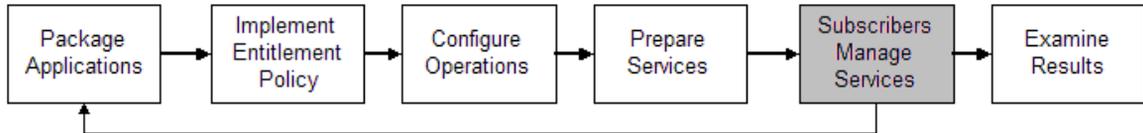
9 CM Application Self-service Manager User Interface

At the end of this chapter, you will:

- Know how to customize the HP OpenView Configuration Management Application Self-service Manager (CM Application Self-service Manager).
- Understand how your subscribers can access the CM Application Self-service Manager user interface.
- Be able to use the CM Application Self-service Manager user interface, from a subscriber's perspective.

This guide covers the standard implementation for the CM Application Self-service Manager. Although you will tailor this strategy to meet your organization's needs, we recommend that you review this guide for a comprehensive understanding of the CM Application Self-service Manager. This chapter covers customizing the CM agent and using the CM Application Self-service Manager user interface.

Figure 11 Tasks completed in this guide



Subscribers use this interface to install, update, verify, or remove applications from their computers.

► The term **application** refers to software or content that is available to the subscriber.

About the CM Application Self-service Manager User Interface

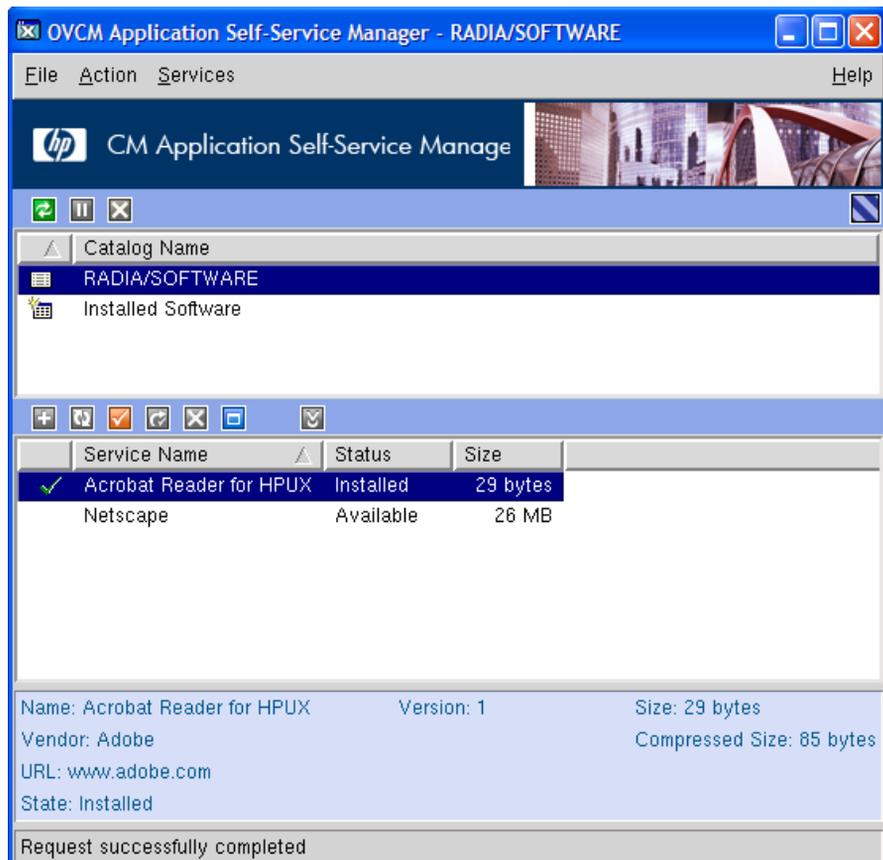
This section describes how to use the CM Application Self-service Manager user interface in detail. Although your subscribers will be using the user interface, you should be familiar with how it works.

Accessing the CM Application Self-service Manager User Interface

► Before running the CM Application Self-service Manager for Unix, make sure your DISPLAY environment variable is set. See [Table 4](#) on page 31 for more information.

To access the user interface

- 1 Change your current working directory to the directory where you installed the CM Application Self-service Manager (default `/opt/HP/CM/Agent/`).
- 2 Type `./runrsm`, and press **Enter**.
The CM Subscriber Security Information dialog box opens.
- 3 If necessary, type your User ID and Password. If you do not know what these are, contact your network administrator.
- 4 Click **OK**. The user interface opens.



Using the CM Application Self-service Manager User Interface

The CM Application Self-service Manager user interface has four main sections.

- **Global Toolbar**
Allows you to refresh the catalog, pause the current action, or cancel the current action.
- **Catalog List**
Lists the different software catalogs available.
- **Service List**
Lists the applications that you are entitled to.
- **CM Application Self-service Manager menu options**
Each section contains specific CM Application Self-service Manager options.

Global Toolbar

The Global Toolbar allows you to refresh the catalog, pause the current action, or cancel the current action. After an action has been paused, no other action can take place until you either resume the action, by clicking the Pause button again, or cancel the paused action by clicking the Cancel button.



Any time one of the buttons in the Global Toolbar is not available for the current action, they will appear grayed-out.

To refresh the catalog

- To refresh the selected catalog using the Global Toolbar, click **Refresh** .

To pause or resume the current action

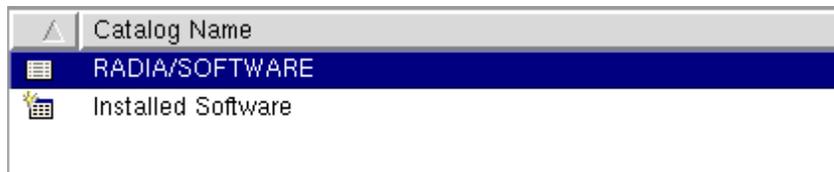
- To pause the current action using the Global Toolbar, click **Pause** .
- To resume a paused action, click **Resume** . (The Pause button is replaced with this button after you pause an action).

To cancel the current action

- To cancel the current action using the Global Toolbar, click **Cancel** .

Catalog Name List

The Catalog Name list section lists the available software catalogs and any virtual catalogs.

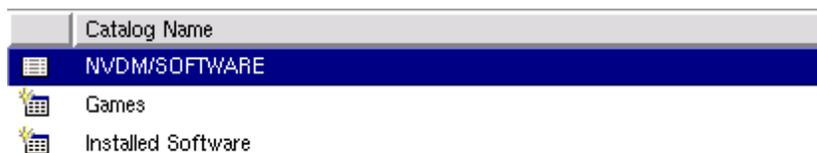


To select a catalog

- In the Catalog Name list, click on the CM Configuration Server catalog you would like to view in the Service List section. Refresh the catalog at any time by clicking the **Refresh** button in the Global Toolbar.

Virtual Catalogs

Virtual catalogs are subsets of the default catalog defined by specifying a name in the CATGROUP value for a service. Any services with the same CATGROUP value will be grouped together in a virtual catalog.



To set the CATGROUP attribute

 The following example uses the CM Admin CSDB Editor, which is available for 32-bit Windows platforms.

- 1 Go to **Start** → **Programs** → **HP OVCM Administrator** → **CM Admin CSDB Editor**. The CM Admin CSDB Editor Security Information dialog box opens.
- 2 If necessary, type a User ID and Password, and then click **OK**.



The factory set user ID is RAD_MAST. No password is necessary. This might have changed during installation. You can change this by selecting the Change Password check box and typing the new password in the New Password and Verify New Password text boxes.

The CM Admin CSDB Editor window opens.

- 3 Double-click **PRIMARY**.
- 4 Double-click **SOFTWARE**.
- 5 Double-click the name of the service you would like to add to a virtual catalog.
- 6 Double click the **CATGROUP** attribute and type the name of the virtual catalog you would like to add the service to.
- 7 Click **OK**.

Name	Attribute Description	Value
<input checked="" type="checkbox"/> SIZE	Application Size - Uncompressed	
<input checked="" type="checkbox"/> COMPSIZE	Application Size - Compressed	
<input checked="" type="checkbox"/> PRICE	Price	
<input checked="" type="checkbox"/> SCHEDOK	Update Schedule Locally [Y/N]	
<input checked="" type="checkbox"/> VERSION	Version Description	1.0
<input checked="" type="checkbox"/> NAME	Friendly name	Amortize
<input checked="" type="checkbox"/> OWNER	Application Contact	Sam Adams
<input checked="" type="checkbox"/> RUNDLG	Dialog Processing [Y/N]	Y
<input checked="" type="checkbox"/> REBOOT	Install/Update/Delete/Version Chang	
<input checked="" type="checkbox"/> EVENTS	Events to Report	AI=B,AD=B,AU=B,AR=B,AV=F,VA=B,VD=E
<input checked="" type="checkbox"/> ERTYPE	Event Reporting Method [D/E/X]	0
<input checked="" type="checkbox"/> ADAPTIVE	Auto Adaptability [Y/N]	
<input checked="" type="checkbox"/> LREPAIR	Local Repair [Y/N]	
<input checked="" type="checkbox"/> REMOVAL	Un-Managed Behavior [A/D/U]	D
<input checked="" type="checkbox"/> RECONFIG	Reconfiguration Enabled [Y/N]	Y
<input checked="" type="checkbox"/> ZSVCCAT	Service Visible in Catalog? [Y/N]	
<input checked="" type="checkbox"/> LIIOPTION	Progress Indicator[NONE/FULL/INFD]	
<input checked="" type="checkbox"/> CACHE	App Element Caching [Y/N]	N
<input checked="" type="checkbox"/> CACHELOC	CACHE Location On Client	_UNDEF_
<input checked="" type="checkbox"/> CACHELIM	Percent Disk Limit For Cache	000
<input checked="" type="checkbox"/> ZDISCONN	Disconnect on Install [Y/N]	Y
<input checked="" type="checkbox"/> ZSYSACCT	Install under System Account[Y/N]	N
<input checked="" type="checkbox"/> MCELIGBL	Service Multicast Eligible[Y/N]	Y
<input checked="" type="checkbox"/> RSTRSIZE	Download restart threshold (bytes)	0
<input checked="" type="checkbox"/> CATGROUP	Catalog Group Name	Demo Applications
<input checked="" type="checkbox"/> ZSVCMODE	Application Context [M/U/MU]	
<input checked="" type="checkbox"/> ITEMS	Number of Component Instances	

The Service Name List

The Service Name list section lists the applications available to you. A check mark appears next to software that is already installed. The column headings displayed can be changed to suit your needs, see [Preferences](#) on page 176 for more information.

Service Name	Status	Size
Acrobat Reader for HPUX	Installed	29 bytes
Netscape	Available	26 MB

Table 26 Buttons in the CM Service Name list

Button	Action	Description
	Install	Installs the selected service on your machine
	Update	Updates the selected service.
	Verify	Verifies the files for the selected service.
	Repair	Repairs the selected service.
	Remove	Removes the selected service from your machine.
	Expand/Collapse	Expands or collapses the selected service.
	Download Only	Download selected service from catalog into local cache without installing.



The buttons in the CM Service List section will be gray when they are not available for the selected application.

Some of the buttons in the CM Service List section are only available when the Show advanced operations box is checked in the Service List options section of the Preferences. See [Preferences](#) on page 176 for more information.

The CM Application Self-service Manager Menu Options

Use the CM Application Self-service Manager Menu options to configure and customize your CM Application Self-service Manager.

File	Action	Services	Help
------	--------	----------	------

The following sections explain each option in the CM Application Self-service Manager menu in detail.

File

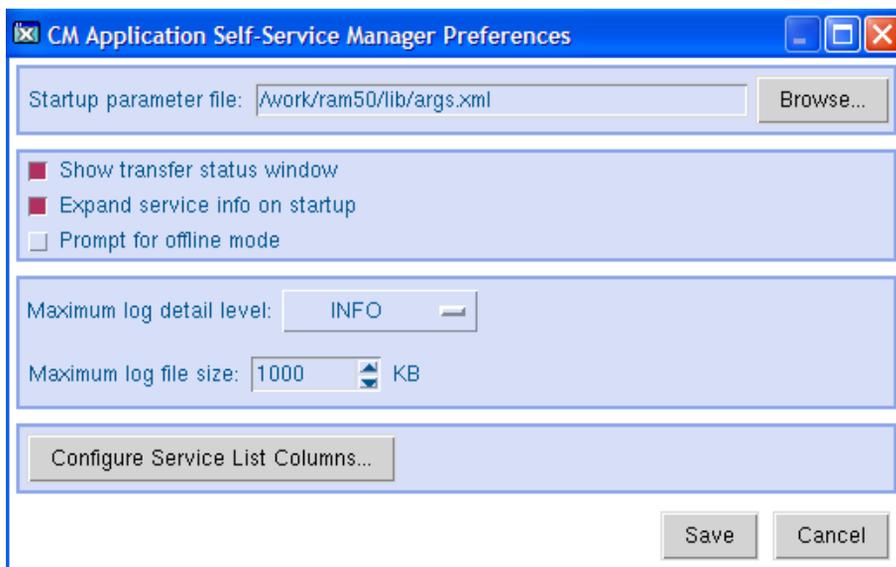
Use the **File** menu option to exit the CM Application Self-service Manager.

Action

Use the Action menu option to navigate between software catalogs, refresh the catalog, or view history or preference options.

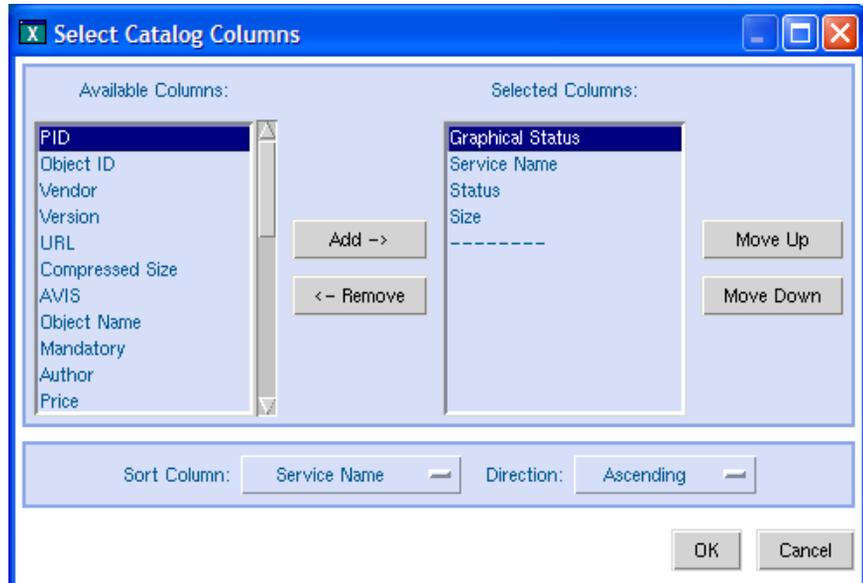
- **Home**
Click **Home** to return to the main CM Service List, displaying all available services in the CM Configuration Server Database.
- **My Software**
Select this option to display only services that you have installed.
- **Refresh Catalog**
Select this option to refresh the catalog, and check for updates to any available Services.
- **Preferences**
Select this option to access various display options, service list options, and connection options for the CM Application Self-service Manager.

At any point you can click on **Save**, or **Cancel** in the bottom right corner of the Preferences section to keep or disregard any changes you make.



- **Startup parameter file**
Enter the name and location of your Startup parameter file (by default: /opt/HP/CM/Agent/lib/args.xml). Click the **Browse** button to manually locate the file.

- **Show transfer status window**
Select this check box to display the transfer status window at the bottom of the Service List.
- **Expand service info on startup**
Select this check box to display the Service info at the bottom of the service list for the selected service.
- **Prompt for offline mode**
Select this check box if you would like to be prompted to work offline if a connection to the CM Configuration Server is not available.
- **Maximum log detail level**
Select the Log detail level you would like: ERROR, WARNING, INFO, DEBUG, or TRACE.
- **Maximum log file size**
Select the maximum log file size using the up and down arrows or by typing the log size into the text box.
- **Configure Service List Options**
Click the **Configure Service List Columns** button, as shown in the figure above, to modify the appearance of the Service List.



- **Customizing the Column Names in the Service List**
Use the columns area to customize the columns that appear in your service list. The right-hand column lists the column names currently

displayed in your service list. For a description of each available column heading, see [Table 27](#) below.

To add columns to the Service List

- 1 In the Available Columns list box, select the column name you would like to add.
- 2 Click **Add**. The selected column is listed in the Selected Columns list box.
- 3 To change the order of the columns in the Selected Columns list, use the Move Up and Move Down buttons.
- 4 To set the default order of Services in the Service List, use the Sort Column and Direction buttons.
- 5 Click **OK** to return to the Preferences menu.
- 6 Click **Save** to keep your changes and return to the CM Application Self-service Manager.

To remove columns from the Service List

- 1 In the Selected Columns list box, select the column you would like to remove.
- 2 Click **Remove**. The selected column is removed from the Selected Columns list box and returned to Available Columns.
- 3 Click **OK** to return to the Preferences menu.
- 4 Click **Save** to keep your changes and return to the CM Application Self-service Manager.

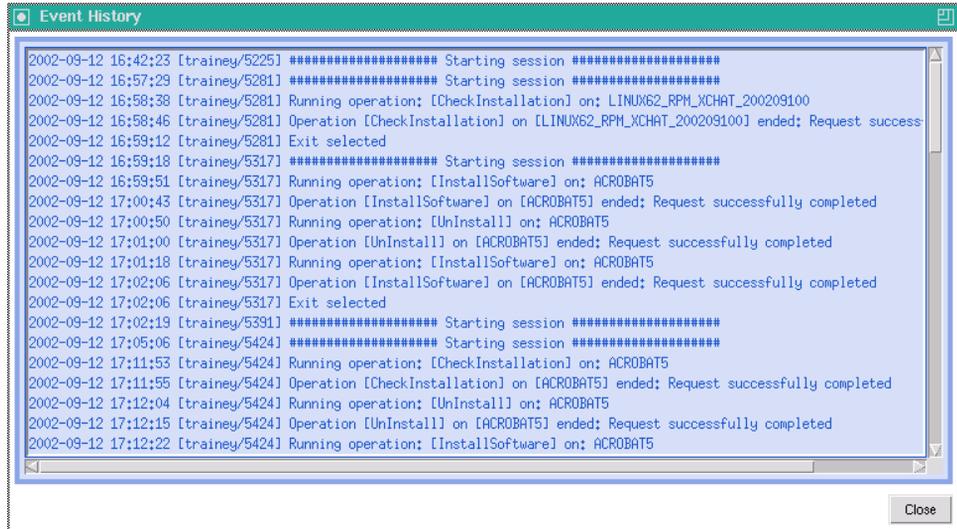
Table 27 Column Headings Available for the Service List

Column Heading	Description
Author	The author of the service.
CompressedSize	The size of the compressed service (bytes).
Description	A short description of the service.
InstalledDate	The date the service was installed on your computer.
LocalRepair	If data is repairable locally (cached on your computer).
Mandatory	The Mandatory or Optional flags are displayed.

Column Heading	Description
OwnerCatalog	The originating application domain name.
Price	Price of the service.
PublishedDate	The date the service was published to the catalog.
RepublishedDate	The date the service was republished to the catalog.
Service Name	Name of the Service (cannot be removed from the column display).
Size	The size of the service (bytes). Note: You need this amount of free space on your computer to successfully install the service.
Status	Current status of the software <ul style="list-style-type: none"> • Available • Installed • Update Available • Broken
UpgradedDate	The date the service was upgraded.
Url	The software vendor's url.
Vendor	The software vendor who supplied the service.
VerifiedDate	The date the service was last verified.
Version	The version of the service.

— **History**

Select this option to display a history of the current session.



Services

The Services menu options are:

- Install
- Download
- Update
- Verify
- Repair
- Remove
- Information
- Schedule

Each Service option can be accessed by selecting a Service in the Service List and selecting the Service option from the Services menu. You can alternatively use the Service List buttons to perform these actions as well. The Service options are explained in detail in the following section.

Using the CM Application Self-service Manager User Interface

Installing Software

The applications that are available to you are listed in the Service list. You can install one or more of these applications at any time.

To install software

- 1 In the Service List, click the name of the software that you want to install.
- 2 Click **Install** .

Some installations may display a set of dialog boxes. If so, follow the instructions. Otherwise, the installation begins immediately.

A progress bar displays the installation progress.

- Click **Cancel**  in the Global Toolbar to cancel the installation.
- Click **Pause**  in the Global Toolbar to pause the installation. If you pause an action, you will not be able to perform any other actions until you either cancel or resume the currently paused action.

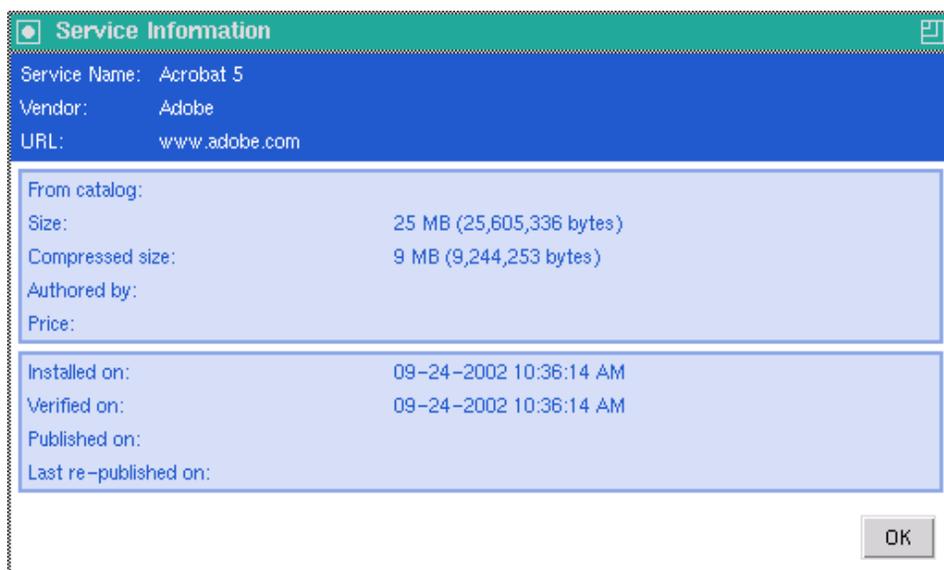
Refreshing the Catalog

The catalog is refreshed whenever you log on to the CM Application Self-service Manager user interface. While you are logged on, if you believe that the list of applications that you're authorized to use has changed, or that updates to your installed applications have become available, click Refresh Catalog  in the Global Toolbar to retrieve the updated list of applications.

Viewing Information

You may want more information about an application than the Service List provides. If you would like to know the vendor, version, size, and date the application was installed, you can either add these columns to the Service List or double-click the selected service.

Click **OK** to close the Service Information window.



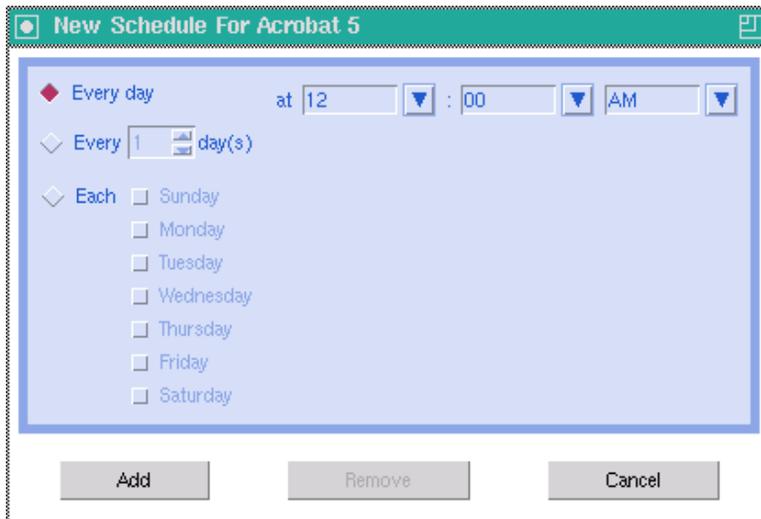
Scheduling Timed Events

After selecting an installed service, select **Schedule** from the Services menu to specify a schedule that will automatically update the applications that are installed on your computer. For example, you can schedule updates to occur during non-business hours, when you are not using your computer and network traffic is slower.

► The Scheduling dialog box is only enabled when an Application Service (ZSERVICE) has the SCHEDOK attribute set to Y, indicating the CM Administrator authorized local scheduling capabilities on the selected service.

To schedule updates for an installed application

- 1 In the CM Application Self-service Manager user interface, select an installed application.
- 2 Select **Schedule** from the Services menu.
The Scheduling dialog box opens.



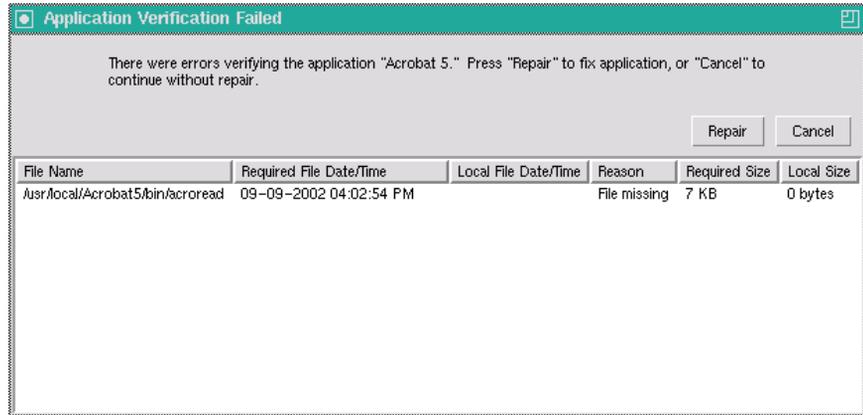
- 3 Select one of the following:
 - **Every day**
Updates occur every day at the specified time.
 - **Every n days**
Updates occur every n days. Use the up and down arrows next to the **Every** option button to select the frequency of updates.
 - **Each** weekday
Updates occur every weekday whose check box is selected. You may select more than one day.
- 4 Use the up and down arrows or type in the box labeled **at** to specify a specific time for the update.
- 5 Click **Add** to close the dialog box and accept the scheduled update.

Verifying Software

To check the installation of an application

- 1 In the Service List, select the installed service that you would like to verify.
- 2 Click **Verify** 
 - If the application passes verification, the date and time of verification will appear in the Verified Date column for the application.

- If the application fails verification, a Verification Failed window will open displaying the problem with the application. Broken will appear in the Status column in the Service List.



- 3 To repair the software, either click **Repair** in the Verification Failed window, or click **Repair**  in the Service List.

Repairing Software

If there is something wrong with an application, click **Repair**  to fix it.

Service Name	Status	Size
 Acrobat 5	Verify Failed	25 MB
 xboard	Installed	217 KB
 xchat	Update Available	628 KB
xfig	Available	1 MB

To repair software

- 1 Select an application that needs to be repaired (This is designated by an X in the first column).
- 2 Click **Repair** . CM retrieves the files needed to fix the application.

Removing Software

Use the **Remove** button  to remove software from your computer.

To remove software

- 1 Select the software that you want to remove.
- 2 Click **Remove** .

- 3 Click **Yes** if you are asked to confirm that you want to remove the application.

Consolidated Agent Logs

In previous versions of CM, each of the main agent modules — radskman, radpinit, and radconct — created its own log, which would be overwritten each time the module ran. Use these logs to help you troubleshoot deployment problems. Beginning with CM 3.x, you can:

- Create a single log for all of these modules.
- Append information to the log if you prefer to see all of the activity.
- Name the log, which may be useful for debugging deployments or for collecting information from your agent computers. For example, you might name your logs based on the date and time. Then, if you notice a problem occurring on a certain date, you can retrieve only the logs that you need to review.

Each of the three main agent modules takes command line parameters in the following format:

```
Keyword = value (in comma-delimited format)
```

Therefore, you can use the following optional parameters on the command line if you want to name the log file or append information to an existing file. For example, you could add the log parameter to a radskman command line in a Notify to specify a particular log name.

Table 28 Parameters for Log Files

Parameter	Description	Default	Example
Alog	The name of the log file to append to. If you do not specify the alog parameter, the log specified in the log parameter will be appended to. Use a valid file name without a path. By default logs are stored in the IDMLLOG folder.	N/A	Alog=Application1.log

Parameter	Description	Default	Example
Log	<p>The name of the log file to create.</p> <p>Use a valid file name without a path. By default logs are stored in the <code>IDMLOG</code> folder.</p> <p>If there is an existing log file with the same name, CM creates a backup of that file called <i>logname.bak</i>. If there is already a <i>logname.bak</i>, CM will overwrite it.</p>	Connect.log	Log=20010524.log

The value for the log parameter is stored in the LOGNAME attribute, located in the ZMASTER object in the catalog and application directories.

CM Self Maintenance

Maintenance for the CM agents is available from Technical Support. The maintenance will include import decks for the CM Configuration Server Database. New instances are created in the PRDMAINT Class in the PRDMAINT Domain. There will be one PRDMAINT instance for each PRODUCT_PLATFORM_RELEASE combination. These instances will be connected based on the agent's platform and current product level. After you have decided to roll out the maintenance to the agent computers, you can add the service to the user's entitlements.

Usage Notes

All packages are disabled by default. This is accomplished by setting a ZSTOP expression to "1" to prevent deployment. Either remove this value for general deployment, or use this ZSTOP expression to restrict its deployment to certain groups.

The first REQUIRES connection is reserved for any possible hot fix, a fix sent to you directly by Technical Support is not yet available in a fix or service pack. This package, `_HOTFIX`, will be used to chain any required fixes (and/or enhancements) and will be maintained by the customer. The second

connection is for any locally customized code to be included as part of maintenance.

Use the ACTMAINT attribute in the SETTINGS Class of the CLIENT Domain to specify how you want maintenance processed. You can choose to immediately download and install maintenance (I), download only and install later (D), or prompt users to install maintenance at another time (P). Maintenance *only* runs when the mnt parameter of radskman is set to Y. See [ACTMAINT](#) on page 140 for more information. For details on radskman, refer to the *CM Application Manager Guide*.

We will provide an updated PRDMAINT instance with each new maintenance pack. The customer is not required to apply all maintenance.

To deploy agent maintenance packages

- 1 A maintenance package is made available on the HP OpenView web site in the form of an export deck.
- 2 Download the files. There should be at least an xpi and xpr file.
- 3 Stop the CM Configuration Server service and copy the export files to the CM Configuration Server's bin directory.
- 4 Import the files using the ZEDMAMS utility. For detailed information on the use of this utility, refer to the *CM Configuration Server Guide*.

For example, if you were given two files, MAINT_RAM_40_RC3.XPI and MAINT_RAM_40_RC3.XPR. You might use the following two command lines.

```
ZEDMAMS VERB=IMPORT_INSTANCE, FILE=
MAINT_RAM_40_RC3.XPI, PREVIEW=NO
```

```
ZEDMAMS VERB=IMPORT_RESOURCE, FILE=
MAINT_RAM_40_RC3.XPR, PREVIEW=NO
```



Your command line may vary depending on a number of factors. For detailed information on the use of this utility, refer to the *CM Configuration Server Guide*.

- 5 Restart the CM Configuration Server.
- 6 Assign the Maintenance Server to the appropriate users in the POLICY Domain.



To run the maintenance portion of an agent connect process, the mnt parameter of the radskman command line, must be set to Y.

During catalog processing, the agent will first process all services found in the PRDMAINT Domain, perform arbitration to determine appropriate maintenance, and deploy the maintenance to the maintenance staging directory.

Application Deferrals

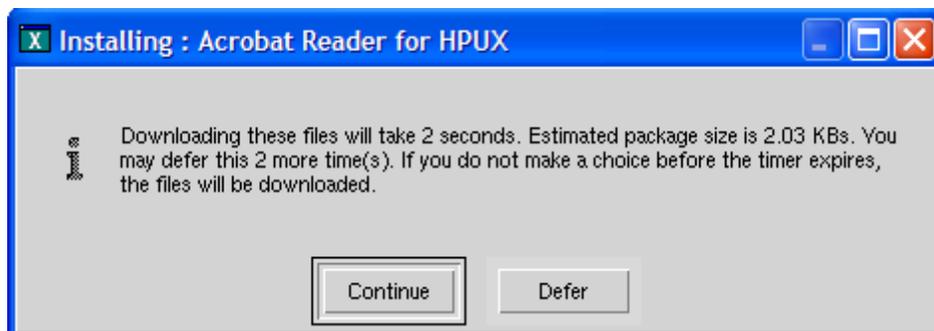
When an application is deployed, an administrator can display a deferral message based on the network threshold, the data download size, a specified date setting, or a deferral count. When an application has data that needs to be downloaded to the agent computer, the CM agent will check if the application is configured for deferral. If it is, the CM agent will check the current bandwidth setting against the administrator specified bandwidth threshold setting. If the current network speed is less than the Network Threshold (DT) value, a deferral message will be displayed asking the subscriber if he wants to defer the deployment.

The administrator can configure the number of times an application can be deferred, the date an application can be deferred until, or a minimum byte count to alert on. If the number of deferrals or the deferral date has been reached, the application will be installed or updated without displaying a deferral message. If the size of the data is less than the minimum byte count, the alert panel will be skipped.

If the application has been configured for a deferral, and all of the requirements listed below are met, the CM agent will display the deferral dialog box.

- The Alert Mode (DM) is configured for the current operation: Install, Update, or Both.
 - The current network speed is lower than Network Threshold Speed (DT).
 - The UIOPTION attribute in the ZSERVICE instance is not set to NONE.
 - The data to be downloaded is greater than the administrator specified minimum byte count, (DBT) and lower than the specified maximum byte count (DAT).
 - If specified, the deferral date, Allow Install Deferral up to (DI), or Allow Update Deferral up to (DU) has been reached.
- or
- The number of deferrals allowed (DN) has been reached.

If these requirements are met, and you are using the CM Application Self-service Manager, you will be prompted to continue or defer.



The subscriber can choose to defer the action or to continue with it.

► If the timeout value is exceeded, the action will be taken that is identified in the DA (Action on Timeout Cont/Defer) attribute.

To implement an Application Deferral, you will need to create an instance in the Alert/Defer (ALERTDEF) Class, and connect that instance to the appropriate Application (ZSERVICE) instance.

Creating a Deferral Instance

The Alert/Defer (ALERTDEF) class has been added to the SOFTWARE Domain in the CM Configuration Server Database to configure application alerts. In order to configure an alert, you will need to create an instance in the Alert/Defer (ALERTDEF) Class.

To create an instance of the Alert/Defer (ALERTDEF) Class

- 1 Go to **Start** → **Programs** → **HP OVCM Administrator** → **CM Admin CSDB Editor**. The CM Admin CSDB Editor Security Information dialog box opens.
- 2 If necessary, type a User ID and Password, and then click **OK**.
 - The factory set user ID is RAD_MAST. No password is necessary. This might have changed during installation. You can change this by selecting the Change Password check box and typing the new password in the New Password and Verify New Password text boxes.
- 3 The CM Admin CSDB Editor window opens.

- 4 Double-click **PRIMARY**.
- 5 Double-click **SOFTWARE**.
- 6 Right-click **Alert/Defer (ALERTDEF)**. A shortcut menu opens.
- 7 Click **New Instance**. The Create Instance dialog box opens.
- 8 Type in a name for the new instance. In our example, we create an instance called SalesDefer.
- 9 Click **OK**.

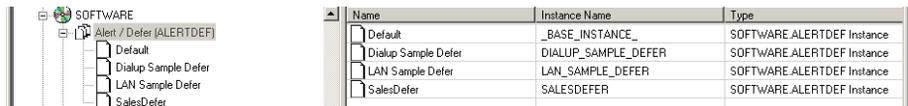
The new instance is created.

Configuring a Deferral

After the instance is created, it must be configured. The Alert/Deferral (ALERTDEF) class includes two sample instances, Dial Up Sample Defer, and LAN Sample Defer.

To configure an Alert/Deferral (ALERTDEF) instance

- 1 Use the CM Admin CSDB Editor to navigate to the Alert/Defer (ALERTDEF) instance you want to edit.
- 2 Double-click the instance. In this example, we are editing the SalesDefer instance.



- 3 Double-click the variable you want to edit. See [Table 29](#) below for information on the attributes for this class.

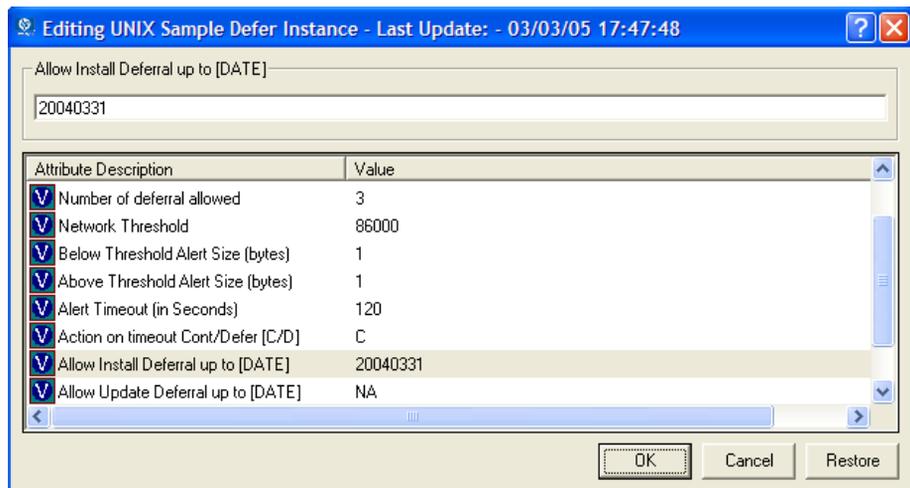
Table 29 Attributes in the ALERTDEF Class

Attribute	Description	Default Value
ALERTMSG	Alert Message An exclamation point (!) preceding "Service Alert Message" denotes a high priority message.	
DM	Alert Mode [I/U/B] <ul style="list-style-type: none"> • Set to I for Install. • Set to U for Update. • Set to B for either Install or Update. 	B

Attribute	Description	Default Value
DN	Number of deferrals allowed Maximum number of deferrals allowed before the action specified in DA (Deferral Action) is taken.	0
DT	Network Threshold Network bandwidth threshold in bytes. The current network speed must be less than this value to meet the deferral requirement.	86000
DBT	Below Threshold Alert Size (bytes) The size of the file to be downloaded must be greater than this value to meet the deferral requirement.	50000
DAT	Above Threshold Alert Size (bytes) The size of the file to be downloaded must be less than this value to meet the deferral requirement. If the value is 0, this attribute is ignored.	0
DTO	Alert Timeout (in seconds) Specify in seconds the amount of time to display the Defer Alert dialog box. After the timeout is reached, the action specified in the DA (Action on timeout) variable, will be taken.	120
DA	Action on timeout Cont/Defer [C/D] Specify C to continue with the specified action if the subscriber does not respond to the defer alert dialog box by the value specified in the DTO (Alert Timeout). Specify D to defer the specified action.	C
DI	Allow Install Deferral up to [DATE] After this date is reached, the option to defer installation will no longer be available. The application will be installed. This should be in the format YYYYMMDD.	NA
DU	Allow Update Deferral up to [DATE] After this date is reached, the option to defer an application update will no longer be available. The application will be updated. This should be in the format YYYYMMDD.	NA

Attribute	Description	Default Value
Name	Friendly Name Friendly Name for the instance.	Default
DEFOPTNS	Defer Options (Do not Modify) This attribute is used to resolve the values of the other attributes of this class. <i>Do not modify.</i>	&(DM),&(DN),&(DT),&(DBT),&(DAT),&(DTO),&(DA),&(DI),&(DU)

In this example, we want to add an install deferral date. To do this, double-click the DI variable in the list view.



- 4 Enter the date up to which you will allow the application installation to be deferred.
- 5 Click on the next attribute, and type in the appropriate value.
- 6 Click **OK** when you are finished editing the attributes. The Instance Edit Confirmation dialog box opens.
- 7 Click **Yes** to confirm the changes.

The changes are made to the Alert/Defer (ALERTDEF) instance.

After the Alert/Defer (ALERTDEF) instance is created, you need to connect the Alert/Defer (ALERTDEF) instance to an Application (ZSERVICE) instance. To do this, use the CM Admin CSDB Editor to click and drag the Alert/Defer (ALERTDEF) instance to the appropriate Application (ZSERVICE) instance. For additional information on using the CM Admin CSDB Editor, see the CM Admin CSDB Editor Guide.

Consolidated Agent Logs

In previous versions of Configuration Management, each of the main agent modules — radskman, radpinit, and radconct — created its own log, which would be overwritten each time the module ran. Use these logs to help you troubleshoot deployment problems. Beginning with Configuration Management 3.x (CM 3.x), you can:

- Create a single log for all of these modules.
- Append information to the log if you prefer to see all of the activity.
- Name the log, which may be useful for debugging deployments or for collecting information from your agent computers. For example, you might name your logs based on the date and time. Then, if you notice a problem occurring on a certain date, you can retrieve only the logs that you need to review.

Each of the three main agent modules takes command line parameters in the following format:

```
Keyword = value (in comma delimited format)
```

You can use the following optional parameters on the command line if you want to name the log file or append information to an existing file. For example, you could add the log parameter to a radskman command line in a Notify to specify a particular log name.

Table 30 Parameters for Log Files

Parameter	Description	Default	Example
Alog	Name of log file to append to. If you do not specify the alog parameter, information will be appended to the log file named in the log parameter. Use a valid file name without a path. By default logs are stored in the IDMLLOG folder.	N/A	Alog=Application1.log

Parameter	Description	Default	Example
Log	Name of log file to create. Use a valid file name without a path. By default logs are stored in the <code>IDMLOG</code> folder. If there is an existing log file with the same name, CM creates a backup of that file called <i>logname.bak</i> . If there already is a <i>logname.bak</i> , CM will overwrite it.	Connect.log	Log=20010524.log

The value for the log parameter is stored in the LOGNAME attribute, located in the ZMASTER object in the catalog and application directories.

Enabling the CM Application Self-service Manager User Interface for use with your Web Browser

The CM Application Self-service Manager user interface can be accessed through a Web browser by creating an HTML file with the configurations shown in the code sample below.

 As of this printing, the CM Application Self-service Manager User Interface can be accessed using Microsoft's Internet Explorer 5.01 or higher Web browser only.

```
<HTML>
  <BODY onload="Radia3UI.Initialize();">
    <OBJECT id="Radia3UI" classid="clsid:AD7B2E55-5821-39B9-8558-
BF443FC01BFA" WIDTH=100% HEIGHT=100%>
      <PARAM NAME="StartupFile"
VALUE="http://<server>/<path>/<args xml file>">
    </OBJECT>
  </BODY>
</HTML>
```

Replace the value for the parameter `StartupFile`, as seen in the figure above, with the location of your Web server and the location of your `ARGS.XML` file. `StartupFile` is an optional parameter. If you do not specify the location of the `ARGS.XML` file in the `StartupFile` parameter, your local `ARGS.XML` file will be used.

Now that you are familiar with how your subscribers will manage their software, you may want to see how you can gather information about the agent computer, the subscriber, or the results of a subscriber's activity. See Chapter 10, [CM Agent Directories and Objects](#) for more information.

Summary

- Subscribers use the CM Application Self-service Manager user interface to install, update, verify, and remove software on their computers.
- Customize the user interface using the Preferences action menu option.

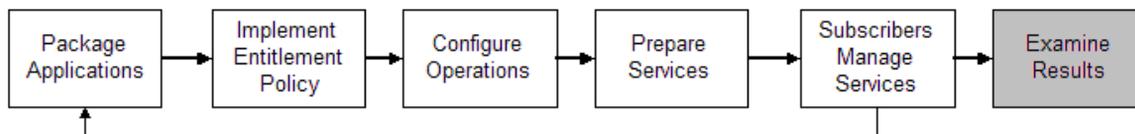
10 CM Agent Directories and Objects

At the end of this chapter, you will:

- Be familiar with key CM agent objects.
- Know the hardware attributes that the HP OpenView Configuration Management Application Self-service Manager (CM Application Self-service Manager) for UNIX agent collects.
- Understand the APPEVENT object.
- Know how Open Database Connectivity (ODBC) can help you generate reports with information from the objects.

This guide covers the suggested implementation for the CM Application Self-service Manager. Although you will tailor this strategy to meet your organization's needs, we recommend that you review this guide for a comprehensive understanding of the CM Application Self-service Manager. This chapter describes CM agent objects.

Figure 12 Tasks completed in this guide



CM Agent Directory Structure

Below is an example of the directory structure on a CM agent computer. (Directories in [Table 31](#) below are preceded with `/opt/HP/CM/Agent/` by default).

Table 31 Agent directories

Directory (<code>/opt/HP/CM/Agent/..</code>)	Description
<code>/opt/HP/CM/Agent</code>	Agent Directory (IDMSYS)
<code>../CACertificates</code>	SSL Certificates
<code>../lib</code>	LIB Directory (IDMROOT)
<code>../lib/MAINT</code>	Maintenance Storage Directory
<code>../lib/BACKUP</code>	Upgrade Maintenance Backup folder
<code>../lib/data</code>	Data Storage (IDMDATA)
<code>../lib/SYSTEM</code>	Starting Directory (startdir) created during connect (Name will vary).
<code>../lib/SYSTEM/CM-CS</code>	CM Configuration Server name (mname)
<code>../lib/SYSTEM/CM-CS/SOFTWARE</code>	Directory Name (dname)

Directory (/opt/HP/CM/Agent/..)	Description
../lib/SYSTEM/CM-CS/SOFTWARE/ZSERVICE	ZSERVICE Class
../lib/SYSTEM/CM-CS/SOFTWARE/ZSERVICE/DRAGVIEW	Sample application directory
../log	Log directory (IDMLOG)



The term **computer** is used to refer to a workstation or server.

CM Application Self-service Manager Directories

The initialization settings for the CM Application Self-service Manager for Windows are located in the `.nvdr` file on the agent computer. This is located, by default, in the home directory of the account used to install the agent.

Table 32 NOVAEDM Parameters

Parameter	Description
IDMDATA	When CM installs software, the CM agent temporarily stores compressed files received from the CM Configuration Server in this folder. After the files are decompressed and installed on the agent computer, the compressed files are erased. Default: /opt/HP/CM/Agent/lib/Data/
IDMLIB	Dynamic directory that stores the objects for the service currently being managed. Default: /opt/HP/CM/Agent/lib/
IDMSYS	Stores the CM agent executables, such as <code>.EXE</code> and <code>.DLL</code> files. Default: /opt/HP/CM/Agent/
IDMROOT	The base directory for IDMLIB. This is a static path. Default: /opt/HP/CM/Agent/lib/
IDMLOG	Stores the CM agent logs. Default: /opt/HP/CM/Agent/log/

About CM Agent Objects

When an agent computer connects to the CM Configuration Server, information is exchanged between the agent and the CM Configuration Server. This exchange is called resolution. During resolution, CM checks the status of services, and updates the CM Configuration Server with information from objects stored on the agent computer.

CM agent objects are stored in the `IDMLIB` directory on the agent computer. After installing the CM agent and connecting to the CM Configuration Server, you can use CM agent objects to answer questions such as:

- What is the hardware configuration of the agent computer?
- Was the service successfully installed?
- When was the service installed?
- What is the agent computer's name, and who was the last user logged on?
- What are the possible data sources for this agent computer?

While there are multiple CM objects on an agent computer at any time, there is a core group of objects that supply information about and the status of the current agent connect. [Table 33](#) below lists these core objects. The table includes information on when the object is created or updated, and a brief summary of what the object includes. Each object listed has its own section in this chapter including a table listing its attributes. There are other objects created during the agent connect, but only the most commonly used ones are noted here. Check the HP OpenView web site for information on other agent objects.

Table 33 Core Agent Objects

Object	When created or updated	Type of Information included
ZCONFIG	ZCONFIG is created at start of agent connect process. See Table 34 on page 203 for more information.	Contains basic hardware information for the agent computer such as processor, operating system, and drives.

Object	When created or updated	Type of Information included
SYNOPSIS	<p>This object is transferred to the CM Configuration Server at the end of the agent connect.</p> <p>Note: CM Client Operations Profiles must be enabled for this object to be present.</p> <p>See Table 35 on page 204 for more information.</p>	<p>RADSKMAN stores a job summary in the SYNOPSIS object. It reports some of the parameters from the RADSKMAN command line and information on the number of files and bytes added, removed, and repaired.</p>
SAPSTATS	<p>Updated by any network bound modules that need to access the Server Access Profile (SAP) such as RADCONCT, RADSTGRQ, and RADSTGMS. RADSKMAN deletes the SAPSTATS object at the beginning of the job.</p> <p>Note: CM Client Operations Profiles must be enabled for this object to be present.</p> <p>See Table 36 on page 206 for more information.</p>	<p>The SAPSTATS object has one instance for each of the agent computer's Server Access Profiles (SAP). It summarizes information for each SAP such as speed, number of files sent and received, and the role of the SAP.</p>
PREFACE	<p>PREFACE is sent to the CM Configuration Server at every phase of a radskman process including:</p> <ul style="list-style-type: none"> • Client Operations Profile resolution • Self Maintenance resolution • Catalog resolution • Single service resolution (This can happen multiple times depending on what services are processed.) • Outbox flush <p>See Table 37 on page 208 for more information.</p>	<p>Contains core information about each invocation of radskman.</p>
SMINFO	<p>(Linux Only)</p> <p>SMINFO is created at the start of the agent connect process.</p> <p>See Table 38 on page 209 for more information.</p>	<p>SMINFO collects information that is independent of the hardware and software installed on the computer, and some network information.</p>

CM Agent Version

Some of the objects described in this book apply only to CM agents version 3.1 and above. To verify the agent's versions, open the connect.log file in the IDMLLOG directory on any operating system using a text editor and search for "version". On Windows Operating systems, you can also check the Version tab of the Properties of radskman in the IDMSYS directory.

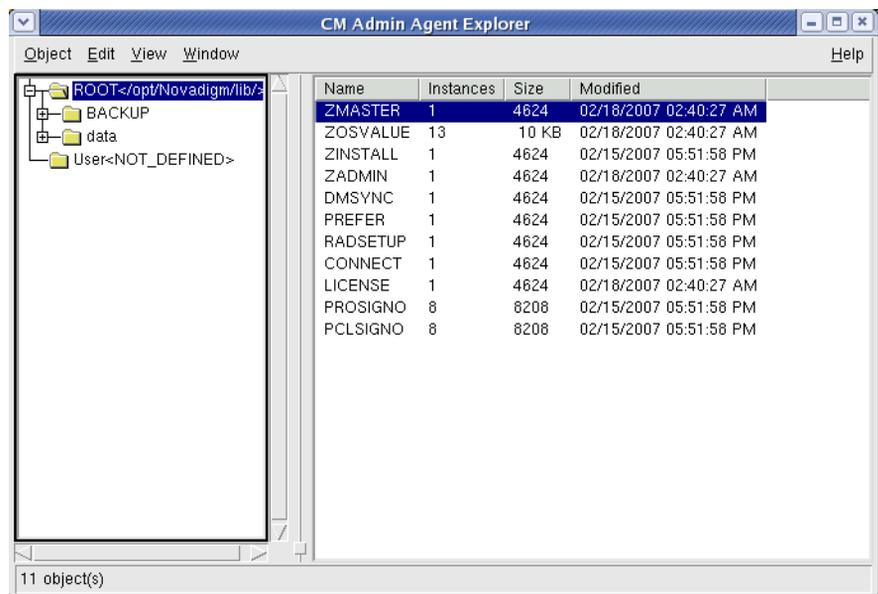
Using the CM Admin Agent Explorer to View Objects

The CM Admin Agent Explorer is installed as a component of the M Administrator. Use it to view objects in the IDMLIB directory. You can view any object if you have access to the agent computer's IDMLIB directory. Otherwise, you may need to manually retrieve the object file, and store it on your CM Administrator computer.

To view an object using the CM Admin Agent Explorer

- 1 Start the CM Admin Agent Explorer by running radobjed in the directory where you installed the CM Administrator.

The CM Admin Agent Explorer opens.



- 2 Navigate to the agent computer's IDMLIB directory, or to the directory where the object is stored.

- 3 Double-click the object's name in the list view.
The CM Admin Agent Explorer displays the selected object.
- 4 Click **Save/Exit** to close the dialog box.

Hardware Configuration Information (ZCONFIG)

The ZCONFIG object stores hardware configuration information from the agent computer. Use the CM Admin Agent Explorer to view the ZCONFIG object. The following table describes the attributes of ZCONFIG arranged in alphabetical order. These attributes may vary depending on the configuration of the agent computer.

 The ZCONFIG object is sent to the CM Configuration Server automatically for viewing with the CM Admin CSDB Editor. If you do not want this object sent to the CM Configuration Server, set the POLICY.USER.ZCONFIG attribute to N in the base instance. This will stop collection from ALL users. The object will still exist on the agent computer.

Table 34 ZCONFIG attributes

Attribute	Description	Example
RUNLEVEL	Current run level at time of scan	5
ZHDWCOMP	Computer Name	qalinux
ZHDWCPU	CPU type	I686
ZHDWD00	Drive name for drive 00	/dev/hda2
ZHDWD00F	Current free space on drive 00	26913026048
ZHDWD00M	Mount Point for Drive 00	/
ZHDWD00T	Total space for drive 00	35152932864
ZHDWDNUM	Number of drive letters assigned	3
ZHDWMACH	Machine Type	I686
ZHDWMEM	Total physical memory (RAM)	133,619,712
ZHDWOS	Operating system	Linux
ZHDWSVCP	Service pack applied	2.4.20-8
ZHDWXHID	Host ID (output of hosted comman)	771039E4

Attribute	Description	Example
ZHDWXHN	Host Name	qalinux
ZOBJNAME	Name of Object	HARDWARE_SCAN
ZOSMAJOR	Major Component of OS version	2
ZOSMINOR	Minor Component of OS version	4
ZOSREV	OS revision (output of <code>uname -v</code>)	#1 Thu Mar 13 17:54:28 EST 2003
ZOSVER	OS version (output of <code>uname -r</code>)	2.4.20-8
ZUSERID	User ID or computer name	LINUXUSER

Client Operations Profile Summary (SYNOPSIS)

The SYNOPSIS object is created on agents using CM Client Operations Profiles. The SYNOPSIS object summarizes the most recent agent connect. Use the SYNOPSIS object to confirm the success or failures of the agent connect process. See Chapter 7, [Configuring CM Client Operations Profiles](#) for more information on implementing CM Client Operations Profiles.

Table 35 SYNOPSIS object attributes

Attribute	Description
STARTIME	Start time in ISO8601 time format, e.g., 1997-08-15T11:12:00-0400
ENDTIME	End time in ISO8601 time format
EXITCODE	Exit code from the job
ERRORMSG	Text message corresponding to the EXITCODE described in the <i>CM Management Applications Messages and Codes Guide</i>
PRIORAPP	Total number of applications that existed in the service list (installed/not installed) before this job started
PRIORINS	Total number of installed applications that existed in the service list before this job was started
PRIORERR	Total number of applications in the service list that have errors before this job started
CURRAPP	Number of applications in the service list after the job completed
CURRINS	Number of applications in the service list that have been installed

Attribute	Description
UPDNUM	Number of updates found in the service list
UPDSKIP	Number of updates skipped
UPDDONE	Number of updates processed
UPDFAIL	Number of updated that failed
ADDNUM	Number of new applications found in the service list
ADDSKIP	Number of installs skipped (possibly optional applications)
ADDDONE	Number of installs processed
ADDFAIL	Number of installs that failed
DELNUM	Number of deletes found in the service list
DELSKIP	Number of deletes skipped
DELDONE	Number of deletes processed
DELFAIL	Number of deletes that failed
VERNUM	Number of applications that were verified
VERSKIP	Number of verifications skipped
VERDONE	Number of verifications processed
VERFAIL	Number of verifications that failed
REPNUM	Number of applications that were repaired
REPSKIP	Number of repairs skipped
REPDONE	Number of repairs processed
REPFAIL	Number of repairs that failed
CREFRESH	Catalog Refreshed (Y/N)
JOBID	Jobid passed in on the command line via notify
ZUSERID	Userid for this job
ZCONTEXT	Context of this job (M – Machine or U – User)
MACHNAME	Machine name of the agent computer from where this was run
USEREXEC	User that executed the job
CMDLINE	Command line parameters used to execute this job

Service Access Profile Status (SAPSTATS)

The SAPSTATS object is generated on agents using Client Operation Profiles, and is used to report the Server Access Profile (SAP) status and usage statistics from the CM agent. The SAPSTATS object contains all the variables defined in the SAP class in the Configuration Server database along with the following usage related variables. For more information on the SAP class, see See Chapter 7, [Configuring CM Client Operations Profiles](#).

Table 36 SAPSTATS object attributes

Attribute	Description
BANDWIDTH	Percentage of bandwidth to use between 1 and 99.
BYTERCVD	Bytes received
BYTESENT	Bytes sent
ENABLED	Specifies if this SAP is enabled. Y for enabled, N for disabled.
ERRCOUNT	Number of errors
FILEMISS	Number of files not found
FILERCVD	Number of files received
FILESENT	Number of files sent
LASTAXSD	Last Date/Time Accessed in ISO format
NAME	Friendly name of the SAP.
OBJRCVD	Number of objects received
OBJSEND	Number of objects sent
PRIORITY	Priority for this SAP obtained from the CLIENT.LOCATION Class instance.
PROXY	The internet proxy URI through which the agent will connect to the SAP. Maintained by agent.
ROLE	Role of the SAP. Possible values are: O : CM Client Operations Profiles M : Self Maintenance S : Services D : Data A : All of the above roles

Attribute	Description
SPEED	Speed to the SAP from the agent computer measured in Bytes per second
STATUS	Status of this SAP 000= SAP was accessed successfully 920 = SAP could not be accessed 999 = SAP was not used
STREAM	Specifies if streaming is used. Y for enabled. This overrides the agent setting in ZMASTER.ZNORSPNS.
THROTYPE	Type of bandwidth throttling used. Possible values are NONE, ADAPTIVE, and RESERVED.
TIMEOUT	Communications timeout in seconds.
TYPE	Type of SAP. Possible values are: RCS - CM Configuration Server DATA – CM Proxy Servers, CM Staging Servers or a CD-ROM.
URI	Universal Resource Identifier for the SAP

Radskman Execution (PREFACE)

The PREFACE object contains information about each execution of radskman. PREFACE object is sent to the CM Configuration Server at every phase of a radskman process including:

- Client Operations Profile resolution
- Self Maintenance resolution
- Catalog resolution
- Single service resolution (This can happen multiple times depending on what services are processed.)
- Outbox flush

At each new phase of the agent connect, the PREFACE object is updated. The variables in the PREFACE object can be used for resolution and reporting. For resolution, use the attributes of the PREFACE object for ZSTOP expressions, for symbolic substitution, and for dispatching messages. For reporting, you can combine MACHNAME, ZUSERID, ZCONTEXT, JOBID, and CTYPE to know which user ran the agent connect, the type of connect, and the context.

Table 37 PREFACE Object Attributes

Attribute	Description
CMDLINE	The <code>radskman</code> command line parameters used for the current agent connect.
COMPDN	The distinguished name of the computer in the Active Directory format. This field will be blank if the system is not part of an Active Directory or a Domain environment. Windows operating systems that do not authenticate to Active Directory would show this as their <code>DomainName/MachineName</code> . Example: <code>CN=ALEE,CN=Computers,DC=usa,DC=asdfoods,DC=com</code>
CTYPE	Type of CM agent. The possible values are: RSM CM Application Self-service Manager RAM CM Application Manager RPS CM Proxy Server or CM Staging Server (for preloading application resources)
JOBID	The jobid specified on the command line for this connect (Radia client versions 3.0 and above).
LOCALUID	The starting directory under <code>IDMROOT</code> on the agent computer. <code>LOCALUID</code> contains the value derived from the <code>STARTDIR</code> <code>radskman</code> parameter. For example, if <code>startdir = \$USER</code> then <code>LOCALUID</code> would contain the user's ID. If <code>STARTDIR = SYSTEM</code> then <code>LOCALUID</code> would contain 'SYSTEM'. <code>UID</code> stands for user's initial directory not the user's identification.
MACHNAME	Agent computer's machine name.
USEREXEC	The user who is currently logged on and who executed the command. For Notify and Timers, this would be <code>SYSTEM</code> . For logon scripts, this would be the subscriber's network account name.
ZCONTEXT	The context for this connect. Possible values are: <code>M</code> – Machine, <code>U</code> – User, or blank.
ZDOMNAME	The CM Configuration Server Database's domain specified in the <code>DNAME</code> parameter of the <code>radskman</code> command line. If <code>DNAME</code> is not specified in the command line, the default is <code>SOFTWARE</code> .
ZMGRNAME	The CM Configuration Server's name specified in the <code>MNAME</code> parameter of the <code>radskman</code> command line.

Attribute	Description
ZUSERID	The ZUSERID field contains the same value found in ZMASTER.ZUSERID of the agent. In most scenarios, this represents the machine name of the agent computer, but may also contain the current user name or another value. The value found in this field is often used as the key for policy resolution or reporting. The UID <code>radskman</code> parameter sets this value.

Systems Management Information (SMINFO)

The Systems Management Information (SMINFO) object is created on all CM 4.x agent computers. The SMINFO object summarizes hardware specific information that is independent of what operating system or software is installed on the agent computer. CM uses SMBIOS standards to access data about the BIOS. SMINFO also includes some network and user ID information.

Table 38 SMINFO object attributes

Attribute	Description
ASSETTAG	Unique Asset Tag number of the agent computer from the BIOS.
COMPDOMN	Computer Domain
COMPNAME	Computer Name
IPADDR	Agent computer's IP address
MACADDR	Agent computer's MAC address
MACHUID	Unique machine user ID.
SNENCLOS	Serial Numbers for the system enclose structures from the BIOS.
SNSYSTEM	Serial Numbers for the system structures from the BIOS.
SUBMASK	Subnet Mask
SUBNET	Subnet
SYSMANUF	System manufacturer from the BIOS.
SYSPROD	System manufacturer product information from the BIOS.

Controlling Default Permissions for Directories and Objects

Directories, objects, and log files created by CM are assigned permissions based on current umask settings and execute permissions on objects and log files are removed. In order to change the default permissions assigned when new directories, objects, and log files are created by CM within IDMLIB, you can use environment variables or you can create a DEFAULTS.EDM file in IDMROOT.

Note that environment variables will always take precedence. If the environment variables are set and a DEFAULTS.EDM file exists, values defined using the environment variables are used.

These methods for controlling permissions apply only to newly created, service-related directories and objects within IDMLIB. For example, `/opt/HP/CM/Agent/lib/SYSTEM/CMCS/SOFTWARE/ZSERVICE/SAMP_APP/00000000.000`.

To control permissions using environment variables

- Set the following environment variables with the permissions you want assigned by default:
 - For directories: IDMLIBPERM
 - For objects: IDMOBJPERM
 - For log files: IDMLOGPERM

To control permissions using DEFAULTS.EDM.

- 1 Within IDMROOT, create an object, DEFAULTS.EDM.
- 2 Add the following variables with the permission value to be used when new objects, log files, or directories are created by CM.
 - For directories: LIBPERM
 - For objects: OBJPERM
 - For log files: LOGPERM

For example, to exclude write permissions for objects for group and other, create a DEFAULTS.EDM file with the following:

```
OBJPERM      0644
```

To exclude write permissions for logs for group and other, create a DEFAULTS.EDM file with the following:

```
LOGPERM      0644
```

To set the default permissions of directories to read and write for everybody, create a DEFAULTS.EDM file with the following:

```
LIBPERM      0777
```

The PROFILE File

Some agent objects such as ZCONFIG and ZMASTER are sent to the CM Configuration Server during an agent connect. The objects received from the agent computer are stored in the PROFILE File in the CM Configuration Server DB. Within the PROFILE File, each agent computer is stored as a domain. By default, each agent computer is identified by the subscriber who is currently logged on. The subscriber may be either a computer name or a user name.

The following table describes some of the objects that you might find in the PROFILE File, although the objects may vary based on your configuration.

Table 39 Objects in the PROFILE File

Instance	Information Recorded
ZCONFIG	Contains basic hardware information for the agent computer such as processor, operating system, and drives.
ZMASTER	Contains information used to run the CM agents, such as user ID and operating system.
ZSVCSTAT	Contains information about the service after it has been successfully installed on the agent computer. This is useful for reporting purposes such as determining which users have the application or when it was installed. One instance is created for each service.
ZSTATUS	Contains information about the most recent agent connect, such as the number of objects going to and from the agent computer.

Each domain contains several classes, which represent the objects received from the agent computer. Use the CM Admin CSDB Editor to view the PROFILE File.

Reporting

CM Reporting Server

As part of the CM extended infrastructure, the web-based CM Reporting Server allows you to query the combined data in existing CM Inventory Manager, CM Patch Manager, and CM Application Usage Manager databases and create detailed reports. In addition, you have the option of mounting an existing LDAP directory, which allows you to filter your data using your LDAP directory levels.

The CM Reporting Server interface provides a dynamic and intuitive way to use CM SQL data for reporting and overall environmental assessment.

For additional information refer to the *HP OpenView Configuration Management Reporting Server Installation and Configuration Guide*.

CM Messaging Server

The CM Messaging Server is a generic messaging service that can be used with many CM Infrastructure modules. Its job is to continually monitor a predefined data queue and dynamically route data objects to one or more external destinations. The CM Messaging Server provides retry, rerouting, and failover capabilities to ensure all data is transferred efficiently and reliably.

On a CM Configuration Server, the CM Messaging Server operates with the QMSG executable to handle the transfer of reporting data obtained from agents to the appropriate external databases.

For additional information refer to the *HP OpenView Configuration Management Messaging Server Installation and Configuration Guide*.

Agent Logs

One log is created from the three main agent modules, radskman, radpinit, and radconct. The default name for the log is connect.log, and its default location is /opt/HP/CM/Agent/log. When connect.log reaches a size of 1 MB, a backup is created called connect.bak.

For diagnosing problems, you may want to name a new log for debugging deployments or for collecting information from your agent computers. Each of the three main agent modules can be directed to use a particular log file, by adding the log parameter to its command line. For example, you might name your logs based on the date and time. Then, if you notice a problem occurring on a certain date, you can retrieve only the logs that you need to review. Add the log parameter to a radskman command line to specify a particular log name as shown below:

```
radskman log=notify10012003.log
```

The value for the log parameter is stored in the LOGNAME attribute, located in the ZMASTER object in the catalog and application directories.

Diagnostic Module (radstate)

Radstate is a diagnostic module designed to give an overview of the current state of the CM agent. The information in the radstate output is based on data retrieved from numerous CM agent objects.

When `radstate` is run with the Verbose parameter (mode `v`), it provides basic information regarding the CM agent environment:

- Global object statistics
- Current date and time
- Current operating system
- Locations of the `IDMSYS`, `IDMLIB`, and `IDMLOG` directories
- Environment settings
- Emulator settings
- Trace levels
- Timeout settings
- All Service status including component totals by User and Service including instance totals and byte totals.
- CM Timer Information

Use `radstate` at anytime to check CM agent configurations. For example, run `radstate` at the end of each agent connect. After `radstate` is run using mode option `o`, the `ZRSTATE` and `ZRSTATES` objects are built and can be sent to the CM Configuration Server as needed.

Radstate should be run:

- Whenever CM agent-specific information is required.
- If it is suspected that some files may not have deployed correctly.
- If desktop updates have not occurred.

Manual execution of radstate produces a summary style report, radstate.log, regarding the current state of services and resources installed on the agent desktop. Radstate is executed from the command line using the appropriate parameters, separated by a comma, for example:

```
radstate mode=vo, IDMROOT=/opt/HP/CM/Agent/lib
```

See the HP OpenView web site for a technical document with additional information.

Summary

- Use the CM Admin CSDB Editor or CM Admin Agent Explorer to review the information collected from an agent computer. This information is stored in the PROFILE File.
- Use the APPEVENT object to see the status of application deployments.
- You can connect to an ODBC database to view CM objects or generate reports.

11 Deploying Mandatory Applications for the CM Application Self-service Manager

At the end of this chapter, you will:

- Know how to designate applications as mandatory.
- Be familiar with the ways in which you can deploy mandatory applications and where to get more information.

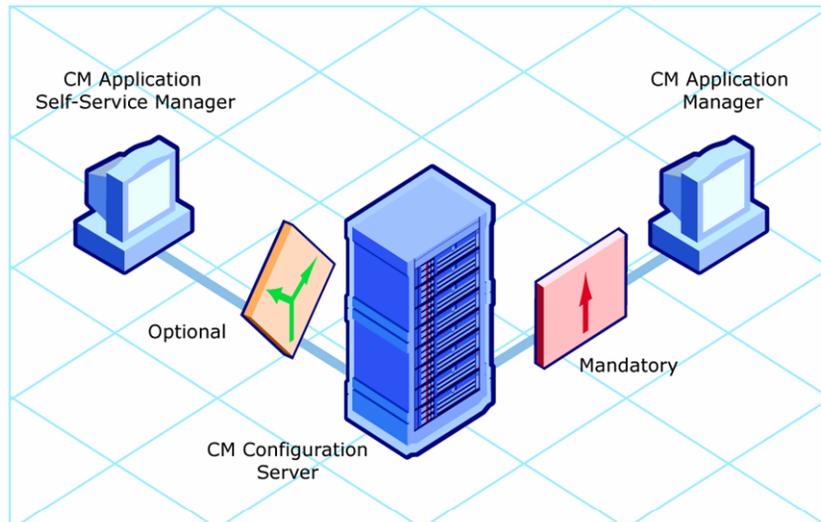
You now have a detailed understanding of the CM agent. Your subscribers install, update, verify, and remove applications from their computers with the CM Application Self-service Manager user interface. Subscribers have control, which means that the software available in the CM Application Self-service Manager user interface is considered optional. Subscribers have the option to install it or not.

However, there may be times when you want to retain control over the management of your data. For example, you may want to distribute a mandatory application, such as a price list, to your subscribers. The price list may need to be updated on a regular basis and you do not want to rely on your subscribers to remember to request the updates, or even to create a schedule to receive the updates. To do this, you can use the CM Application Manager agent to handle the deployment, without relying on your subscribers.

Installing the CM Application Manager with the CM Application Self-service Manager, allows you to handle both mandatory and optional applications because it installs both the CM agent and the CM Application Manager agent.

► You must have the proper license in order to enable the CM Application Manager along with the CM Application Self-service Manager. Contact your HP sales representative for details.

Figure 13 Enabling CM agents



This chapter introduces some of the additional capabilities that are available with the CM Application Manager Feature Set. For detailed information about the CM Application Manager agent, refer to the *CM Application Manager Guide* for UNIX on the HP OpenView web site.

Distributing Mandatory Applications with the CM Agent

In addition to using the CM Application Manager to handle mandatory applications, you can also configure the CM Application Self-service Manager to process mandatory applications.

To process mandatory applications, you must designate the appropriate applications as mandatory.

Configuring Mandatory Applications

To designate an application as mandatory or optional:

- When you use the New Application Wizard to create a service for the first time, you will encounter the Application Target Type dialog box. Select **Application Manager** to designate that you are creating a mandatory service or **Self-Service Manager** to designate that you are creating an optional service. See [Creating a Service](#) on page 87 for more information.
- OR
- Use the CM Admin CSDB Editor to modify the ZSVCMO attribute for the application instance in the Application (ZSERVICE) class. This is initially set based on your selection in the New Application Wizard but you can use the CM Admin CSDB Editor to modify the attribute.

This section covers how to configure mandatory applications using the CM Admin CSDB Editor.

To designate an application as mandatory

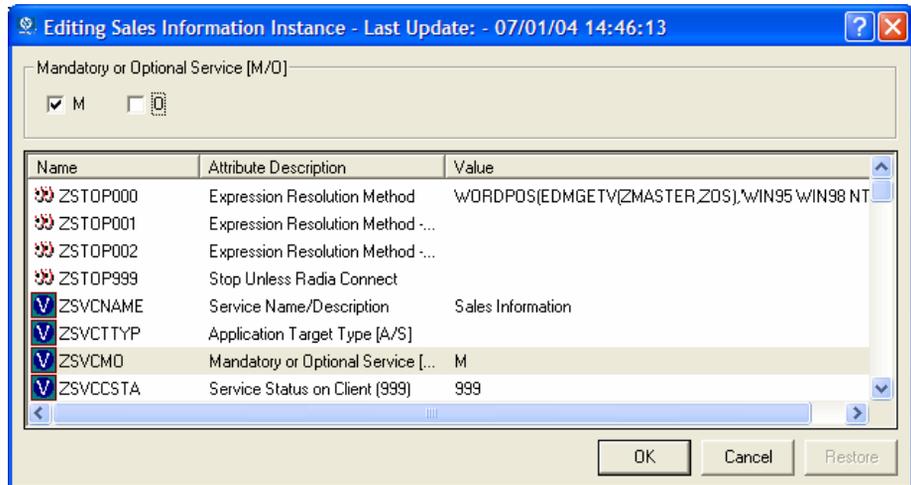
- 1 Go to **Start** → **Programs** → **HP OVCM Administrator** → **CM Admin CSDB Editor**. The CM Admin CSDB Editor Security Information dialog box opens.
- 2 If necessary, type a User ID and Password, and then click **OK**.



The factory set user ID is RAD_MAST. No password is necessary. This might have changed during installation. You can change this by selecting the Change Password check box and typing the new password in the New Password and Verify New Password text boxes.

The CM Admin CSDB Editor window opens.

- 3 Double-click **PRIMARY**.
- 4 Double-click **SOFTWARE**.
- 5 Double-click **Application (ZSERVICE)**.
- 6 Double-click the application, such as Sales Information, whose ZSVCMO attribute you want to change.
- 7 Double-click **ZSVCMO**. The Editing Instance dialog box opens.



- 8 Clear the O check box, and then select the M check box.
- 9 Click **OK**.
- 10 Click **Yes** when you are asked if you want to save the changed instance attributes. The Sales Information application is now considered a mandatory service.

Deploying Mandatory Applications with the CM Application Manager Agent

The CM Application Manager agent allows you to retain complete control over the deployment of mandatory applications without relying on the subscriber to connect to the CM Configuration Server.

This section introduces you to some of the deployment methods available with the CM Application Manager. For detailed information about implementation strategies and these methods, refer to the *Deploying Applications* chapter of the *CM Application Manager Guide for UNIX* on the HP OpenView web site.

CM Scheduler

Use the CM Scheduler service to deploy a service or run any command line at a specific time.

To do this, create a timer, set the appropriate values for the attributes in the timer, and then connect it to the appropriate service. The next time the agent computer connects to the CM Configuration Server, a ZTIMEQ object is created on the agent computer, and the timer attributes and their values are transferred to the ZTIMEQ object. The Scheduler service "wakes up" once a minute and checks the timer object (ZTIMEQ) to see if there are any scheduled items to execute.

CM Notify

Use CM Notify to force one or more agent computers to connect to the CM Configuration Server to install, update, or remove an application. Each agent computer runs the CM Notify service in the background. This service waits to receive a Notify message from the CM Configuration Server. When a message is received, the agent computer connects to the CM Configuration Server and performs the action initiated by the Notify operation. CM Notify can also send e-mail notification to agent computers.

Version Groups

Normally, applications are deployed and activated immediately. You can use Version Groups to roll out a new version of an application to your subscribers and then activate it upon delivery, or at a later time. If the installation of the new version fails, CM automatically rolls back to the previous version. If you discover problems with a new version after installation, you can deactivate the new version and roll back to the previous version for some, or all, subscribers.

After versioning is configured, the compressed files are stored on the Agent computer, and the versioning action takes place on the agent machine. The roll forward/roll backward activity can be entirely local, not requiring any data to be transferred at the version change time, or partially local, with a minimum of data transmitted.

To deploy mandatory applications

On the agent computer in the `IDMROOT` directory, there is a file `args.xml`. This file contains parameter settings for the CM Application Self-service Manager. In order for mandatory applications to be automatically deployed, a parameter must be added.

- 1 Open the `args.xml` file using a text editor.

- 2 Add the line:

```
<enterprisemanagement>auto</enterprisemanagement>
```

- 3 Save and close the `args.xml` file.

The next time you start the CM Application Self-service Manager, mandatory applications will be deployed.

Summary

- To process mandatory applications use the CM Admin CSDB Editor to designate the application as mandatory.
- You can process mandatory applications automatically when the CM agent connects to the CM Configuration Server.
- You can retain control over deployment of mandatory applications by using one or more of the deployment methods available.

A Naming Conventions

This appendix discusses the use of naming conventions to help you organize the software stored in the CM Configuration Server Database.

When publishing applications, subscribers may have varying requirements such as:

- Different operating systems.
- Varying amounts of free space on their hard drives.
- Different processors, memory, and so on.
- Different data or applications, depending upon their job function, or other factors.

Due to these varying requirements, you might need to create several packages for a single application. To keep your data organized in the CM Configuration Server Database, we recommend that you create a naming convention to use in your organization.

This section provides some recommendations that you can use as a starting point to create your own standards.

Categorizing Information

In general, consider using unique high-level identifiers with an underscore (`_`) to categorize information in the CM Configuration Server Database. The CM Admin CSDB Editor groups instances based on the identifier that precedes the underscore.

 If you decide to use a high-level identifier *without* an underscore (`_`), you can use the CM Admin CSDB Editor's filtering capabilities to display only the instances with that identifier.

See the *CM Admin CSDB Editor Help* for more information.

For example, if you had a Windows 2000/XP version and a Windows Server 2003 version of an application to calculate loan amortizations, you might name the packages `AMORTIZE_2000/XP` and `AMORTIZE_2003`.

Naming Conventions for the POLICY Domain

We recommend that you use a variation of the following standards.

Table 40 Naming Conventions for the USER Class

Format	Description	Example
USERID	Identifies the subscriber.	SJones

When naming instances in a workgroup, use information that groups your subscribers appropriately. For example, if your company is organized by division and location, you might use conventions such as the following:

Table 41 Naming Conventions for the WORKGRP Class

Format	Description	Example
DIV_LOC_DESC	Defines ownership or assignment.	CTS_CLE_EVERYONE
DIV	Identifies the division.	CTS (Corporate Technology Services)
LOC	Identifies the location.	CLE (Cleveland)
DESC	Provides additional description of the group.	EVERYONE (all users)

Naming Conventions for the SOFTWARE Domain

In a company organized by division and location, you might organize your data using the following standards.

Table 42 Naming Conventions for the PACKAGE Class

Format	Description	Example
DIV_LOC_APPNAME_VER_OS	Defines the application.	CTS_CLE_PATCH_80_HPUX
DIV	Identifies the division.	CTS (Corporate Technology Services)
LOC	Identifies the location.	CLE (Cleveland)
APPNAME	Identifies the application.	Patch

Format	Description	Example
VER	Identifies the version of the application.	80
OS	Identifies the operating system that the application runs on.	HPUX

Table 43 Naming Conventions for Delivery and Auditing Classes*

*All other classes in the SOFTWARE Domain.

Format	Description	Example
REG_DIV_LOC_APPNAME_ VER_OS	Defines the application.	NAM_CTS_CLE_PATCH
REG	Identifies the region.	NAM (North America)
DIV	Identifies the division.	CTS (Corporate Technology Services)
LOC	Identifies the location.	CLE (Cleveland)
APPNAME	Identifies the application.	Patch

Determining the conventions that make sense for your organization may take some time. However, creating a convention up front and communicating it to all of your CM administrators will keep you organized in the future.

B Adding Attributes to the CM Configuration Server Database

The following procedure shows you how to add an attribute (also known as a variable) to your CM Configuration Server Database.



Be sure to create a backup of your CM Configuration Server Database before adding an attribute to it.

At a minimum, you will need the following information before you make the changes to your CM Configuration Server Database:

- The name of the class that you are editing.
- The name of the new attribute.
- The length of the new attribute.
- A description for the new attribute.

To add an attribute to a class template

- 1 Go to **Start** → **Programs** → **HP OVCM Administrator** → **CM Admin CSDB Editor**. The CM Admin CSDB Editor Security Information dialog box opens.
- 2 If necessary, type a User ID and Password, and then click **OK**.



The factory set user ID is RAD_MAST. No password is necessary. This might have changed during installation. You can change this by selecting the Change Password check box and typing the new password in the New Password and Verify New Password text boxes.

The CM Admin CSDB Editor window opens.

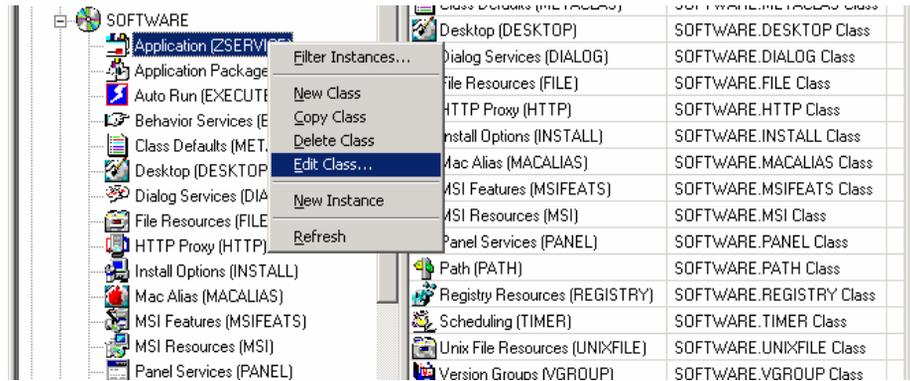
- 3 Navigate to the class that you want to edit. For example, you might go to PRIMARY.SOFTWARE.ZSERVICE.



If you do not see the name of the class (such as ZSERVICE) in the tree view, you can modify the CM Admin CSDB Editor options. To do this:

On the CM Admin CSDB Editor tool bar, click **View**, and select **Options**. In the Options dialog box, click the **General** tab, and then select the **Show Class Names Next to Descriptions** check box.

- 4 Right-click the class that you want to edit, such as Application (ZSERVICE).



- 5 Select **Edit Class**. The Editing Class dialog box opens. For detailed information about the Editing Class dialog box, refer to the *CM Admin CSDB Editor Guide*.
- 6 Determine where, in the Attribute List, the attribute should be inserted.
- 7 In the list of attributes, select the attribute adjacent to where you want to insert the new attribute.



If the Automatic Sequencing check box is not selected, attributes are processed during resolution in the order in which they appear in the Attribute List.

If the Automatic Sequencing check box is selected, the attributes of the class are processed in the following order: Expressions, Attributes, Classes (Connections), and then Methods.

Refer to the *CM Admin CSDB Editor Guide* for more information.

- 8 Click **Insert Before** to insert the attribute before the selected one.

or

Click **Add After** to add the new attribute after the selected one.

A blank attribute appears.

- 9 In the Name field, type the name of the new attribute.
- 10 In the Length field, type the length for the attribute.
- 11 In the Description field, type a description for the attribute.
- 12 In the Type drop-down list, select **Attribute**.
- 13 If the document that contains the information about the new attribute specifies CM agent or CM Configuration Server properties, select the appropriate check boxes.
- 14 Click **OK**.
- 15 Click **Yes** to confirm the changes to the class.

C Product Name Changes

If you have used Radia in the past, and are not yet familiar with the newly rebranded HP terms and product names, Table 44 below will help you identify naming changes that have been applied to the Radia brand.

Table 44 Product Name and Term Changes

New Name/Term	Old Name/Term
CM Agent Installation Wizard	Radia Client Installation Wizard
CM agents	Radia clients
HP OpenView Configuration Management Administrator	Radia Administrator Workstation
HP OpenView Configuration Management	Radia
HP OpenView Configuration Management Admin Agent Explorer	Radia Client Explorer
HP OpenView Configuration Management Admin CSDB Editor	Radia System Explorer
HP OpenView Configuration Management Admin Packager	Radia Packager
HP OpenView Configuration Management Admin Screen Painter	Radia Screen Painter
HP OpenView Configuration Management Application Manager	Radia Application Manager,
HP OpenView Configuration Management Solutions for Servers	Server Management

Glossary

Active Component Server

See *CM Configuration Server*.

Administrative Installation Point (AIP)

An AIP is a server share or local directory structure that contains all of the files needed to run setup for a Windows Installer-enabled application.

agent computer

An agent computer is a subscriber's computer that has the CM agent software installed on it.

agent object

An agent object is a file located on the agent computer that contains information about the configuration of services or hardware.

APPEVENT

APPEVENT is the agent object that provides information about an application event, such as success or failure of the installation.

Application Manager

See *CM Application Manager*.

applications

Also called software, data, or services.

Applications are one type of content that CM can manage on subscriber computers. Use the CM Admin Publisher to create packages of data to be managed on your subscribers' computers.

attribute

Also called *field*, *variable*, or *property*.

An attribute is a single, descriptive data item in a class. The class template contains a definition (e.g., the name, data type, description, and length) for each attribute that makes up the class. Class instances contain a set of attributes and each attribute contains a value.

attribute property

An attribute property controls some aspect of how an attribute is processed on the CM Configuration Server and agent computer. Each attribute defined in a class template has a set of CM Configuration Server properties and a set of agent properties.

audience list

An audience list is a directory of the subscribers for an application used by CM Notify.

base instance

The base instance contains the default values for the attributes that make up a class. When you create a new instance in that class, the attributes in the new instance inherit the default values, as specified in the base instance.

byte level differencing

Byte level differencing is the process of publishing a patch containing updates or corrections to a resource. The patch is calculated by differencing an existing copy of the resources in the CM Configuration Server Database against the resources currently being published.

class

A class defines a category of the distribution model to be managed. It is conceptually similar to a schema in a relational database structure or a file layout in a traditional flat file. Each of the required elements of a distribution model (e.g., users, applications, etc.) is defined in the CM Configuration Server Database by its class.

class connection variable

A class connection variable determines the path of resolution for an agent's distribution model during the agent connect process. It is a branch in the resolution process.

A class connection is resolved and resolution continues using the target instance identified in the class connection variable if the class connection variable attribute's name is `_ALWAYS_`, `INCLUDES`, `REQUIRES`, or if the name of the attribute matches the current value of the system message.

class instance

Also called *instance*.

A class instance is an object in the CM Configuration Server Database that contains a specific occurrence of a class. This is analogous to a row in a relational data table or a record in a traditional flat file.

[clean computer](#)

A clean computer is a computer on which the operating system has just been installed, and no further changes have been made.

[client](#)

See [CM agent](#).

[Client Explorer](#)

See [CM Admin Agent Explorer](#).

[CM Admin Agent Explorer](#)

The CM Admin Agent Explorer (Object Editor) can be used to view or edit local objects, or create new objects. You can also use the CM Admin Agent Explorer to view objects located on a file server or on other computers to which you are connected via a local area network (LAN).

[CM Admin CSDB Editor](#)

The CM Admin CSDB Editor is used to manipulate the contents of the CM Configuration Server Database.

[CM Admin Publisher](#)

The CM Admin Publisher is used to create packages of data and store them in (i.e., promote them to) the CM Configuration Server Database.

[CM agent](#)

The CM agent runs on the subscriber's computer. It communicates with the CM Configuration Server to receive information about the desired state of the subscriber's computer, and compares that information to the actual state of the subscriber's computer. Then, the CM agent makes any adjustments necessary to make the actual state match the desired state.

[CM Application Manager](#)

The CM Application Manager Radskman is the CM agent executable that manages mandatory services. The CM administrator uses the CM Admin CSDB Editor to specify the services that the CM Application Manager manages on the subscriber's computer. No user interface is available.

CM Application Self-service Manager

The CM Application Self-service Manager is the CM agent used to manage optional services. The CM administrator uses the CM Admin CSDB Editor to specify the services that are available to the subscriber.

The subscriber installs and manages data that is available from the CM Application Self-service Manager user interface (Service List).

CM Configuration Server

Also called *Active Component Server* or *Manager*.

The CM Configuration Server distributes applications to agent computers. It runs on the server and maintains the CM Configuration Server Database, which stores information that the CM Configuration Server needs to manage data for distribution to agent computers.

CM Configuration Server Database

The CM Configuration Server Database stores all of the information necessary to manage data on an agent computer, including:

- The software and/or data that CM distributes.
- The desired state of each agent computer with respect to the CM - managed content.
- The policies determining which subscribers can subscribe to which packages.
- Security and access rules for CM administrators.

Use the CM Admin CSDB Editor to manipulate the CM Configuration Server Database.

CM Inventory Manager

The CM Inventory Manager is a policy-driven, inventory management tool that automatically discovers information about software and hardware, and consolidates the results into Web-based reports. The CM Inventory Manager agent is a WBEM (Web-based Enterprise Management) consumer.

CM Scheduler

The CM Scheduler service (radsched), installed with the Application Manager, allows you to deploy a service at a specific time.

CM Staging Server

The CM Staging Server is used to store data required for deploying applications on a computer other than the computer with the CM Configuration Server.

component class

A component class is a type of class used to identify the items (files, registry entries, links, icons, and so forth) that make up the content identified by a CM Configuration Server class instance. Typically, this class' instances have distributable data associated with them such as FILE, REGISTRY, or DESKTOP.

Use the CM Admin CSDB Editor's Class Editor to set the class type to "Component".

configuration class

A configuration class identifies content to be managed on subscribers' computers by grouping together instances of component classes. Typically, a configuration class' instances do not have distributable data associated with them. They are connected to instances of one or more component classes, perhaps through an instance of another configuration class. Examples: ZSERVICE, PACKAGE, VGROUP, VERSION, and so forth.

Use the CM Admin CSDB Editor's Class Editor to set the class type to "Configuration".

Configuration Server

See [CM Configuration Server](#).

Database

See [CM Configuration Server Database](#).

desired state

The desired state embodies the content that CM manages for a specific subscriber's computer. A model representing the desired state for each subscriber's computer is stored in the CM Configuration Server Database. The desired state model is created and managed using the CM Admin CSDB Editor.

domain

A domain logically partitions a file in the CM Configuration Server Database to group "like" classes together.

Examples: POLICY Domain; SOFTWARE Domain; SYSTEM Domain

- The POLICY Domain contains the classes that identify users individually and by their association with groups of other users.
- The SOFTWARE Domain contains the classes needed to define and deploy applications. CM administrators will do most of their work in the POLICY and SOFTWARE Domains of the PRIMARY File.
- The SYSTEM Domain contains the classes that contain administrative and process control definitions.

expression variable

An expression variable contains a single line REXX command that is executed during resolution. If the expression evaluates to **true** in an attribute named ZSTOP, it causes resolution of the current instance to end. Resolution continues in the calling instance with the variable following the one that called the instance containing the expression variable.

file

A file is the highest level in the hierarchy of the CM Configuration Server Database and it groups similar domains together.

Example: PRIMARY File

The PRIMARY File is used to define and maintain the distribution model. This is one of the pre-configured files distributed with the CM Configuration Server and installed when you first install CM. Others are the NOTIFY file and the PROFILE File. CM administrators will do most of their work in the PRIMARY File.

instance

Also called *class instance*.

An instance is a CM Configuration Server Database object containing a specific occurrence of a class. This is analogous to a row in a relational data table or a record in a traditional flat file. The attributes of an instance contain the data describing one specific entity of that class.

Manager

See [CM Configuration Server](#).

mandatory service

A mandatory service is a service that is required on the subscriber's computer. Services are made mandatory by setting the ZSVCMO variable in the Application instance to M.

method

A method is a program that performs functions that are meaningful in the context from which they are called.

Methods can be written in REXX or in a language that produces an executable that can validly run on the platform where it is invoked. The HP-supplied REXX run-time environment interprets REXX methods.

Agent methods run on the subscriber's computer, while CM Configuration Server methods run on the CM Configuration Server computer.

method variable

The method variable identifies the method, or program, to be executed as part of the resolution process.

For CM Configuration Server methods, it contains a reference to an instance of the SYSTEM Domain PROCESS Class that identifies the method to execute and the parameters to be passed to the method. CM Configuration Server methods are located in the CM Configuration Server BIN subdirectory for .exe methods or in the Manager REXX subdirectory for REXX methods.

For CM agent methods, it contains the name of the method to execute on the subscriber's computer. The name of a method variable that executes a CM agent method identifies the event (such as installing or removing software) for which the method should be executed. Agent methods are located in the IDMSYS location on the subscriber's computer.

Notify

A notify forces one or more agent computers to connect to the CM Configuration Server to update or remove an application or send an e-mail to subscribers of a particular service.

null instance

The null instance of a class is used when an instance of that class that does not exist. During resolution, if a connection is attempted to a non-existent instance of a class, the Null Instance is used. This provides a resolution path that handles broken connections.

object

An object is a data structure containing variables stored in a file with an `.EDM` suffix on the agent computer. An object can consist of one or more instances. Each instance contains the same set of variables. The values held in the variables can vary from instance to instance.

Use the CM Admin Agent Explorer to view, edit, or create objects.

optional service

An optional service is a service that is available to subscribers via the Service List of the CM Application Self-service Manager user interface. Services are made optional by setting the `ZSVCMO` variable in the Application instance to "O".

package

A package is the data that is published as an individual unit.

policy

A policy determines *which* subscribers (or computers) have access to *what* software. The POLICY Domain class instances identify users. Connections to the POLICY class instances identify the content to be managed for those subscribers.

promote

When you promote a package that was created with the CM AdminPublisher, you are storing the package in the CM Configuration Server Database.

publish

To bundle a set of related data into a single unit that can be managed by CM.

Publisher

See [CM Admin Publisher](#).

Software Manager

See [CM Application Self-service Manager](#).

Staging Server

See [CM Staging Server](#).

resolution

Resolution occurs when the CM Configuration Server accomplishes a unit of work in response to a service request. The unit of work is defined by the contents of the CM Configuration Server Database and parameters included in the service request itself.

In other words, what CM does depends upon what information is stored in the CM Configuration Server Database and what information accompanies the request for CM to perform some action.

For example, the CM agent Connect submits service requests by sending an object to the CM Configuration Server. The CM Configuration Server then performs resolution in response to each request. The parameters that control the processing of the service request are in the input object.

resource

Also called *file*.

A resource is a single component that is bundled into a package. Examples of resources are files, desktop links, and sets of registry keys.

Scheduler

See [CM Scheduler](#).

service

Also called a software application, application, or software.

A service is a group of related packages.

session

A session identifies a packaging exercise in CM Admin Publisher that results in the creation of one CM package.

subscriber

A subscriber is the person who uses CM -managed applications on an agent computer.

symbol

A symbol is the name of a variable in global memory, preceded by an ampersand.

symbolic substitution

Database instances and agent objects consist of variables that contain values. The value of a variable can contain a specification that refers to the value of another variable. During the resolution process, CM can substitute the value of the second variable to replace the reference in the first variable.

References to be processed with symbolic substitution are specified using an initial ampersand.

For example, one of the `_ALWAYS_` connection variables in the `SYSTEM.PROCESS`

`.ZMASTER` instance of the Database contains the value `POLICY.USER.&(ZMASTER`

`.ZUSERID)`. The reference `&(ZMASTER.ZUSERID)` refers to the `ZMASTER` object's `ZUSERID` variable, which contains the user ID typed into the CM logon dialog box on the CM agent, when the subscriber visits the CM Software Management Web page. If the user typed in `JDOE` for the user ID, symbolic substitution would render the effective value of the `_ALWAYS_` connection variable as `POLICY.USER.JDOE`.

The substitution is not permanent, i.e., the value in the CM Configuration Server Database doesn't change. Only the value in the in-storage object derived from the CM Configuration Server Database instance for the current resolution process contains the substituted value.

The parentheses are required only if the reference is qualified, i.e., contains a period. If the reference is unqualified, the parentheses are optional.

For example, these symbolic substitution specifications are correct:

`&(ZMASTER.ZUSERID)`

`&(ZUSERID)`

`&ZUSERID`

and this is incorrect:

`&ZMASTER.ZUSERID`

System Explorer

See [CM Admin CSDB Editor](#).

Timer

See [CM Scheduler](#).

variable

A variable is a piece of named storage that contains a changing value. The variable's value forms a part of the agent's resolved distribution model and can influence the resolution process through messaging or symbolic substitution.

version group

A version group is a collection of one or more versions of one application that CM deploys and manages. Use version groups to roll out a new version of an application to the appropriate subscribers, and activate it upon delivery or at a pre-determined time.

Web-based Enterprise Management (WBEM)

Web-Based Enterprise Management (WBEM) is an initiative from the Distributed Management Task Force (DMTF) to develop standard technologies for accessing management information in an enterprise-computing environment.

Windows Management Instrumentation (WMI)

Windows Management Instrumentation (WMI) is the Microsoft implementation, for Windows platforms, of Web-Based Enterprise Management (WBEM). WMI provides support for WBEM's Common Information Model (CIM).

ZCONFIG

The ZCONFIG object contains basic hardware information for the agent computer such as processor, operating system, and drives.

ZMASTER

The ZMASTER object contains information about the agent computer that is necessary to run the Application Manager such as the identity of the subscriber and the IP address of the agent computer.

ZTIMEQ

The ZTIMEQ object is created, based on information in the Scheduler (TIMER) instance, when a timer is deployed to the agent computer.

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