HP OpenView Software Manager Using Radia

for the HP-UX operating system

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Software Version: 4.2i

Installation and Configuration Guide

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Documentation Updates

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

- Software Version number, which indicates the software version
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Table 1 indicates changes made to this document since the last released edition.

Table 1 Document Changes

Chapter	Changes
Chapter 1	Page 22, Administrator Workstation: Updated to include latest Administrator Workstation information.
Chapter 2	Page 26, System Requirements: Updated System Requirements for version 4.2i.
Chapter 2	Updated installation to reflect latest version.
Chapter 3	Page 56, System Requirements : Updated System Requirements for version 4.2i.
Chapter 3	Updated installation to reflect latest version.
Chapter 5	Updated chapter to reflect the latest Publisher.
Chapter 10	Page 230, Using the Client Explorer to View Objects. Updated Client Explorer image to reflect latest version.
Chapter 10	Page 234, Table 35: Removed the RETRYINT and RETRYLIM attributes from the SAPSTATS Object Attributes table.
Chapter 10	Page 238, Controlling Default Permissions for Directories and Objects: new section.

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Please visit the HP OpenView support web site at:

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This web site provides contact information and details about the products, services, and support that HP OpenView offers.

HP OpenView online software support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valuable support customer, you can benefit by using the support site to:

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- Submit enhancement requests online
- Download software patches
- Submit and track progress on support cases
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To register for an HP Passport ID, go to:

http://www.managementsoftware.hp.com/passport-registration.html

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1 Introduction

At the end of this chapter, you will:

- Understand the components of Radia.
- Know the structure of the Radia Database.
- Understand suggested deployment strategies.

About this Guide

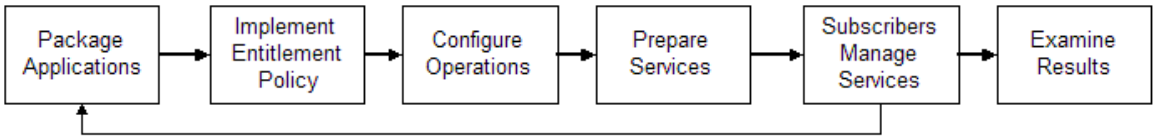
Who this Guide is for

This book should be used by systems administrators who are implementing Radia in their environments, and who want to publish and deploy applications throughout their enterprises.

What this Guide is about

This guide covers the suggested implementation for the Software Manager. Although you will tailor this strategy to meet your organization's needs, you should review this guide for a comprehensive understanding of the Software 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.

Figure 1 Tasks completed in this guide



The Software Manager Guide for UNIX covers the following:

- **Installing the Software Manager**
  This chapter describes how to install, repair, and remove the Software Manager for UNIX, and how to modify its installation.
- **Installing the Administrator Workstation for UNIX**
  This chapter describes how to install, repair, and remove the Administrator Workstation for UNIX and how to modify its installation.
- **Installing the Administrator Workstation for Windows**
  This chapter describes how to install, repair, and remove the Administrator Workstation for Windows and how to modify its installation.
- **Packaging Applications and Content**
  This chapter describes how to package applications.

- **Implementing Entitlement Policy**
  This chapter describes how to integrate Radia with your existing policy information, create new users and assign them to groups, and connect services to groups.
- **Configuring Client Operations Profiles**
  This chapter explains how to configure your clients to use the most appropriate Configuration Servers and Proxy Servers, provide for fail over capabilities, and configure your Radia client.
- **Preparing Services**
  This chapter describes services options such as restarting the client computer and implementing applications that have machine and user specific components.
- **Software Manager User Interface**
  This chapter describes how to customize the Software Manager, and how to use the Software Manager user interface.
- **Radia client Objects and Directories**
  This chapter describes how to examine the results of your Radia implementation.
- **Deploying Mandatory Applications for the Software Manager**
  This chapter introduces you to the additional capabilities that are available after enabling the Application Manager along with the Software Manager.

About Radia Technology

Radia technology provides high levels of adaptability, flexibility, and automation. Adaptability comes from the embedded intelligence of platform-independent object-oriented technology. Flexibility is provided by the media-independence of Radia technology that enables content to be easily revised and customized. Radia automates digital asset management across virtually any kind of network. The following bullets detail each of these distinctive capabilities, which are essential to Radia technology:

- **The Embedded Intelligence of Object-Oriented Technology**
  Object-oriented technology transforms software and content from file-based media into self-aware, platform-independent, intelligent objects that automatically assess the environment into which they are deployed, and personalize, install, update, and repair themselves accordingly. In other words, as intelligent objects, they know what they need for a

particular device or user, where to get what they need, when they need to change, how to change themselves, and how to repair themselves.

- **Revisable Packaging for Revisable Content**
  Radia technology enables revision and customization of software and content at any midstream point in the packager-to-subscriber deployment process. Because Radia technology transforms software and content into objects, these objects can be easily modified midstream – subtracted from, added to, reconfigured – simply by packaging them with other objects or new configuration information. With revisable packaging, value-added service providers and IT administrators can customize standard published software offerings for the needs of their particular users without having to unpack and repackage everything.
- **Self-Managing Infrastructure**
  The object-oriented intelligence of Radia technology incorporates a self-managing infrastructure. This capability begins with network-independence, with Radia technology flexibly supporting any deployment environment, whether client/server, local, wide or virtual area network, intranet, extranet, or the Internet. Furthermore, Radia supports whatever distribution media make sense for the target audience and the provider (which might be a software publisher, application service provider (ASP), Internet service provider (ISP), provider of enterprise application integration (EAI) services, e-business integrator, e-commerce component provider, or in-house IT administrator).

In the Internet age in which software is fundamental to the ability of businesses to compete, change is a constant state, and audience diversity has grown beyond the capacity of older technologies to manage. Radia technology provides the necessary automation, adaptability, and flexibility to solve the software management challenge.

Distribution Models

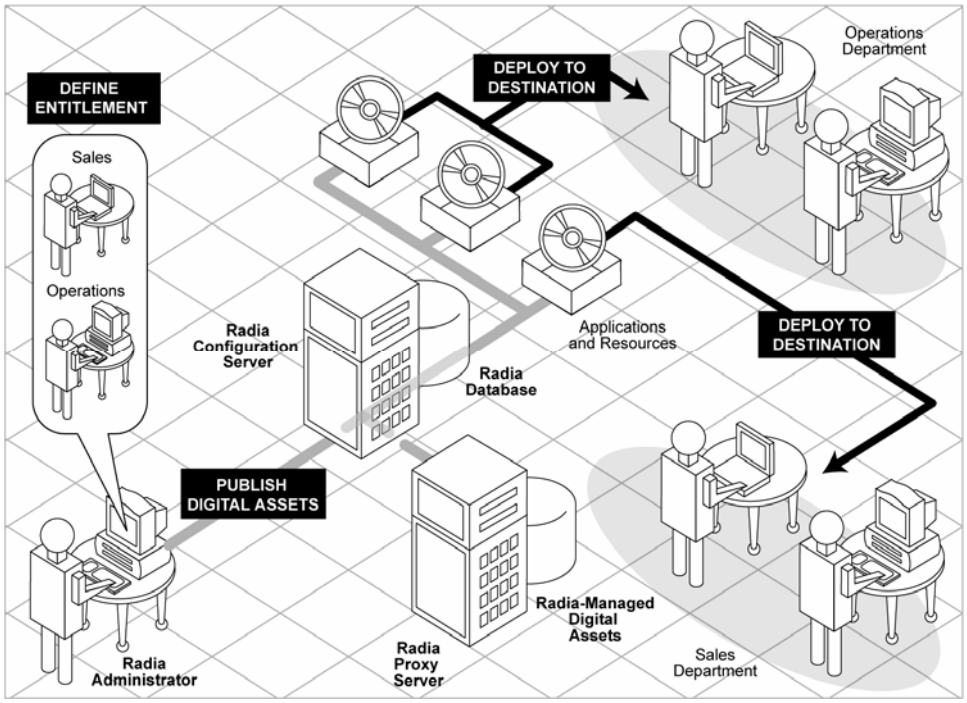
Radia manages the distribution of digital assets based on your *distribution model*. A distribution model records the identities and intended configurations of the desktop computers whose configurations are managed by Radia. The distribution model can be simple or complex. At a minimum, a Radia distribution model includes the following five elements:

- **Users**
  The identity of the computers being managed.

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

- **Applications**
  The digital assets that are being managed.
- **Application Files**
  The components that make up the digital assets.
- **Deployment Source**
  The location where the application components are centrally stored, such as on a Radia Staging Server or Configuration Server, so they can be deployed to the users.
- **Deployment Destinations**
  The location to which the application and its files will be distributed, such as desktop computers, PDAs, and laptops.

Figure 2 Elements in a distribution model



Use Radia to manage all of these elements. You will publish packages of digital assets, assign these packages to users, and define how the packages will be deployed.

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

The Radia Database

The Radia Database, stored on the Configuration Server, records your distribution model. This includes all of the information that Radia uses to manage applications on a client computer, including:

- The software or data that Radia distributes.
- The distribution model for each client computer.
- The policies determining which subscribers are assigned to which packages.
- Security and access rules for Radia administrators.

Use the System Explorer to view and manipulate the Radia Database. The Radia Database is hierarchically structured, and its components consist of files, domains, classes, instances, and attributes.

The System Explorer is currently available for 32-bit Windows platforms. For more information, refer to the *System Explorer Guide*.

Elements of the Database

file

Highest level in the hierarchy of the Radia Database. Groups like domains together.

Example: The PRIMARY file is used to define and maintain the distribution model. This is one of the pre-configured files distributed with Radia.

domain

Logically partitions a Radia file. Groups like classes together.

Example: The POLICY domain contains the classes needed to create users and groups.

class

A category of the distribution model. The class is a template for the attributes needed to create an instance of the class. Refer to the Radia Database Reference Manual for information on the structure and usage of Radia classes.

Example: The USER class of the POLICY domain defines subscribers of Radia-managed applications. It defines all of the attributes necessary to identify the client computer to be managed by Radia.

class instance or instance

An 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 a class instance object contain data describing one specific entity of that class.

Example: A USER instance is an object created from the USER class, containing the information needed to identify a subscriber's client computer.

attribute, attribute value

An attribute is a data element of a class. The class contains the definition (e.g., the name, data type, description, and length) for each attribute comprising the class. Each class instance created from the class contains a value for each of the attributes defined in the class.

Example: The NAME attribute of a USER class contains the name of the subscriber, and the USERID attribute contains the User ID, as specified by the Radia administrator.

Files and Domains

When you install the Configuration Server, LICENSE and PRIMARY are the only two files available. As you use Radia, your Radia Database may change.

- The LICENSE file is read-only and used for Configuration Server processing. This file should only be used by HP, and should not be modified.
- The PRIMARY file is where you will find most information regarding software management. Within the PRIMARY file, there are 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, or audit, client computers' assets. See the *Inventory Manager Guide* for more information.
- Use the CLIENT domain to configure Client Operations Profiles. This includes defining which Configuration Servers, Proxy Servers, and Radia Staging Servers the client computer can you. For more information, see Chapter 7, Configuring Client Operations Profiles.
- Use the PRDMAINT domain to store packages for self-maintenance that are supplied by HP. This domain should only be used for the deployment of Radia client maintenance packages.

  In previous versions of the product, the maintenance functions were in the NOVADIGM domain.

- Use the **PATCH** domain to store information for binary patching of files associated with Service Optimization. See the *System Explorer Guide*.

  The Radia Patch Manager uses a different domain called PATCHMGR for managing security patches.

- Use the POLICY domain to create users and groups, and to assign users to groups. See Chapter 6, Implementing Entitlement Policy for more information.
- 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 Radia, the PROFILE file appears. This file contains information collected from client computers. The file appears after the first client computer has registered with the Configuration Server. This information is used to connect to computers to deploy software managed by Radia, and to see the configuration of the client computer.
- 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.

Radia Infrastructure

Use Radia Infrastructure components to take full advantage of Radia's 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 Radia components can be divided into four categories.

- Radia Management Applications
- Radia Management Infrastructure
- Radia Extended Infrastructure
- Radia Management Extensions

Some of the basic Radia Infrastructure components are described below. For more information on all of the Radia products, see the Radia Getting Started Guide or the HP OpenView web site.

Configuration Server

The Configuration Server is part of the Radia Management infrastructure, and resides on a single server or across a network of servers. Applications and information about the subscribers and client computers are stored in the Radia Database. The Configuration Server distributes packages based on policies established by the Radia administrator. See the Configuration Server Guide (also known as the Manager Guide) for more information.

Radia Management Portal

The Radia Management Portal is a Web-based interface that you can use to manage your Raida infrastructure. The Radia Management Portal is part of the Radia Extended Infrastructure. Whether you are already using Radia, or are just beginning, you can use the portal to create a graphical representation of your infrastructure. See the Radia Management Portal Guide for more information.

Proxy Server

If you want to reduce the load on the Configuration Server, or store your digital assets closer to your client computers, consider using a Proxy Server.

The Proxy Server stores a copy of the digital assets that are available to subscribers attached to the Proxy Server. The Proxy Server is also part of the Radia Extended Infrastructure. Evaluate the potential benefits for each server and its attached subscribers individually. For more information, refer to the Proxy Server Guide.

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

Administrator Workstation

Radia comes with a set of tools used to carry out software management functions. You should become very familiar with these tools. This is part of the Radia Management Infrastructure.

The Administrator Workstation for UNIX version 4.2i includes:

- **Radia Publisher**
  Use the Radia Publisher to create groups of components, called packages, and promote them to the Configuration Server.
- **Client Explorer**
  Use the Client Explorer (radobjed) to view and manipulate Radia objects on the client computer. The Client Explorer is installed along with the Radia Publisher.

The Administrator Workstation for Windows includes:

- **Radia Publisher**
  Use the Radia Publisher to create groups of components, called packages, and promote them to the Configuration Server.
- **System Explorer**
  Use the System Explorer to view and to manipulate the Radia Database. In addition to this publication, see the System Explorer Guide. (Available with the Windows version of the Administrator Workstation).
- **Client Explorer**
  Use the Client Explorer (radobjed) to view and manipulate Radia objects on the client computer. The Client Explorer is installed along with the Radia Publisher.
- **Radia Screen Painter**
  Use the Radia Screen Painter to create custom dialog boxes. (Available with the Windows version of the Administrator Workstation).

- **Radia Publisher**
  Use the Radia Publisher to publish Windows Installer files. See the Radia Publisher Guide for more information. (Available with the Windows version of the Administrator Workstation).

Management Applications

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

There are three types of Management Applications available for communicating with the Configuration Server. Install the only those clients for which you have obtained a license. The client software is located on the Management Applications CD-ROM.

- **Application Manager**
  Schedule the distribution of mandatory applications throughout the enterprise. This client is described in this book.
- **Software Manager**
  Subscribers install, remove, or update optional applications that are available to them in a service list. For more information, see the Software Manager Guide.
- **Inventory Manager**
  This client allows you to collect hardware information and send it to the Inventory Manager for collection and reporting. See the Inventory Manager Guide for details.
- **Radia Patch Manager**
  The Radia Patch Manager analyzes and manages security patches. See the Radia Patch Manager Guide.
- **Radia OS Manager**
  The Radia OS Manager controls the provisioning of operating systems. See the Radia OS Manager Guide.

If you install both the Software Manager and Application Manager feature sets, you decide if an application is mandatory or optional, and specify who controls the installation of the application. By adding the Inventory Manager, you can also find out the hardware and software configurations of the client computer.

Summary

- Radia gives you the flexibility and control to efficiently manage desktop software using Radia technology.
- Radia includes a set of administrator tools to help you manage your software.
- The Radia 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 Software Manager

At the end of this chapter, you will:

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

This guide covers the suggested implementation for the Software Manager. Although you will tailor this strategy to meet your organization's needs, it is recommended you review this guide for a comprehensive understanding of the Software Manager. This chapter covers installing the Software Manager.

Install only the Radia clients for which you have licenses. If you do not have a license, the Radia client will not authenticate with the Configuration Server.

System Requirements

- HP-UX Operating System Version 11 or above, PA Risc CPU.
- TCP/IP connection to a computer running Configuration Server.
- Radia client requires 20 MB free disk space.

Prerequisites

- We strongly recommend installing the Radia clients as root.
- Install the Radia client 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 don't.
- If you intend to run any of the graphical components of the Radia client 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 2 Setting the DISPLAY Variable

In a.....	Type....
C shell	`setenv DISPLAY IP address or hostname:0.0`

In a…..	Type….
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, you are urged to relocate it before beginning installation. You will be prompted for this during the installation. If you choose to overwrite your existing client, all your customized data will be lost.

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

To successfully run Radia applications, standard UNIX environment variables are required, as shown in Table 3 below. Minimally, these environment variables should include the fully qualified path of the installed client 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 these be included as part of the logon scripts of the UNIX user ID who installs, and will maintain the Radia clients.

When installing the Radia client on HP-UX platforms, the CD-ROM drive must be mounted to display lowercase file names. A sample mount command line follows:

```
mount -o cdcase /dev/<cdrom device>  /cdrom
```

If you do not mount the CD-ROM drive with the cdcase parameter, file names on the CDROM will be displayed in uppercase and the installation will fail.

Table 3 Environment Variables

Platforms	Examples
HP-UX	`SHLIB_PATH=/lib:$IDMSYS:$MOTIF:$SHLIB_PATH` `PATH= /bin:/usr/bin:$IDMSYS:$MOTIF:$PATH`

In Table 3 above, $IDMSYS represents the fully-qualified path to the Radia client executables, often referred to as the IDMSYS location, and $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 Radia client or Administrator Workstation graphical tools such as the Radia Publisher, the Client Explorer, and the presentation of the Radia client logon panel.

After the Radia client is installed, the file .nvdrc 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 Radia clients. We recommend adding a line to the appropriate logon scripts to invoke this shell script:

```
. $HOME/.nvdrc
```

Recommendations

- We strongly recommend that you install and run the Radia client as root.

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

- After you perform an installation, make sure the Software Manager is successfully connected to the Configuration Server. This registers the subscriber in the Radia Database. Once 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 Configuration Server.

Before you install the Radia client, consider the following:

- You can perform a local installation of the Radia clients.
- Your Radia systems administrator can perform a Remote Installation Setup. This process stores the installation media in a selected directory path. Later client installations can be initiated from any number of intended client 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 clients.
  - Ability to use a pre-installation method that runs any script or executable before the Radia client installation.
  - Ability to use a post-installation method, which runs any script or executable after the Radia client is installed.

— You can configure the installation to force a client connection to the Configuration Server immediately after the installation.

— You can pre-configure the IP address and port number of the Configuration Server that the Radia client will be connecting to.

— Ability to use an object update text file that can be used to update Radia objects after the installation.

Installation Methods

You can install the Radia clients 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 Radia clients. These parameters are used to install the Radia client using the graphical mode, non-graphical mode, plain mode, or silent mode.

Table 4 below describes the installation parameters.

Table 4 Command Line Parameters

Parameter	Example	Description
`-mode plain`	`./install -mode plain`	Installs the Radia client in plain mode. The installation graphics are displayed with no animations. This is useful for remote installations where network bandwidth may be an issue.
`-mode text`	`./install -mode text`	Installs the Radia client 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 Radia Client

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

Graphical Installation

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

Local Installation

This section describes how to install the Radia clients to a local computer using a GUI.

To install the Radia client to a local computer using a GUI

These instructions will guide you through the local graphical installation of the Radia client. For the non-graphical installation instructions, see Non-graphical Installation on page 48.

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

Example:

For HP-UX, type: `cd /cdrom/hpux`

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

The Welcome window opens.

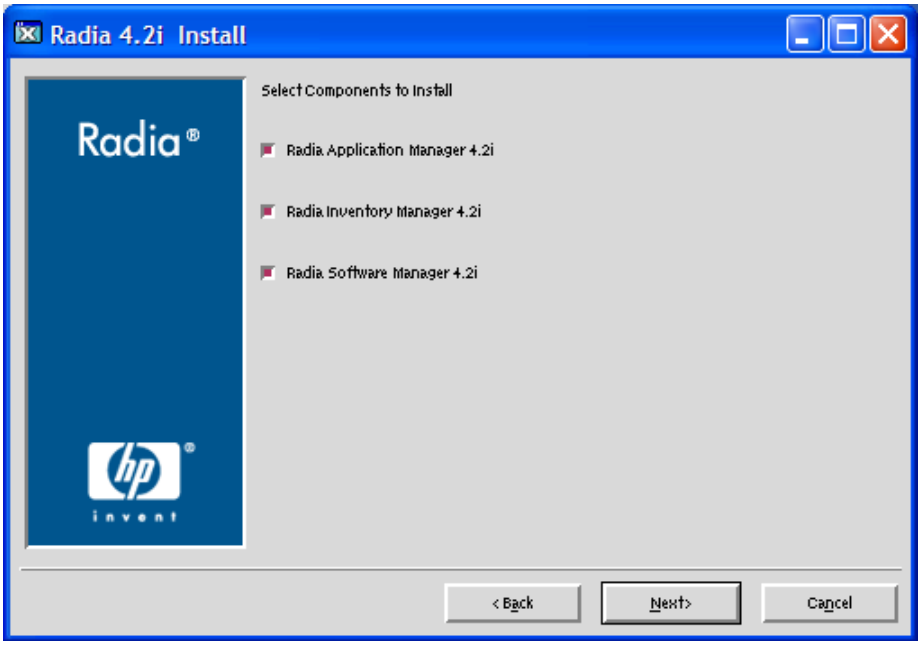
At any point during the installation, you can return to a previous window by clicking **Back.** Also, if you would like to exit the installation at any time, click **Cancel**.

3 Click **Next**.

The End User Licensing Agreement window opens.

4 Read the HP Software License Terms and click **Accept**.

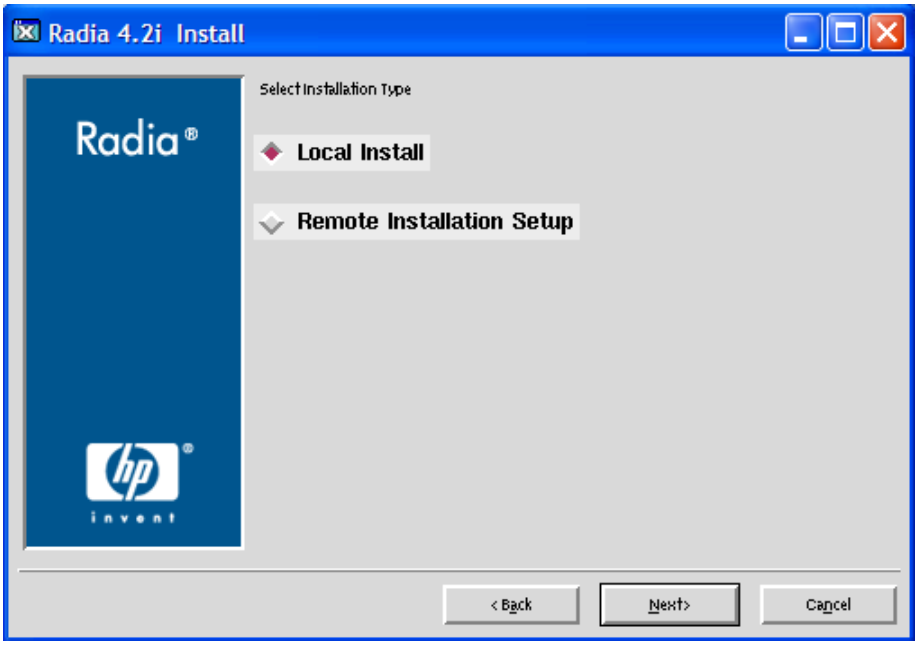
The Select Components to Install window opens.



5 Select the **Software Manager** check box.

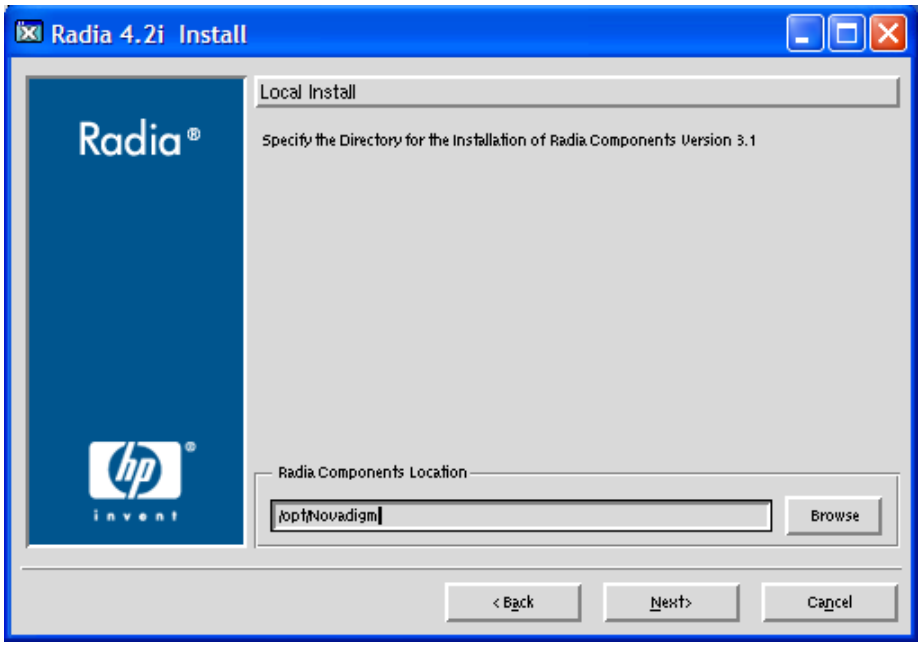
6 Click **Next**.

The Select Installation Type window opens.



7 Select **Local Install** to install the Radia client onto a local computer, and then click **Next**.

The Radia Client Location window opens.



8 Type the name of the directory where you want to install the Radia client, or click **Browse** to navigate to it.

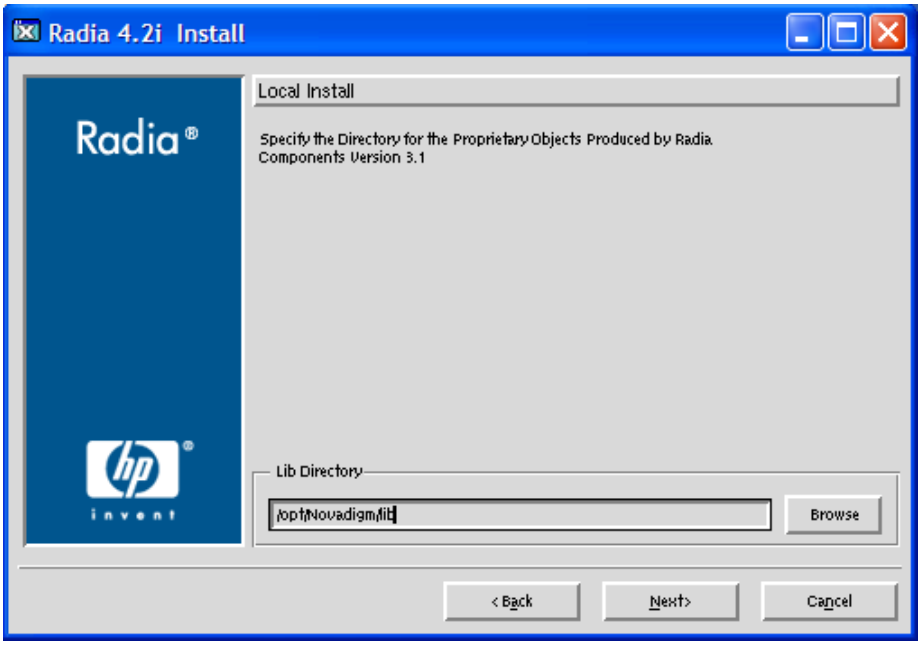
9 Click **Next**.

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**.

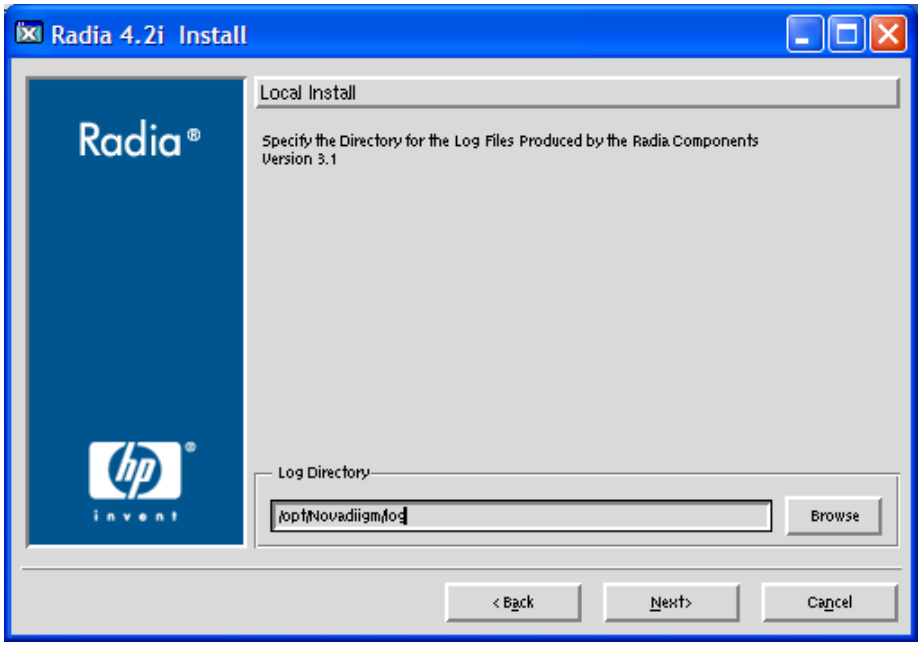
The Lib Directory window opens.



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

11 Click **Next**.

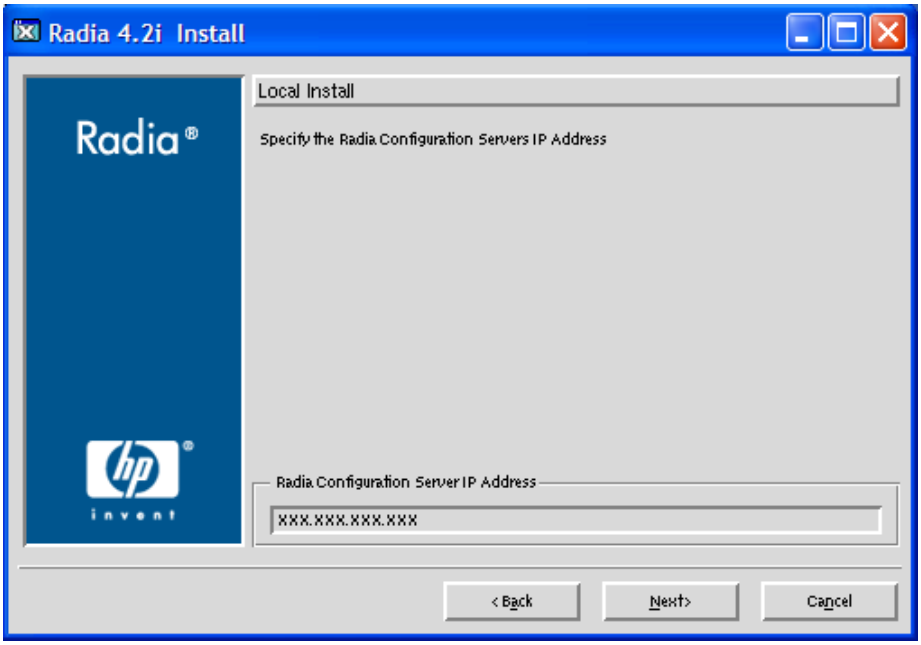
The Log Directory window opens.



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

13 Click **Next**.

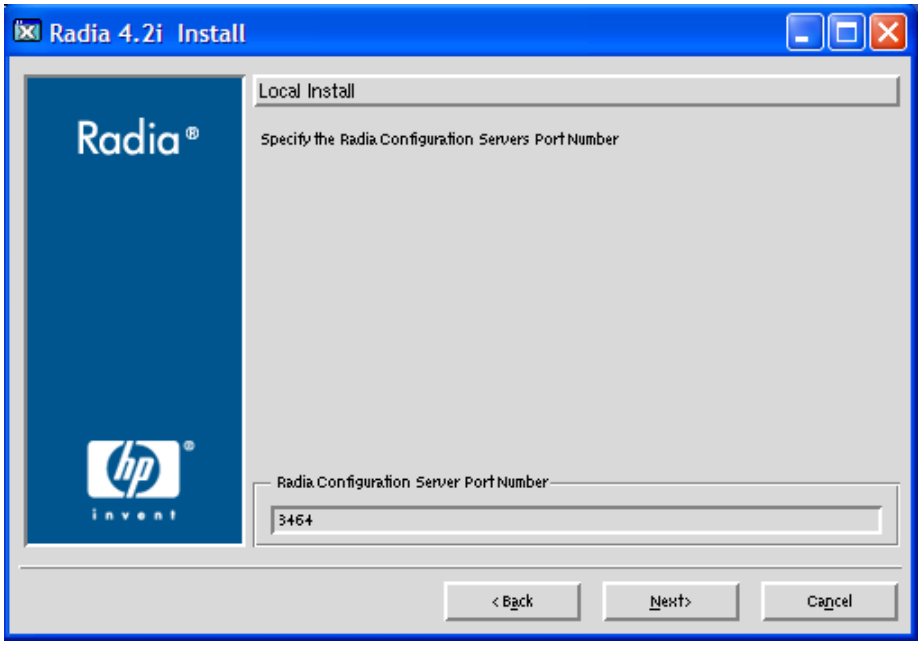
The Configuration Server IP Address window opens.



14 Type the IP address (format: xxx.xxx.xxx.xxx) of the Configuration Server to which the Radia client will connect. Specify a valid IP address or hostname recognized by the client workstation.

15 Click **Next**.

The Configuration Server Port Number window opens.



16 Type the Configuration Server's port number (default is 3464).

17 Click **Next**.

The Package Settings window opens.

18 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.

19 When you're satisfied with the settings, click **Install** to install the Radia client with these settings.

20 When the installation is complete click **Finish** to exit the installation program.

The Radia client has been successfully installed.

Remote Installation Setup

This section describes how to install the Radia client to a remote computer using a GUI.

To install the Radia client to a remote computer using a GUI

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

Example:

For HP-UX, type: `cd /cdrom/hpux`

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

The Welcome window opens.

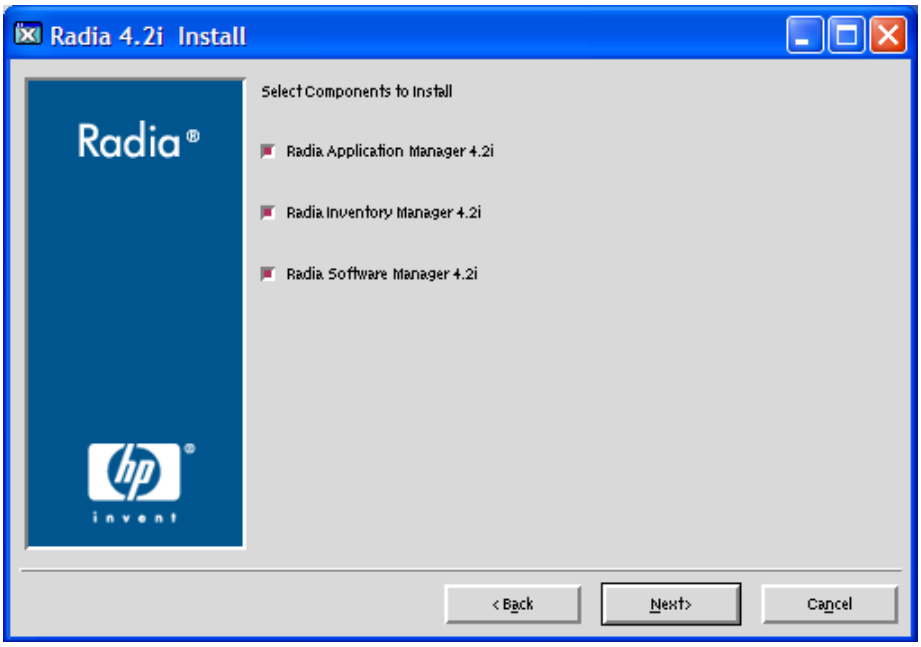
At any point during the installation, you can return to a previous section by clicking **Back.** Also, if you would like to exit the installation at any time, click **Cancel**.

3 Click **Next**.

The End User Licensing Agreement window opens.

4 Read the HP Software License Terms and click **Accept**.

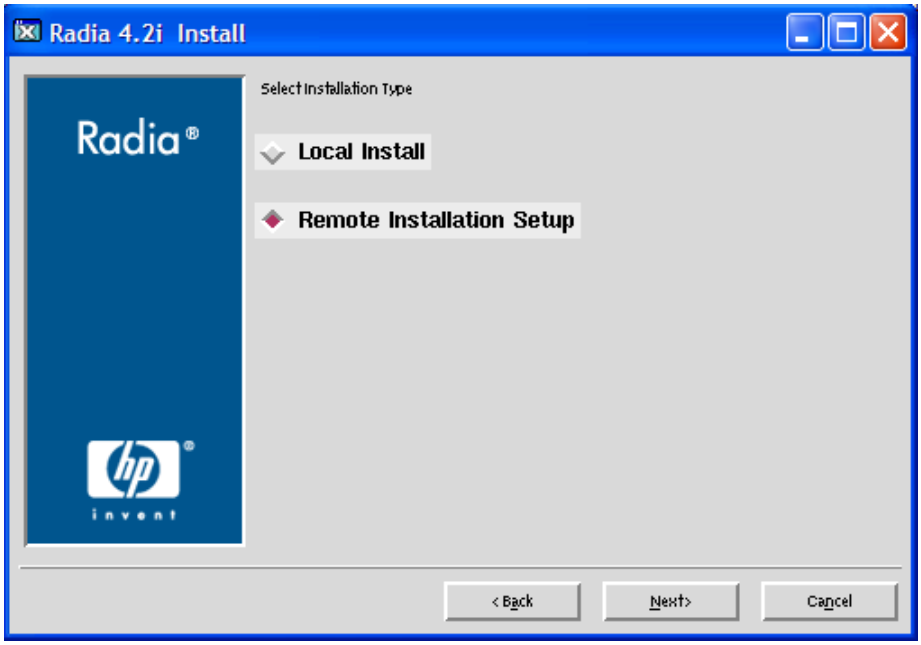
The Select Components to Install window opens.



5 Select the **Software Manager** check box.

6 Click **Next**.

The Select Installation Type window opens.

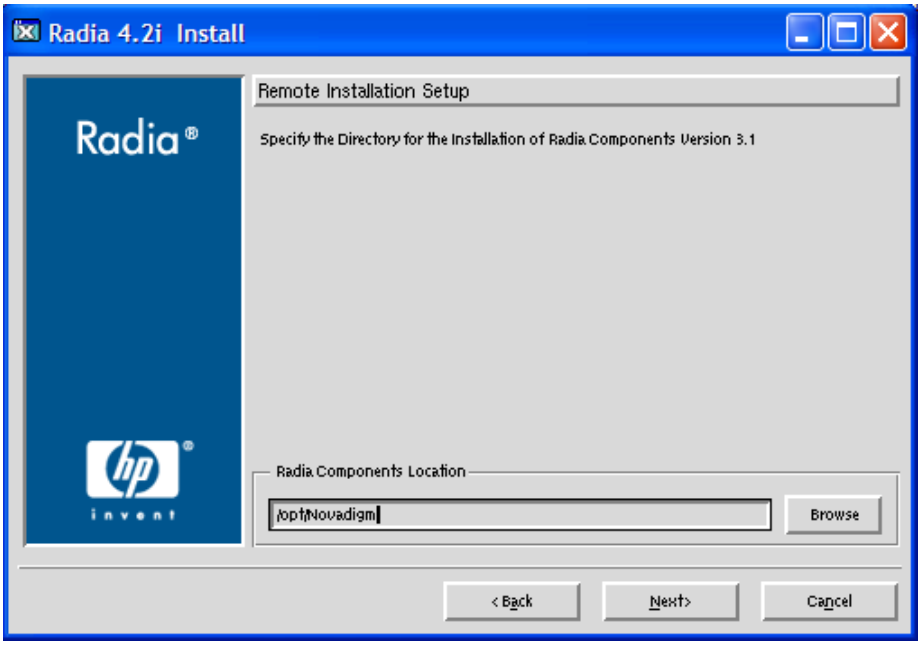


7 Select **Remote Installation Setup**.

This will store the installation media to another location on disk to be used later as the source for other client installations.

8 Then click **Next**.

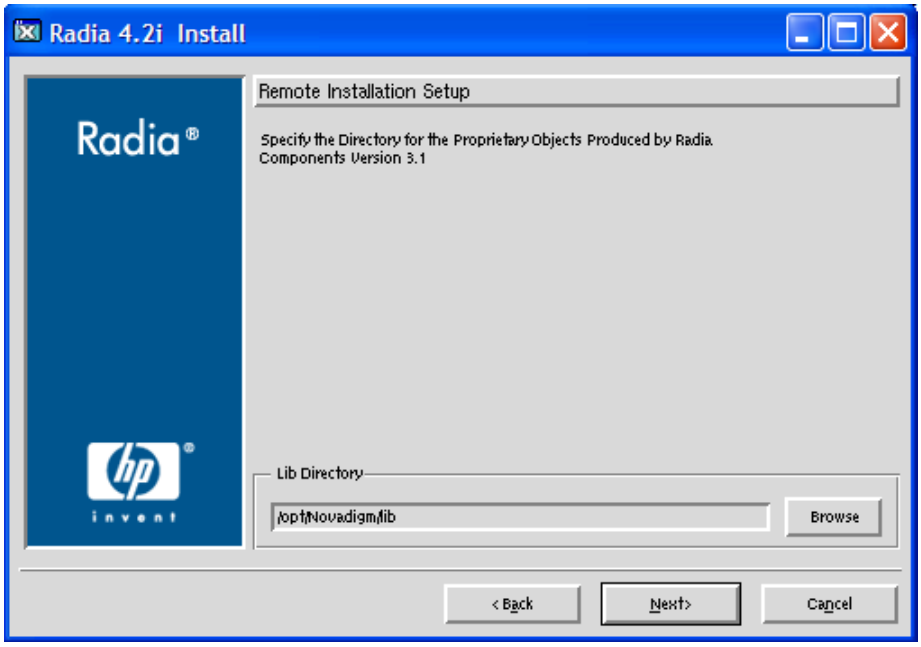
The Radia client Location window opens.



9 Type the name of the directory where you want to install the Radia client executables for a silent installation, or click **Browse** to navigate to it.

10 Click **Next**.

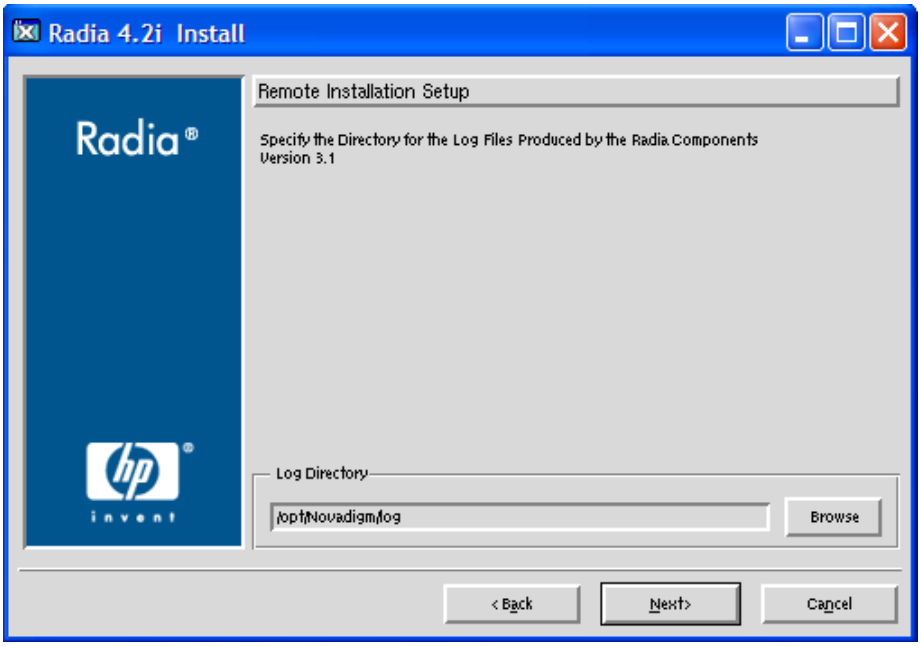
The Lib Directory window opens.



11 Type the name of the directory where you would like to store proprietary information created by Radia for a silent installation, or click **Browse** to navigate to it.

12 Click **Next**.

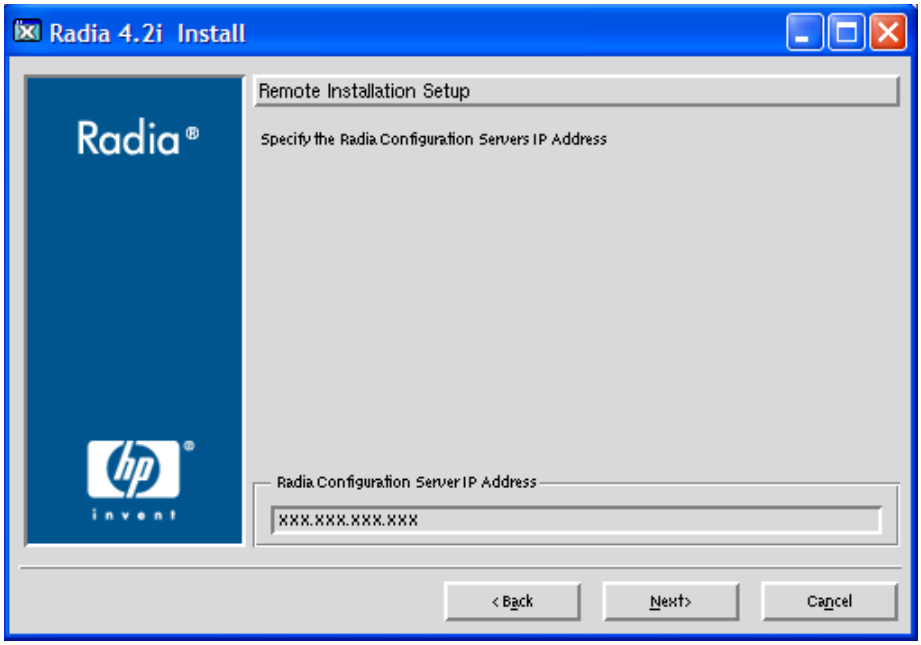
The Log Directory window opens.



13 Type the name of the directory where you would like to store log files generated by Radia for a silent installation, or click **Browse** to navigate to it.

14 Click **Next**.

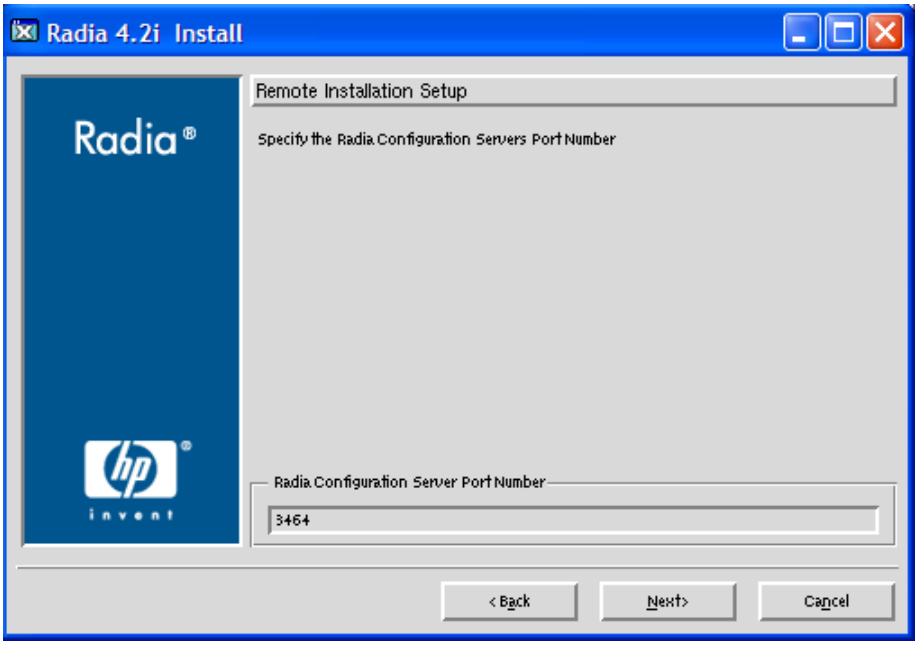
The Configuration Server IP Address window opens.



15 Type the IP address (format: xxx.xxx.xxx.xxx) of the Configuration Server that the Radia client will connect to. Specify a valid IP address or hostname recognized by the client workstation.

16 Click **Next**.

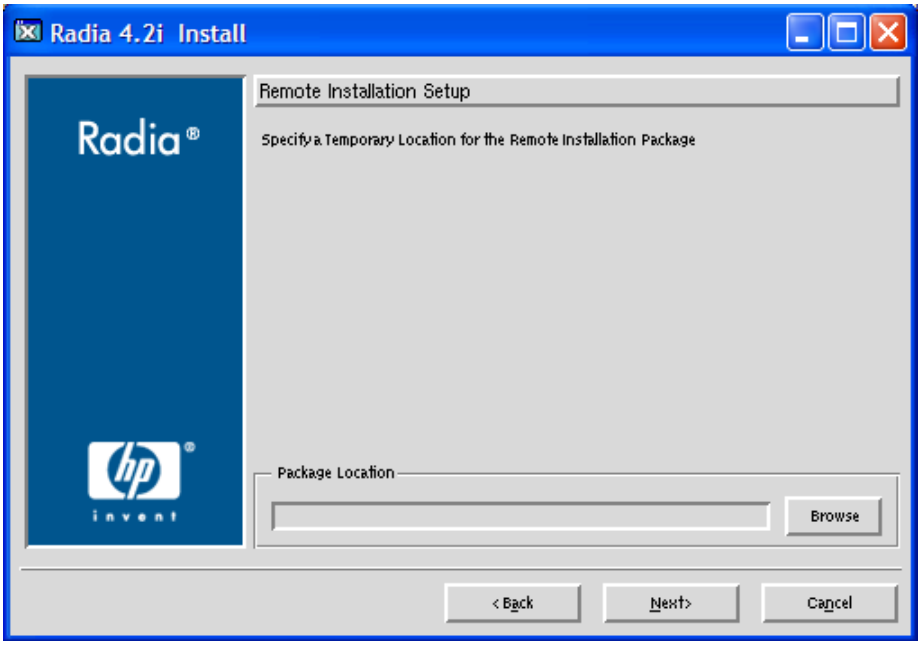
The Configuration Server Port Number window opens.



17 Type the port number of the Configuration Server (default is 3464).

18 Click **Next**.

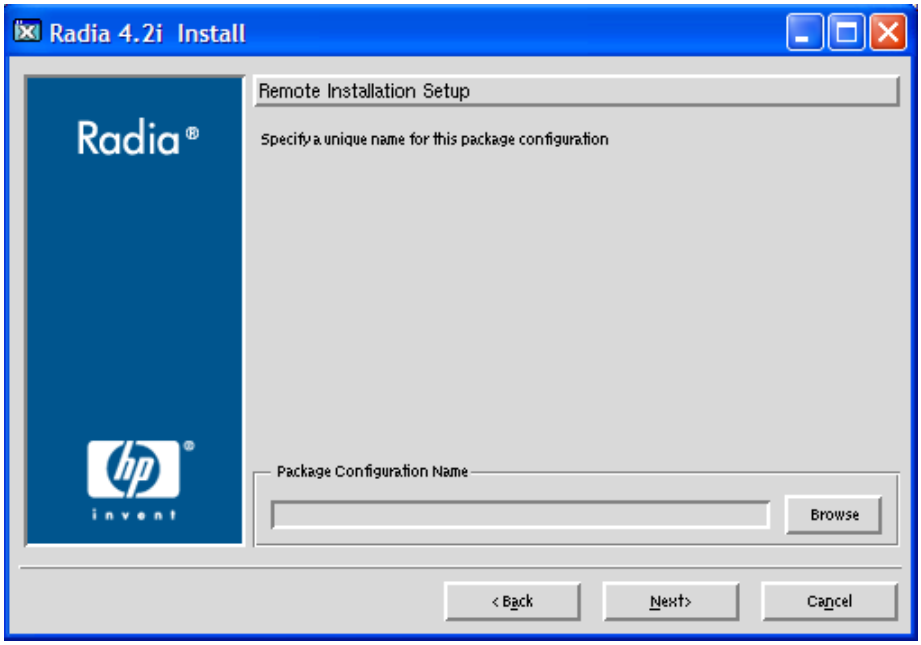
The Package Location window opens.



19 Type the fully qualified path to a directory where you would like to store the Radia client installation media for future client installations, or click **Browse** to navigate to it.

20 Click **Next**.

The Package Configuration Name window opens.



21 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.

22 Click **Next**.

The Package Settings window opens.

23 Review the settings displayed in the Package Settings window.

24 Click **Continue** to build the Remote Installation Package.

25 When the installation is complete, click **Finish** to exit the installation program.

The Radia client installation media has been successfully stored on disk for future installations.

Once 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 Radia client installations. These responses would normally be provided during an interactive Radia client installation. When performing silent installations, additional installation options are also available in the configuration file.

The variables available in the configuration file are described in Table 5 below.

Table 5 Configuration File Variables

Variable	Sample Value	Description
REMOTE	0	0 designates a local installation. 1 designates a Remote Installation Setup.
INSTDIR	`/opt/Novadigm`	The default installation directory.
IDMLOG	`/opt/Novadigm/log`	This can be defined to designate a directory for IDMLOG other than the default INSTDIR/log.
IDMLIB	`/opt/Novadigm/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.
PREPARM		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.
POSTPARM		Any parameters required by the post-installation method specified in the variable POSTPROC.
MGRIP	xxx.xxx.xxx.xxx	The default IP address for connection to the Configuration Server.
MGRPORT	3464	The default port number for connection to the Configuration Server.
NTFYPORT	3465	The default Notify port used.

Variable	Sample Value	Description
CONNECT	Y	Connects to the Configuration Server immediately after the installation. Default behavior is N. Set to Y if you want your Radia client to connect to the Configuration Server automatically after the installation.
OBJECTS	`./object.txt`	The file that is used to create or update Radia 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 Radia client. For example, your post-installation script can initiate a connection to the Configuration Server in order to process mandatory applications. The sample below is part of a shell script that initiates the connection to the Configuration Server and processes mandatory applications.

```
#!/bin/sh
#
cd /opt/Novadigm

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/Novadigm/radskman mname=NVDM,dname=SOFTWARE,ip=$ZIPADDR,
port=$ZDSTSOCK,cat=prompt,ind=y,uid=\$MACHINE,startdir=SYSTEM,
ulogon=n
```

Customizing Installed Object Variable Content

The configuration file option OBJECTS allows you to specify the fully qualified path to a filename 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 indicates a comment.
- A pound sign (#) on any other part of a line will be considered 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 Radia Client

We recommend the client be installed as root.

Performing a silent installation of the Radia client using stored Radia client installation media requires that:

- your Radia 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 Radia client. Table 6 below describes these.

Table 6 Silent Installation Command Line Parameters

Parameter	Example	Description
`-cfg`	`./install -cfg Radia.cfg`	The filename specified after `-cfg` is the name of the configuration file to be used during the installation. For information about configuration files, see Customizing the Installation Configuration File on page 45.
`-mode silent`	`./install -mode silent -cfg /common/Radia.cfg`	Installs the Radia client in silent mode based on the parameters set in the configuration file specified after the `-cfg` parameter. For information about configuration files, see Customizing the Installation Configuration File on page 45.

Non-graphical Installation

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

To install the Radia client for UNIX using a command line

These instructions guide you through the local non-graphical installation of the Radia client for UNIX. For the graphical installation, see Graphical Installation on page 30.

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

Example:

For HP-UX, type: **`cd /cdrom/hpux`**

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

The Radia client installation begins.

```
Installing Radia 4.2i Products

Welcome to Radia 4.2i Products Setup program.

This program will install Radia 4. 2i Products on your
computer.

It is strongly recommended that you exit all desktop
programs before running this Setup Program

Type Q to quit Setup, then close any programs you have
running. Type C to continue with the Setup program.

(To exit install at any prompt, type <cancel>)

WARNING: This program is protected by copyright law and
international treaties.

Unauthorized reproduction or distribution of this program,
or any portion of it, may result in severe civil and
criminal penalties, and will be prosecuted to the maximum
extent possible under the law.

Enter C to Continue with the installation or Q to Quit the
setup program:
```

27 Type **C**, and press **Enter**.

```
Select Components to Install
```

```
Application Manager 4.2i
Install? Y|N (Y):
Inventory Manager 4.2i
Install? Y|N (N):n
Software Manager 4.2i
Install? Y|N (N):y
```

28 Press **Enter** to accept the default component, the Application Manager.

OR

Type **N** to skip the installation of the Application Manager.

29 Press **Enter** to not install the Inventory Manager.

OR

Type **Y** and accept the installation of the Inventory Manager.

30 Type **Y** and press **Enter** to install the Software Manager.

```
Select Installation Type
1) Local_Install
2) Remote_Installation_Setup
Enter Type index (1 - 2) (1):
```

31 Select the type of installation. The default is 1, a local installation.

— Type **1**, and then press **Enter** to install the Radia client locally.

OR

— Type **2**, and then press **Enter** to set up remote installation media.

For this example, we accepted the default.

```
Specify the Radia Installation Location
Radia Components Location
Default value: /opt/Novadigm/
```

32 Specify the installation location for the Radia client, and then press **Enter**.

```
Specify the Directory for the Proprietary Objects Produced
by Radia Components Version 4.2i
Lib Directory
Default value: /opt/Novadigm/lib/
```

33 Specify the location for the Radia proprietary objects (IDMLIB), and then press **Enter**.

```
Specify the Directory for the Log Files Produced by the
Radia Components Version 4.2i

Log Directory

Default value: /opt/Novadigm/log/
```

34 Specify the location for the log files created by Radia (IDMLOG), and then press **Enter**.

```
Specify the Configuration Servers IP Address

Configuration Server IP Address

Default value: XXX.XXX.XXX.XXX
```

35 Specify the IP address of the Configuration Server, and then press **Enter**.

```
Specify the Configuration Servers Port Number

Configuration Server Port Number

Default value: 3464
```

36 Specify the port number for the Configuration Server, and then press **Enter**.

```
Installation Settings:
Install Software Manager 4.2i
  Package Settings:
    Radia Components Location = /opt/Novadigm/
    Lib Directory = /opt/Novadigm/lib/
    Log Directory = /opt/Novadigm/log/
    Configuration Server IP Address = 1.1.1.98
    Configuration Server Port Number = 3464
Install Software Manager 4.2i
  Package Settings:
    Radia Components Location = /opt/Novadigm/
Enter Y to begin the installation
Enter N to re-enter the installation information.
Please enter your choice (Y):
```

37 Review the installation settings you've chosen.

38 If you would like to install the Radia client with these parameters, press **Enter** to accept the default answer of Y.

If you would like to change any of these settings, type **N** to re-enter the installation information.

```
Starting Install . . .

Complete the configured install process? Y|N (Y):
```

39 When you're satisfied with the settings, press **Enter** to install the Radia client.

The Radia client is installed.

About Radia Daemons in UNIX

The Radia client installation program installs the following daemon executables:

- **Radia Notify (default port 3465)**
  Use Radia Notify, `radexecd`, to push updates to subscribers or to remove applications. A Notify message is sent from the Configuration Server to this daemon. When the daemon receives the Notify message, the Radia client connects to the 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.

- **Radia Scheduler**
  Use the Radia 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 Radia daemons as system services at boot time, please see your local UNIX system administrator or refer to your UNIX operating system's manual.

Sample Shell Scripts

The installation of the Radia client includes a subdirectory called "sample". It contains a sample shell script called daemons.sh that may be used 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 Client Installation

Should you encounter any problems while installing the Radia UNIX Client, please perform the following steps before contacting technical support:

1. Enable diagnostic tracing by appending the text **`-loglevel 9`** to the installation command line and re-run the installation.
2. 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 Radia clients as root.
- Install the Radia clients using either the graphical or non-graphical modes.

3 Installing the Administrator Workstation for UNIX

At the end of this chapter, you will:

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

This guide covers the suggested implementation for the Software Manager. Although you will tailor this strategy to meet your organization's needs, it is recommended that you review this guide for a comprehensive understanding of the Software Manager. This chapter focuses on installing the Administrator Workstation for UNIX.

If you are responsible for packaging applications or configuring them for distribution, install the Administrator Workstation on your administrator computer.

Use the Radia Publisher to create software or data packages, and then promote them to the Radia Database.

System Requirements

- HP-UX Operating System Version 11 or above, PA Risc CPU.
- TCP/IP connection to a computer running Configuration Server.
- Radia client requires 20 MB free disk space.

Prerequisites

- We strongly recommend installing the Radia clients as root.
- Install the Radia client on a local file system.
- If you intend to run any of the graphical components of the Administrator Workstation 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 7 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

Should you encounter any problems while installing the Radia UNIX Client, please perform the following steps before contacting technical support:

1. Enable diagnostic tracing by appending the text -loglevel 9 to the installation command line and re-run the installation.
2. Have 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 Administrator Workstation as root.

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

Installation Methods

You can install the Administrator Workstation 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 Administrator Workstation. Table 8 below describes these.

Table 8 Command Line Parameters

Parameter	Example	Description
`-mode plain`	`./install -mode plain`	Installs the Administrator Workstation 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.
`-mode text`	`./install -mode text`	Installs the Administrator Workstation 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 Administrator Workstation for UNIX

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

Graphical Installation

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

To install the Administrator Workstation for UNIX using a GUI

These instructions will guide you through the graphical installation of the Administrator Workstation. For non-graphical instructions, see Non-graphical Installation on page 64.

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

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

Example:

For HP-UX, type:

```
cd /cdrom/management infrastructure/administrator workstation/hpux/
```

3 Type **`./install`**, and then press **Enter**.

The Welcome window opens.

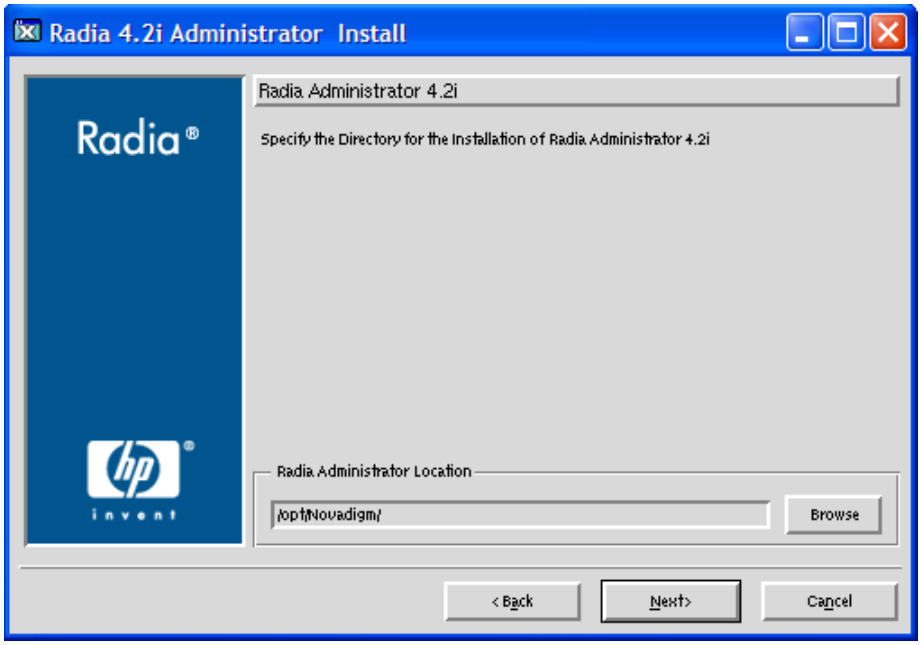
4 Click **Next**.

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

The End User Licensing Agreement window opens.

5 Read the HP Software License Terms and click **Accept**.

The Radia Administrator Location window opens.



6 Type the name of the directory where you are installing the Administrator Workstation, or click **Browse** to navigate to it.

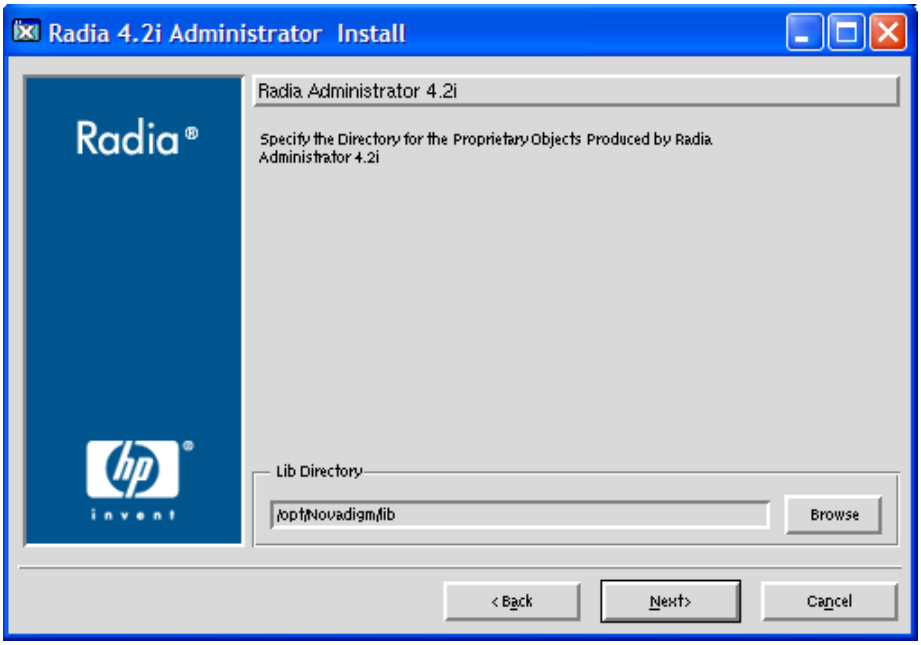
7 Click **Next**.

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**.

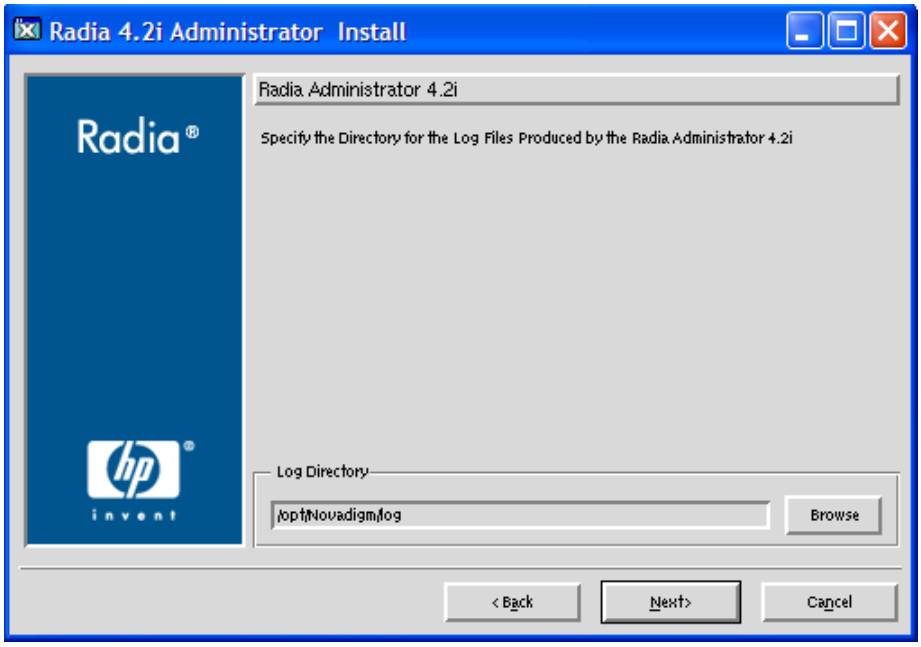
The Lib Directory window opens.



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

9 Click **Next**.

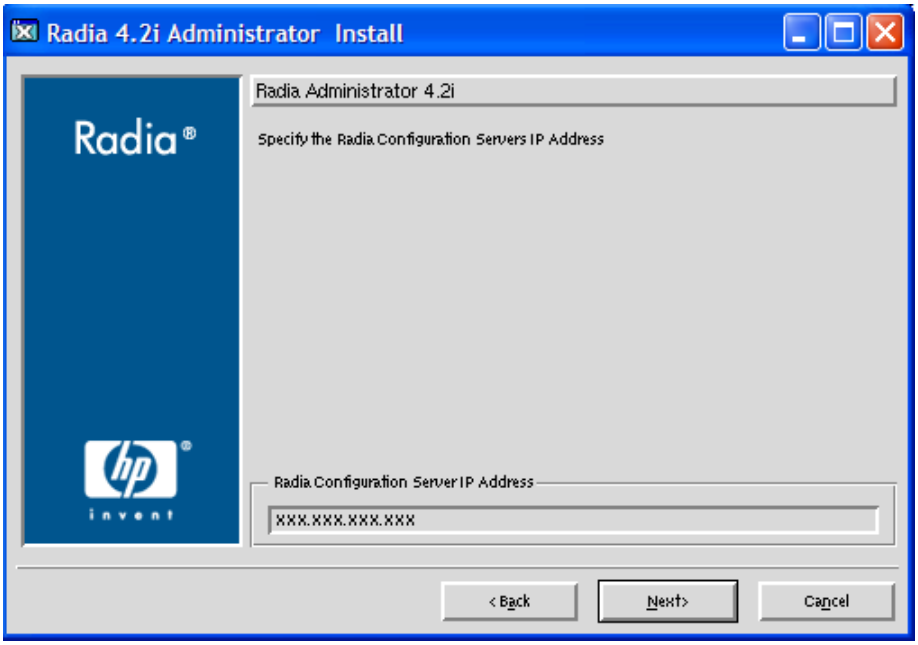
The Log Directory window opens.



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

11 Click **Next**.

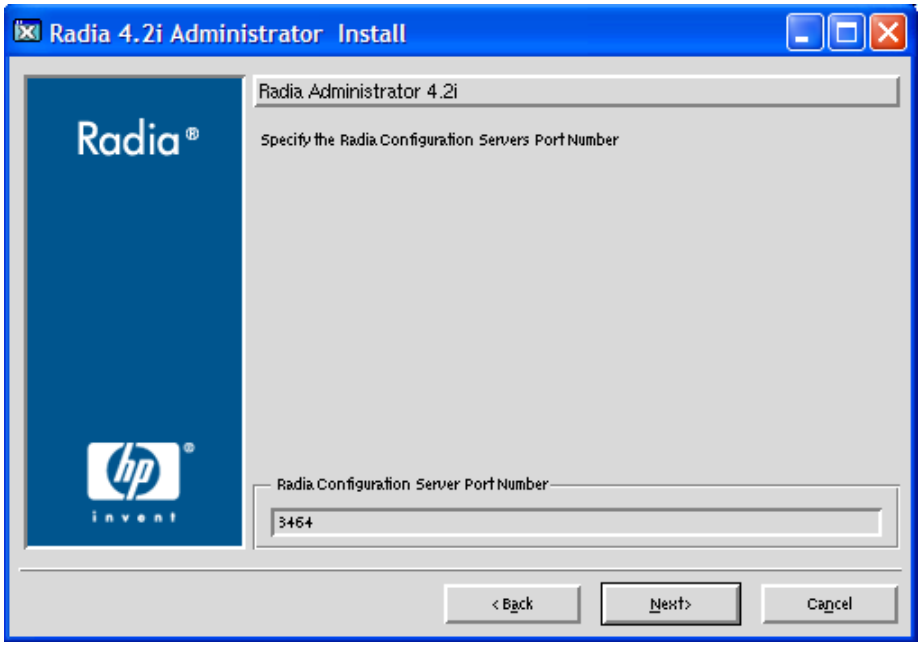
The Configuration Server IP Address window opens.



12 Type the IP address (format: xxx.xxx.xxx.xxx) or hostname of the Configuration Server you will be publishing to.

13 Click **Next**.

The Configuration Server Port Number window opens.



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

15 Click **Next**.

The Package Settings window opens.

16 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.

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

The Administrator Workstation is installed.

Non-graphical Installation

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

To install the Administrator Workstation for UNIX using a command line

These instructions guide you through the non-graphical installation of the Administrator Workstation. For the graphical installation, see Graphical Installation on page 59.

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

Example:

For HP-UX, type: **`cd /cdrom/management infrastructure/administrator workstation/hpux/`**

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

The Administrator Workstation installation begins.

```
Installing Radia 4.2i Administrator

Welcome to Radia 4.2i Administrator Setup program.

This program will install Radia 4.2i Administrator on your
computer.

It is strongly recommended that you exit all desktop
programs before running this Setup Program.

Type Q to quit Setup then close any programs you have
running. Type C to continue with the Setup program.

(To exit install at any prompt, type <cancel>)

WARNING: This program is protected by copyright law and
international treaties.

Unauthorized reproduction or distribution of this program,
or any portion of it, may result in severe civil and
criminal penalties, and will be prosecuted to the maximum
extent possible under the law.

Enter C to Continue with the installation or Q to Quit the
setup program:
```

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

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

```
Radia Administrator 4.2i
```

```
Specify the Radia Installation Location

Radia Administrator Location

Default value: /opt/Novadigm/
```

4 Specify the installation location for the Administrator Workstation, and then press **Enter**.

```
Radia Administrator 4.2i

Specify the Directory for the Proprietary Objects Produced
by Radia Administrator 4.2i

Lib Directory

Default value: /opt/Novadigm/lib/
```

5 Specify the location for the Radia proprietary objects (IDMLIB), and then press **Enter**.

```
Radia Administrator 4.2i

Specify the Directory for the Log Files Produced by the
Radia Administrator 4.2i

Log Directory

Default value: /opt/Novadigm/log/
```

6 Specify the location for the log files created by Radia (IDMLOG), and then press **Enter**.

```
Radia Administrator 4.2i

Specify the Configuration Servers IP Address

Configuration Server IP Address

Default value: XXX.XXX.XXX.XXX
```

7 Specify the IP address of the Configuration Server, and then press **Enter**.

```
Radia Administrator 4.2i

Specify the Configuration Servers Port Number

Configuration Server Port Number

Default value: 3464
```

8 Specify the port number of the Configuration Server, and then press **Enter**.

```
You are now ready to install the Radia 4.2i Administrator.

Installation Settings:
```

```
Install Radia Administrator 4.2i
  Package Settings:
    Radia Administrator Location = /opt/Novadigm/
    Lib Directory = /opt/Novadigm/lib/
    Log Directory = /opt/Novadigm/log/
    Configuration Server IP Address = xxx.xxx.xxx.xxx
    Configuration Server Port Number = 3464
Enter Y to begin the installation
Enter N to re-enter the installation information.
Please enter your choice (Y):
```

9 Review the installation settings you've chosen.

10 If you would like to install the Administrator Workstation with these settings, press **Enter** to accept the default (Y) and begin the installation or type **N**, to re-enter your installation information.

```
Starting Install . . .
Complete the configured install process? Y|N (Y):
```

11 To complete the configured installation process, press **Enter**.

The Administrator Workstation is installed.

Summary

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

4 Installing the Administrator Workstation for Windows

At the end of this chapter, you will:

- Understand the system requirements for installing the Administrator Workstation.
- Be familiar with the installation files.
- Know how to install the Administrator Workstation using the Installation Wizard and command lines.
- Understand the feature settings of the Administrator Workstation.
- Know how to remove and repair the Administrator Workstation using the Installation Wizard and command lines.

The Administrator Workstation installation program uses Microsoft Windows Installer. The program consists of one MSI package with four feature sets—Radia Packager, System Explorer, Client Explorer, and Radia Screen Painter.

System Requirements

- Clean computer. (A clean computer is a computer with only the target subscriber's operating system installed.)
- Windows 2000 and above.
- TCP/IP connection to the 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 Radia Infrastructure CD-ROM. 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, you must have administrator rights to the computer to install the Administrator Workstation.

About the Installation Files

setup.exe

`setup.exe` is stored on the Radia Infrastructure CD-ROM 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 `RADADMIN40.MSI`, the installation folders, and `setup.exe`.

RADADMIN40.MSI

`RADADMIN40.MSI` is the MSI database file, which contains the default configuration information for the installation. This file is stored on the Radia Infrastructure CD-ROM in the `managementinfrastructure\administratorworkstation\win32\` folder.

Installing the Administrator Workstation

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

Using the Installation Wizard to Install the Administrator Workstation

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

To install the Administrator Workstation using the Installation Wizard

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

   The Administrator Workstation Installation Wizard opens.

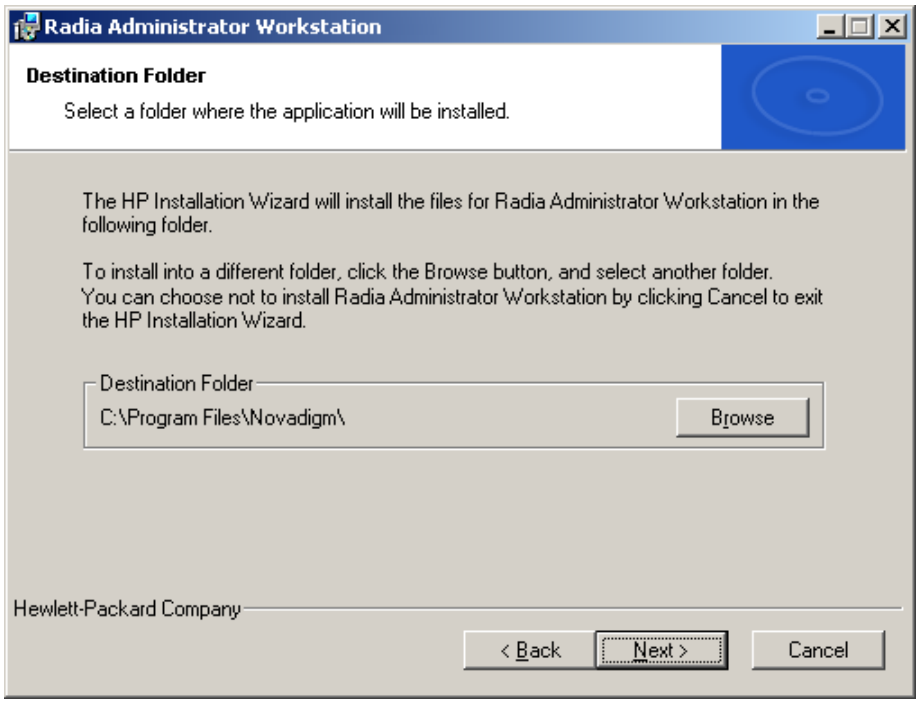
2. Click **Next**.

   The License Agreement window opens.

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

   If the Radia client is not installed on the computer, the Destination Folder window opens.

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

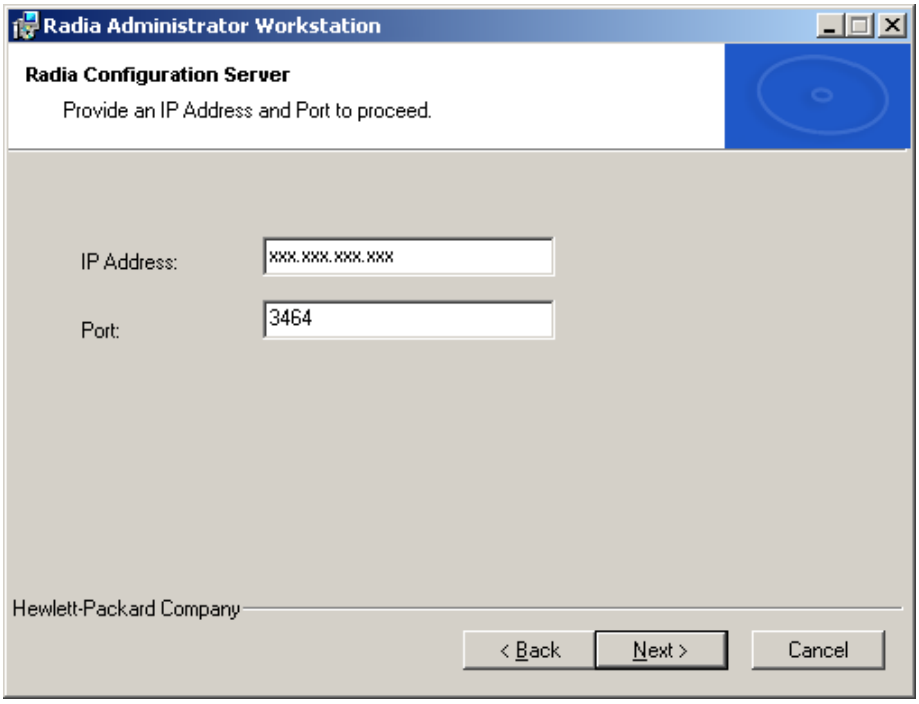


If you want to select a different destination for the Administrator Workstation, click **Browse**, and then navigate to the appropriate destination folder.

Click **OK** to continue.

4 Click **Next**.

The Configuration Server window opens.

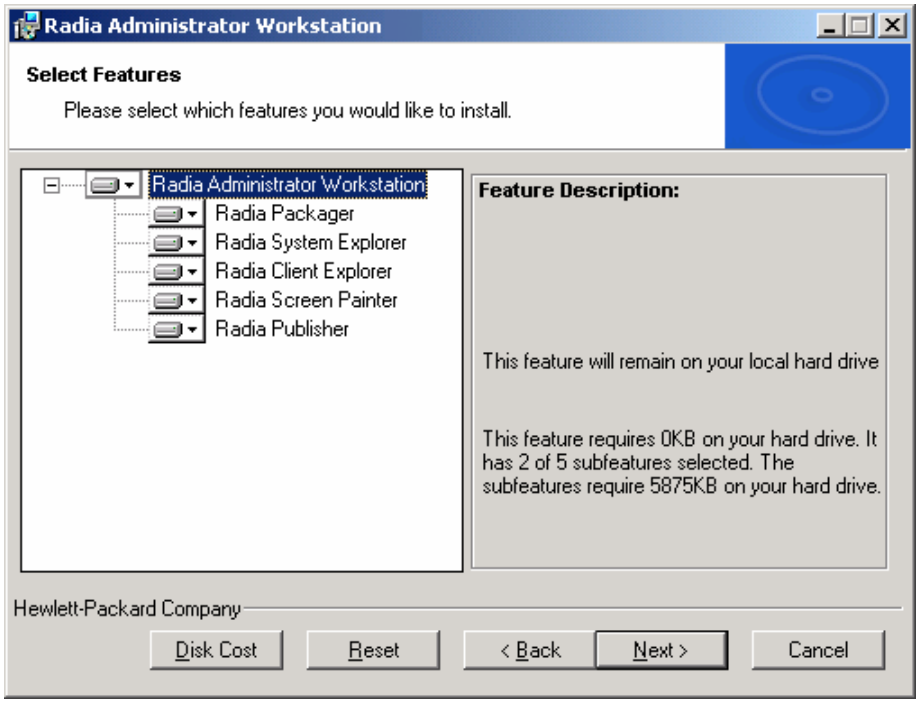


5 In the IP Address text box, type the IP address for the Configuration Server.

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

7 Click **Next**.

The Select Features window opens.

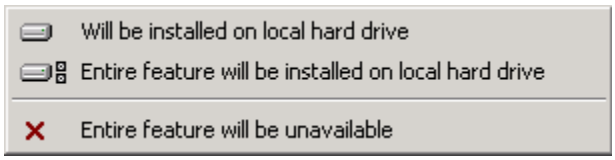


8 Click  to select the features that you would like to install.

If you want to set the same options for all of the features, you can click  next to Administrator Workstation 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 9 on page 75.

Table 9 Feature Settings for the Administrator Workstation

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.
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 Administrator Workstation 4.x has been successfully installed window opens.

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

Using a Command Line to Install the Administrator Workstation

You can also use the command line to run the Administrator Workstation installation program For example, if you want to install only the Radia Packager on a computer, the command line that you run from the directory containing the Administrator Workstation 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 10 Administrator Workstation 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 Administrator Workstation features as follows:

- NVDINSTALLPACKAGER Radia Packager
- NVDINSTALLPUBLISHER Radia Publisher
- NVDINSTALLSYSTEMEXPLORER System Explorer
- NVDINSTALLCLIENTEXPLORER Client Explorer
- NVDINSTALLSCREENPAINTER Radia Screen Painter

For example, if you want to install the System Explorer and the Client Explorer to the computer, the command line might be:

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

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

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

Additional Command Line Arguments

Some additional arguments that you can pass to the installation program on the command line are described in Table 11 below.

Table 11 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 `RADADMIN40.MSI`, the installation folders, and `setup.exe`. Once 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 Administrator Workstation

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

Using the Installation Wizard to Remove the Administrator Workstation

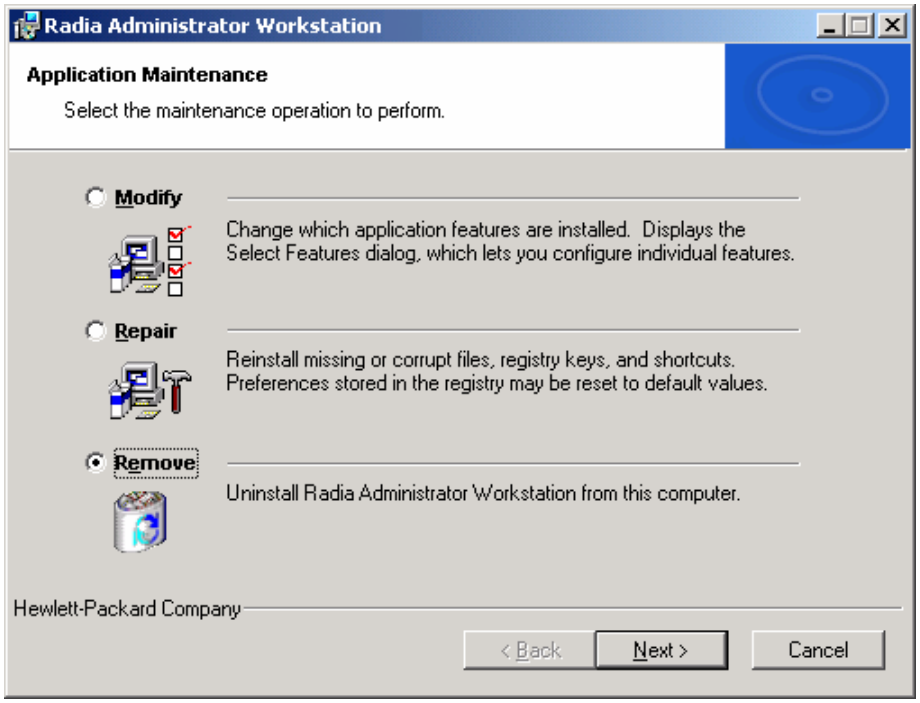
This section describes how to remove (uninstall) the Administrator Workstation using the Installation Wizard.

To remove specific features of the Administrator Workstation, use the Modify option. This is discussed in Modifying the Administrator Workstation Installation on page 82.

To remove the Administrator Workstation using the Installation Wizard

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

The Application Maintenance window opens.



2 Select the **Remove** option.

3 Click **Next**.

The Administrator Workstation Uninstall window opens.

4 Click **Next**.

The files for the Administrator Workstation are removed from the computer.

The Administrator Workstation has been successfully uninstalled window opens.

5 Click **Finish**.

Using a Command Line to Remove the Administrator Workstation

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

To remove the Administrator Workstation using a command line

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

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

  or

  If you would like to remove a single Administrator Workstation 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 System Explorer and Client Explorer, type:

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

Reference the features for the Administrator Workstations as follows:

Radia Packager	NVDINSTALLPACKAGER
Radia Publisher	NVDINSTALLPUBLISHER
System Explorer	NVDINSTALLSYSTEMEXPLORER
Client Explorer	NVDINSTALLCLIENTEXPLORER
Radia Screen Painter	NVDINSTALLSCREENPAINTER

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 Administrator Workstation

The Windows Installer installation program offers the ability to repair the Administrator Workstation. For example, if you have a missing Administrator Workstation 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 Administrator Workstation using the Installation Wizard and using a command line.

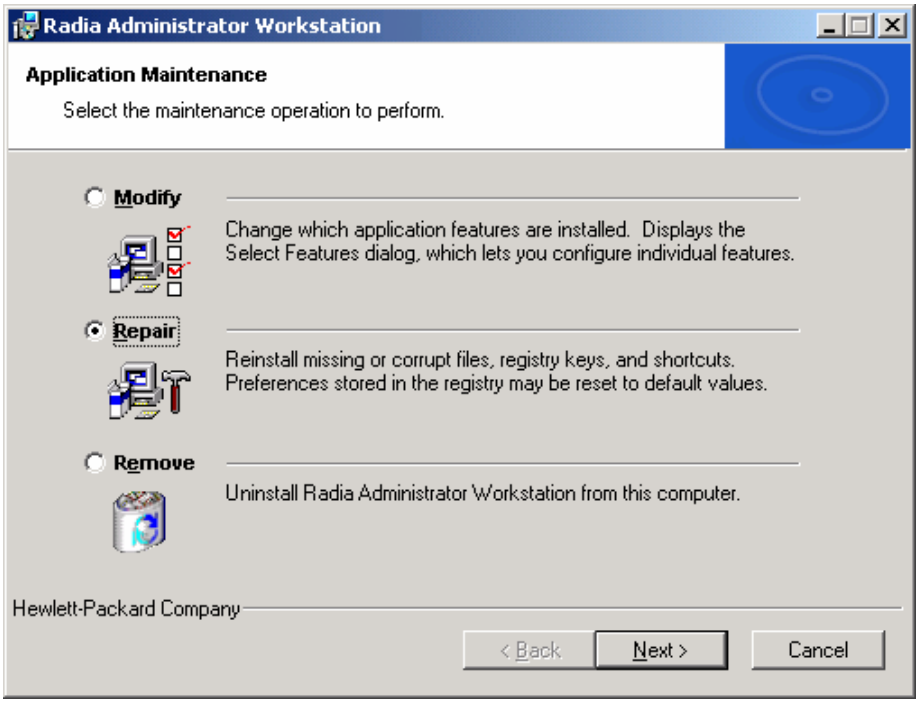
Using the Installation Wizard to Repair the Administrator Workstation

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

To repair the Administrator Workstation using the Installation Wizard

1 From the folder containing the Administrator Workstation 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 Administrator Workstation has been successfully installed window opens.

5 Click **Finish**.

Using a Command Line to Repair the Administrator Workstation

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

To repair the Administrator Workstation using a command line

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

```
msiexec /f radadmin40.msi
```

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

Modifying the Administrator Workstation Installation

The Windows Installer installation program offers the ability to modify the Radia 4.x Administrator Workstation installation by adding or removing individual features. This section describes how to modify the installation of the Administrator Workstation using the Installation Wizard and using a command line.

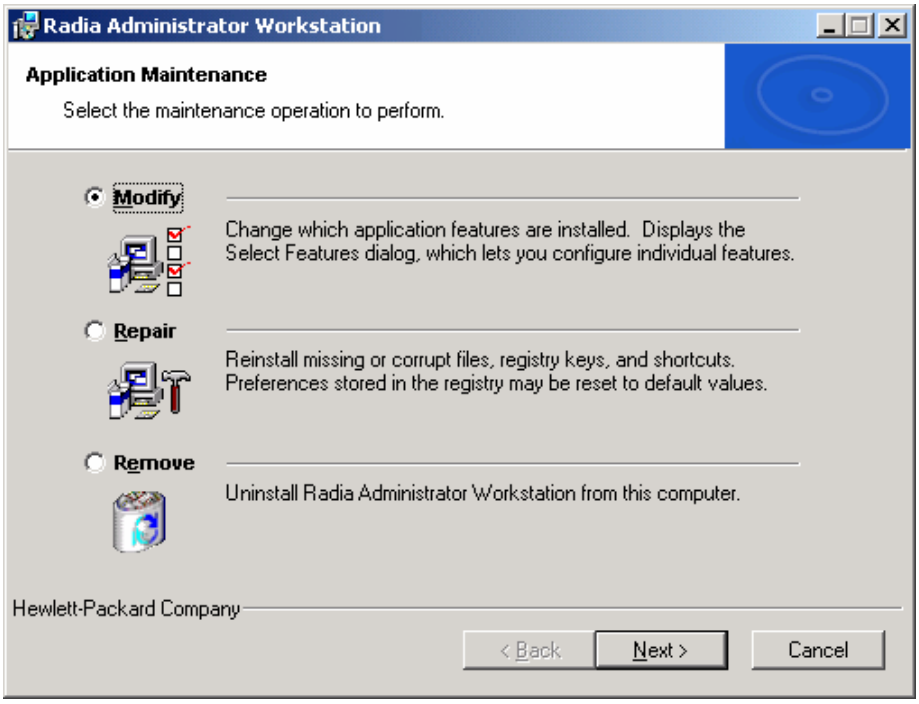
Using the Installation Wizard to Modify the Administrator Workstation

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

To modify the Administrator Workstation installation using the Installation Wizard

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

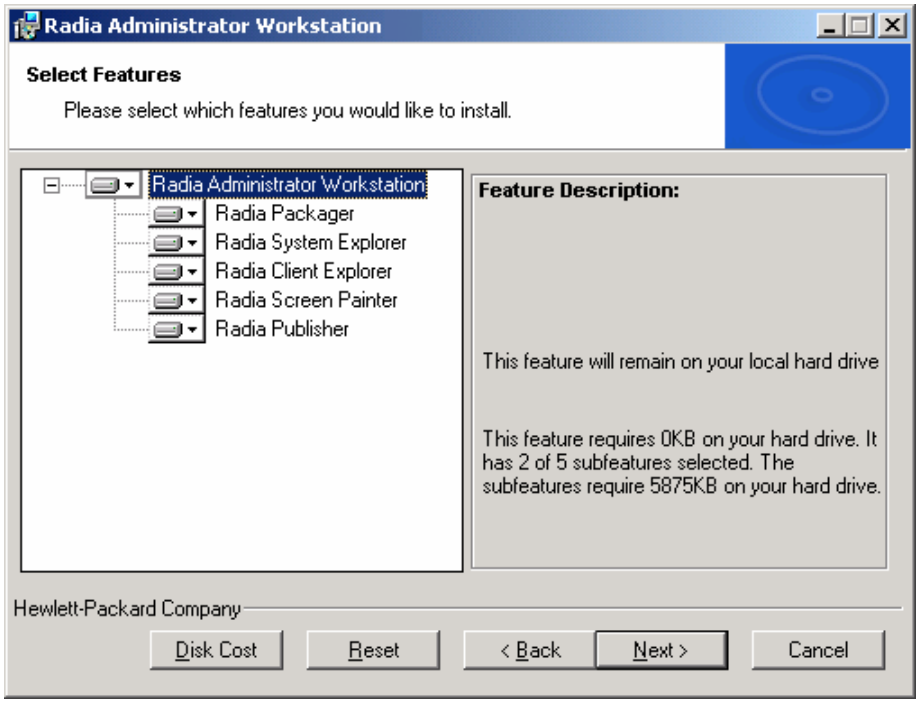
The Application Maintenance window opens.



2 Select the **Modify** option.

3 Click **Next**.

The Select Features window opens. See Installing the Administrator Workstation on page 71 for information about how to use this window.



4 Click **Next**.

The Ready to Modify the Application window opens.

5 Click **Next**.

The Administrator Workstation has been successfully installed window opens.

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

Using a Command Line to Modify the Administrator Workstation Installation

To modify the Administrator Workstation installation using a command line

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

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

See Table 10 on page 76 for more information.

Example

If you want to install the Radia Packager to the local hard drive, and to make the System Explorer and Client Explorer unavailable, use the following command line:

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

See Additional Command Line Arguments on page 77 for additional arguments.

Summary

- The Administrator Workstation consists of one MSI package with multiple feature sets.
- Install the Administrator Workstation on a clean computer.
- You can install the Administrator Workstation using a command line or using the Installation Wizard.

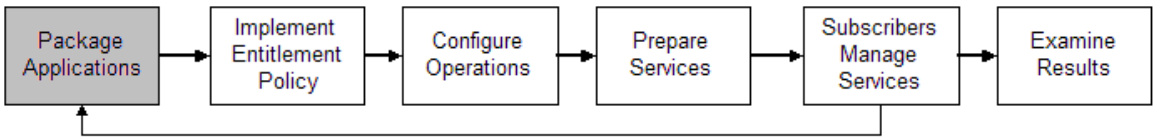
5 Packaging Applications and Content

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 Publishing Adapter.
- Use the New Application Wizard in the System Explorer to create a service.
- Be able to prepare and distribute maintenance packages to the Software Manager.

This guide covers the suggested implementation for the Software Manager. Although you will tailor this strategy to meet your organization's needs, it is recommended that you review this guide for a comprehensive understanding of the Software 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 Radia Database (a.k.a. the Configuration Server Database). A package must be published before its content can be distributed and deployed into your environment.

For the UNIX version of the Radia 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 Radia Database. The package is copied to the Radia Database and several instances are created, as described below.

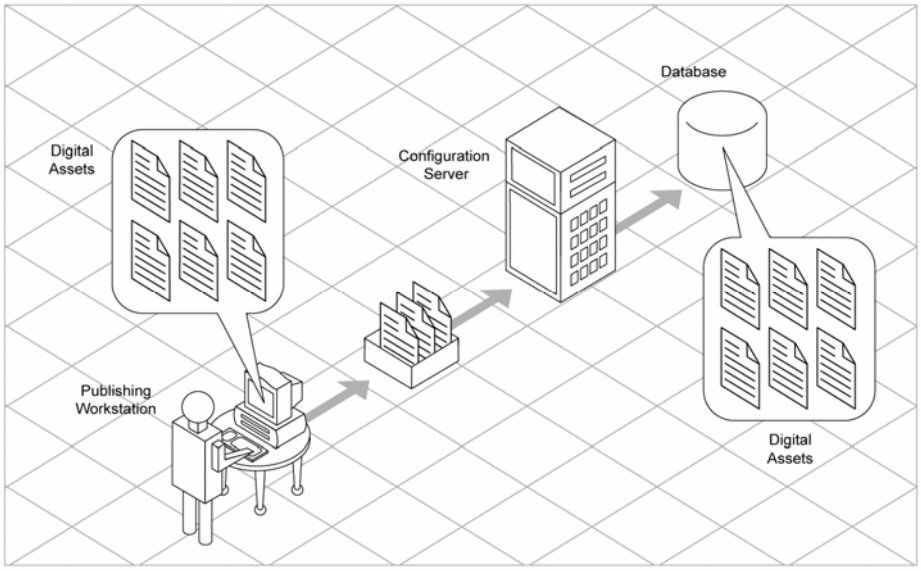
- An **Application Packages (PACKAGE)** instance that represents the promoted package.
- One **UNIX File Resources (UNIXFILE)** instance for each file in the package.
- One **Path (PATH)** instance for each unique path to one or more components on the computer where the software is installed.

Above are some of the default classes available in the SOFTWARE domain. You can also add your own classes to the Radia Database. Refer to the *System Explorer Guide* for information on how to add a class.

Then, you will use the System Explorer 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 Software Manager for more information.

The System Explorer is currently available for 32-bit Windows platforms. For more information, refer to the *System Explorer Guide*.

Figure 4 Packaging digital assets



Packaging Considerations Checklist

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

General

- ❑ What is the name of the package going to be? Follow your naming conventions.

System Configuration

- ❑ What operating systems are your target computers (workstations or servers) using?

Activation Options

- ❑ Which version of the application do you want to distribute, and when do you want to activate it?

  See the Deploying Mandatory Applications for the Software Manager chapter starting on page 245 for more information.

- ❑ Do you want to build and maintain versions?

  See the Deploying Mandatory Applications for the Software Manager chapter starting on page 245 for more information.

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?

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 with the Application Manager.
- ❑ Do you want the data deployed under the user or machine context?

Client 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 once it's 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 Radia Database

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 Radia Publisher

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

   The User ID, as shipped, is RAD_MAST. No password is necessary. This may have been changed in your installation. Check with your Radia security administrator to obtain your own User ID and Password, if necessary.

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**.

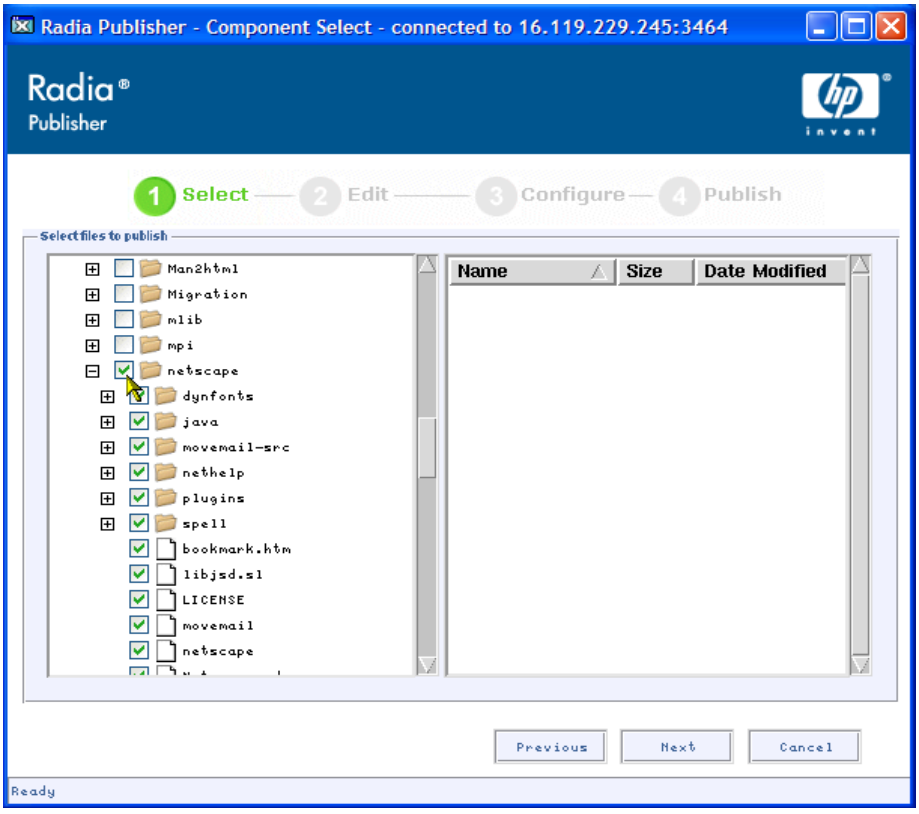
   The Select files to Publish window opens.

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 listing of directories.
- Then, an alphabetized listing of files.
- An alphabetized listing 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.

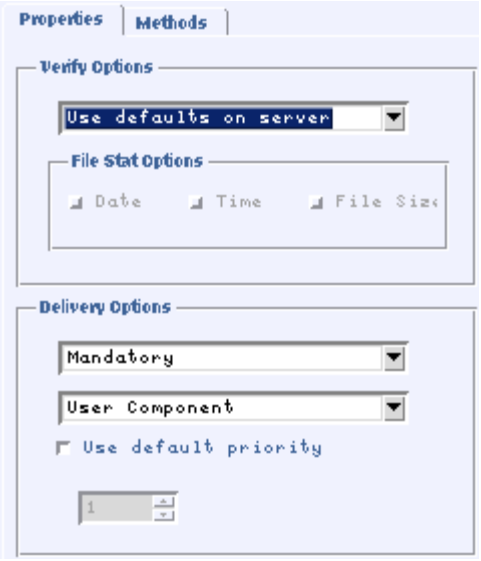
Click **Next** to go to the Edit file properties window.

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.

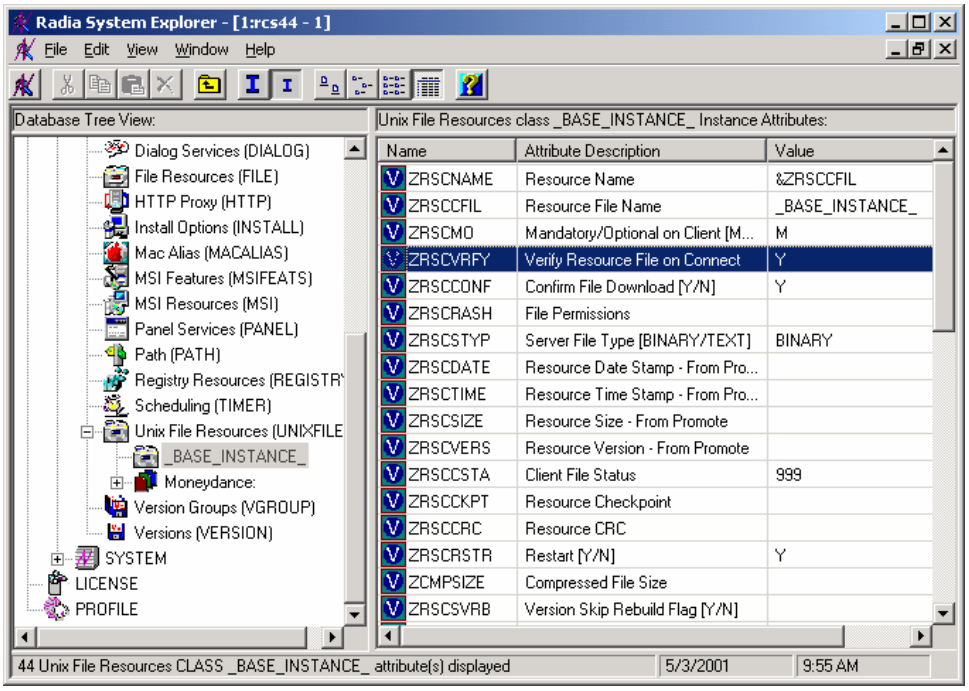


Verify Options

- **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 System Explorer 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 System Explorer. The System Explorer is currently available for 32-bit Windows platforms. For more information, refer to the *System Explorer Guide*.



- **File statistics**
  Select this option so that the Radia client 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 files or directories are deployed from the Radia Database or Radia Staging Server 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 System Explorer 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 Radia Database (or Radia Staging Server) have a

later date/time stamp than those on the subscriber's computer. You can also use the System Explorer 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 Radia Database. You can also use the System Explorer 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 System Explorer 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, Radia 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 System Explorer 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, Radia will not deploy optional files. You can also use the System Explorer to set this option: ZRSCMO=O.

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

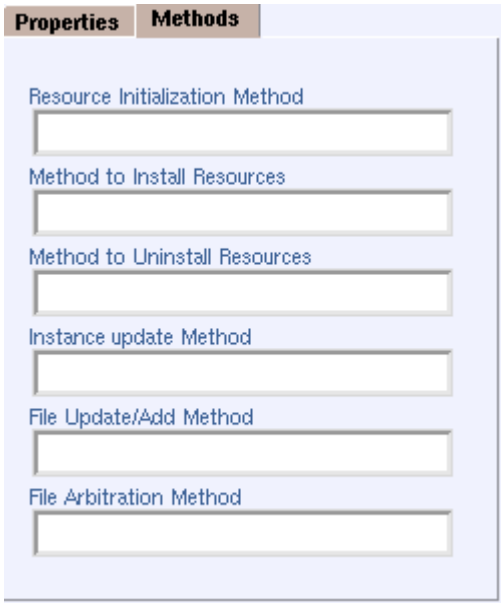
- **User Component**
  Select User if you want to indicate that the file will be deployed only to the subscriber logged on when the application is initially deployed. You can also use the System Explorer to set this option: ZCONTEXT=U.
- **Machine Component**
  Select Machine to indicate that the file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

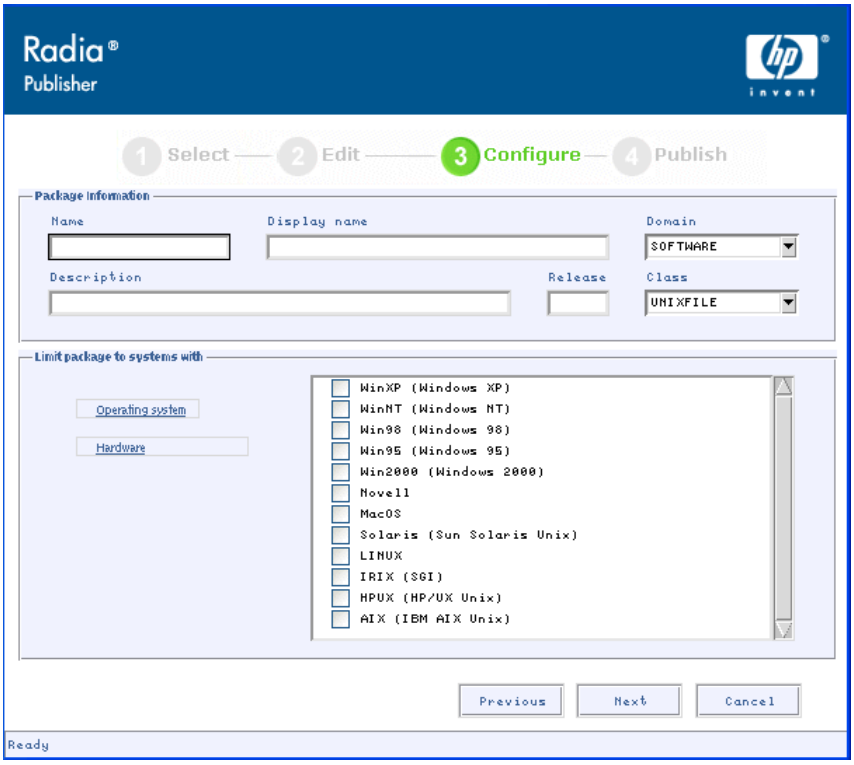
the subscriber's computer, even if the subscription to the software is cancelled, type **_NONE_** (with the underscores) as the value for Method to De-install Resource.

- **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 Radia Database 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. Radia Publisher uses this identifier to construct data objects and filenames. 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 System Explorer.

- **Domain**
  Select the domain in which to store the instance. This is normally the SOFTWARE domain unless you customized the Radia Database with

proprietary domains. As shipped, the default domains are ADMIN, AUDIT, NOVADIGM, 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 are 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 a package only, 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 System Explorer.

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, which will distribute this service to all available subscribers. Optional services are only available if you are using the Software Manager client.

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 (Refer to the *Application Manager Guide* and the *Software Manager Guide* for more information about ZSVCMO). This field can contain two values, depending on what you select for each type. The table below displays the possible attribute values.

Table 12 ZSVCMO Variables

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

Publishing Adapter

The Publishing Adapter is a command-line alternative to using Component Selection mode, which offers an automated, repeatable command-line process to create Radia packages and store them in the Radia Database for distribution.

The Publishing Adapter 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 Publishing Adapter 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 Publishing Adapter can be easily executed from within any script or code capable of calling a command prompt.

Radia Native Packaging

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

Radia Native Packaging explores UNIX native software depots, searches for available native packages and publishes wrapped native packages to the Configuration Server. Radia Native Packaging will publish all necessary information that will allow you immediate installation of native software to end clients. When the Software Manager client is installed, a Tcl script is included in the IDMSYS directory that is required when packages published

using Radia Native Packaging are deployed. For more information, refer to the *Publishing Adapter Guide*.

The Publishing Adapter is an optional feature available from HP. Please contact your sales representative for more details.

Creating a Service

If you didn't create a service when you published your application, you can use System Explorer to create the service from the package you promoted.

Use the New Application Wizard in the System Explorer to create a service. Use the System Explorer to see services listed in the Application (ZSERVICE) class.

Using the New Application Wizard to Create a Service

The following instructions use the System Explorer. The System Explorer is currently available for 32-bit Windows platforms. For more information, refer to the *System Explorer Guide*.

Task 1 Accessing the System Explorer

1. Go to **Start** → **Programs** → **Administrator Workstation** → **System Explorer**. The System Explorer Security Information dialog box opens.
2. If necessary, type a User ID and Password, and then click **OK**.

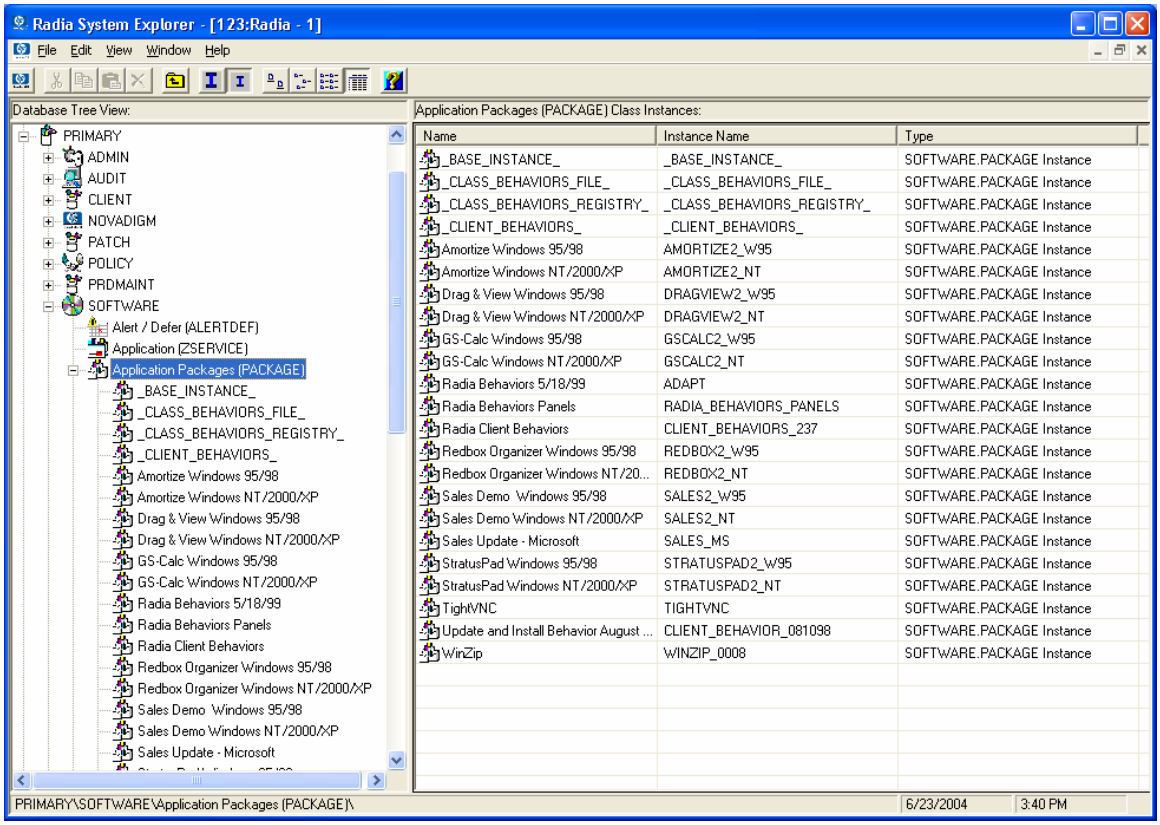
   The User ID, as shipped, is RAD_MAST. No password is necessary. This may have been changed in your installation. Check with your Radia security administrator to obtain your own User ID and Password, if necessary.

   The System Explorer window opens.

Task 2 Navigating to the PACKAGE class of the SOFTWARE domain

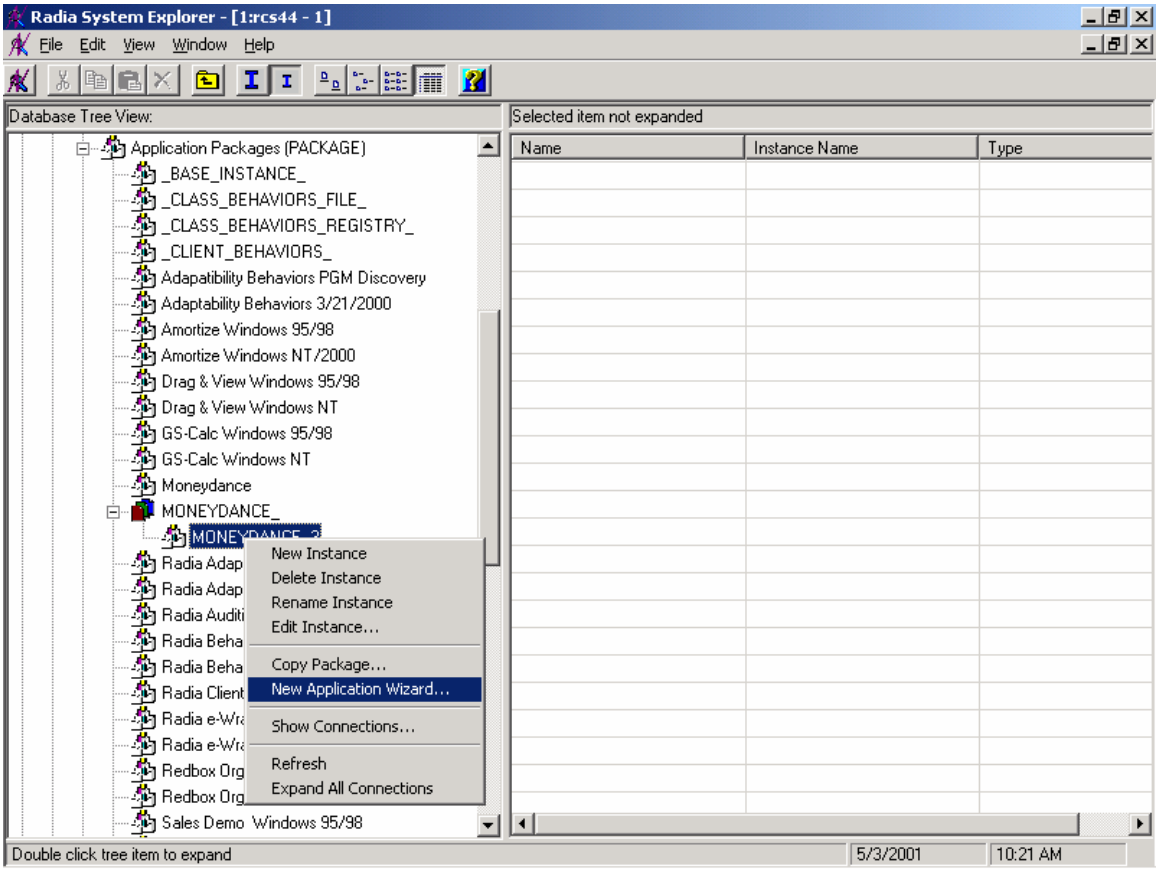
1. Double-click **PRIMARY**. The domains of the PRIMARY file appear beneath its icon in the tree view and in the list view.
2. Double-click **SOFTWARE**. The classes of the SOFTWARE domain appear beneath its icon in the tree view and in the list view.

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.

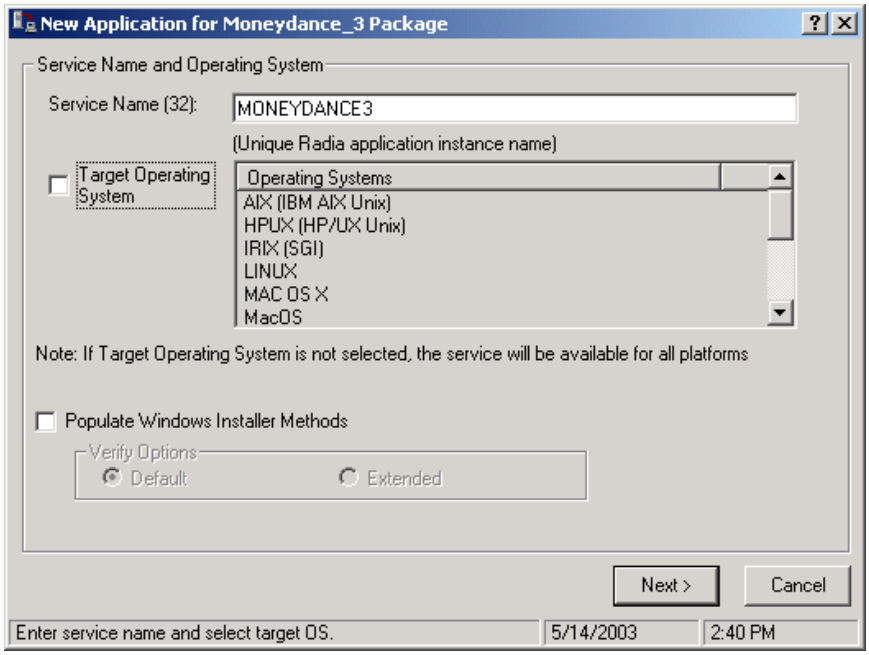


Task 7 Using the New Application Wizard to Create a Service

1 In the PACKAGE class of the SOFTWARE domain, right-click an application instance. A shortcut menu opens.



2 Click **New Application Wizard**.

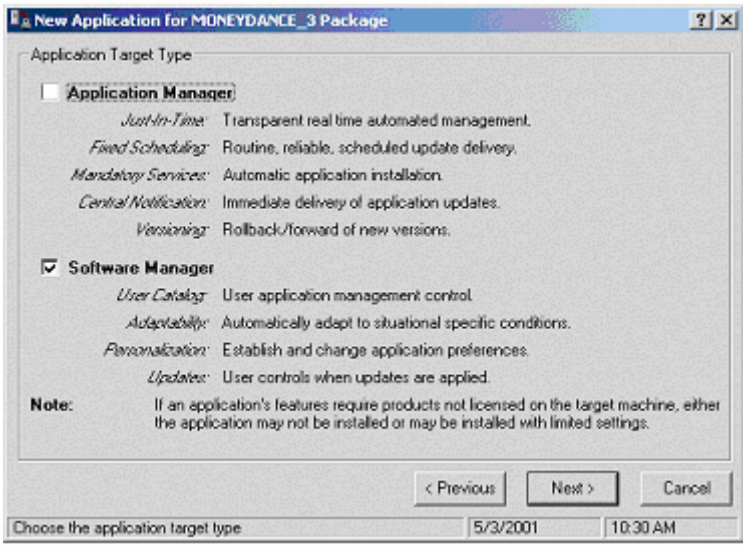


3 In the Service Name (32) text box, type a name for the Application (ZSERVICE) instance.

4 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.

5 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.

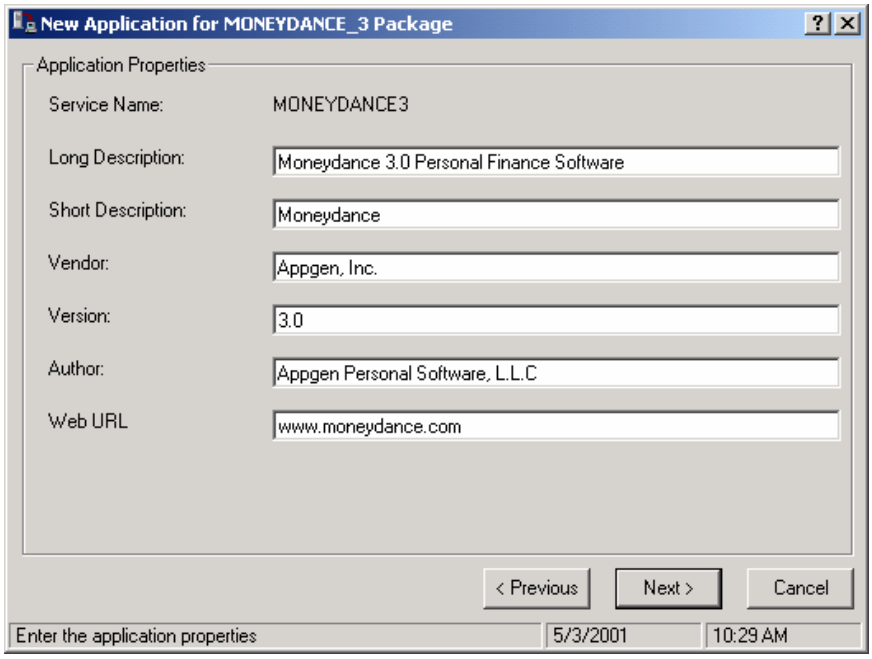
6 Click **Next** to select the application target type.



7 Select the **Software Manager** check box. This designates the service as a mandatory application for your subscribers.

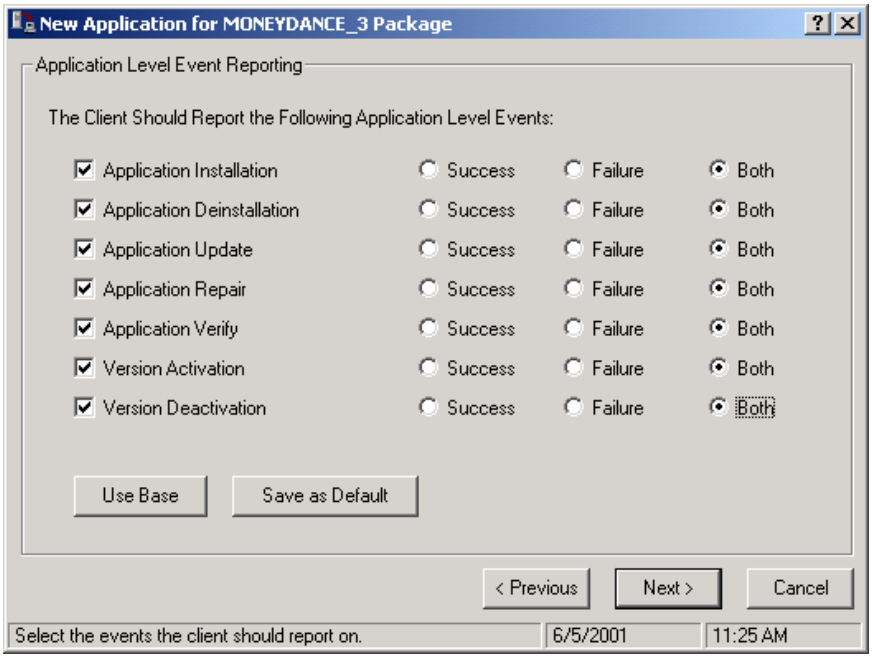
When using the Application Manager, applications *must* be mandatory in order to deploy them to your subscribers.

8 Click **Next** to enter the application properties.



9 Type the appropriate information in the fields as shown in the Application Properties window above.

10 Click **Next** to select the events that the Software Manager will report on.

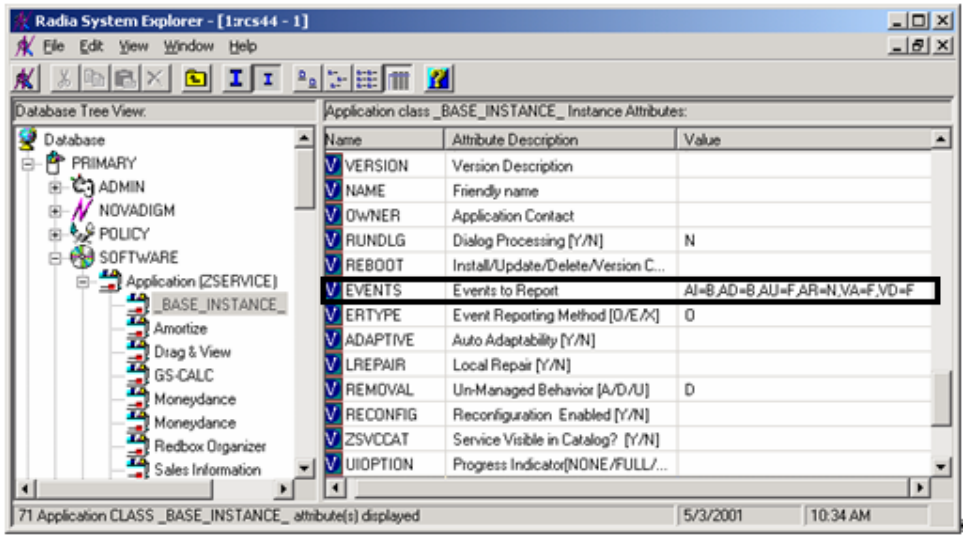


11 Click the check box for each event that you want to report on. Then, select the appropriate option button to indicate whether to report on the event's success, failure, or both.

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.

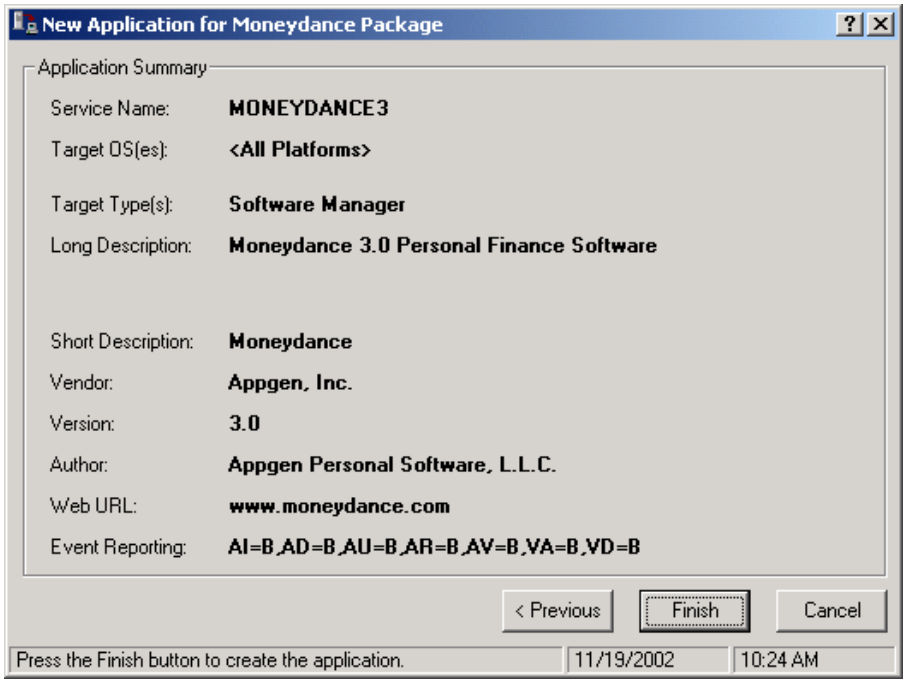
For this example, we selected every Application Event to be reported in the event of a success or failure.



For more information about these variables and the APPEVENT object, see Chapter 10, Radia Client Directories and Objects.

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

13 Click **Next** to review your selections.



14 Click **Finish** to create the application instance.

15 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.

Radia Service Groups

Radia manages products that require more than one service-package to establish full product installation or operation. You can use Radia 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 Radia Service Groups, refer to the *System Explorer 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 domain. Use the System Explorer to view and modify these attributes.

The following instructions use the System Explorer. The System Explorer is currently available for 32-bit Windows platforms. For more information, refer to the *System Explorer Guide*.

To view the UNIXFILE class instances using the System Explorer

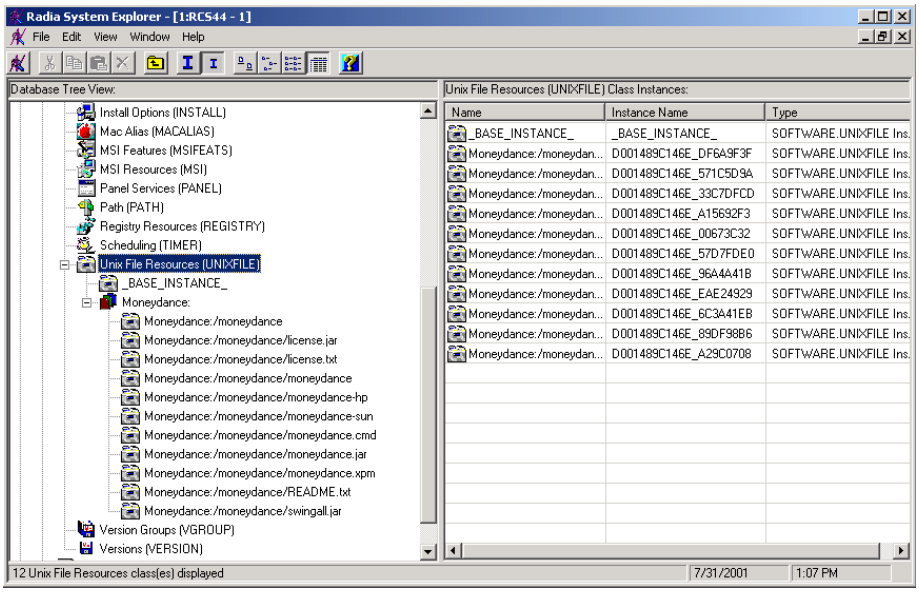
1. Go to **Start** → **Programs** → **Administrator Workstation** → **System Explorer**. The System Explorer Security Information dialog box opens.
2. If necessary, type a User ID and Password, and then click **OK**.

   The User ID, as shipped, is RAD_MAST. No password is necessary. This may have been changed in your installation. Check with your Radia security administrator to obtain your own User ID and Password, if necessary.

   The System Explorer window opens.
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 System Explorer.

Table 13 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 Radia client is run by root and the user ID exists on the client workstation.
ZPERGID	UNIX group ID associated with the promoted resource. The resource will be associated with this group when deployed, providing the Radia client is run by root and the group exists on the client workstation.

Attribute	Description
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.

If the Radia client 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 Software Manager.
- 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 Radia client is run as root for only root has the ability to perform changes in owner and group characteristics.
- Radia client capabilities are limited to the permission constraints of the current user ID and group membership for the UNIX user ID running the connect.
- Radia will be unable to deploy to directories where the directory permissions prohibit the non-root user and or group membership to write.
- Radia may be unable to set permissions on resources placed under Radia management that are already on the client workstation though owned by a different UID and/or GID.
- Radia will be unable to launch client methods requiring root authority.

If the Radia client is run as root and:

- If the owner name of the resource, as defined in ZPERUID, and the user ID exist on the client 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 client 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 client 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 client 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 Radia 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 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 *System Explorer Guide*.

Summary

- Publishing is the process of identifying the components of the software or content and organizing them into packages.
- Radia publishing mode: Component Selection Mode.
- To publish packages, install the Radia Publisher onto a clean computer. To configure applications you must use the System Explorer.
- Install the Radia 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 Publishing Adapter as an alternative to Component Selection Mode.
- After publishing applications, use the New Application Wizard in the System Explorer to create a service—the fundamental unit of content managed by Radia.
- You can use Radia to prepare and distribute maintenance to the Software Manager.

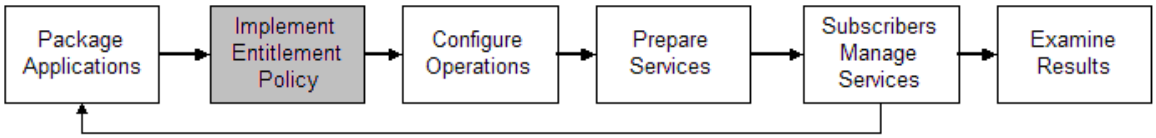
6 Implementing Entitlement Policy

At the end of this chapter, you will:

- Understand how Radia can integrate with your existing policy information.
- Understand the Radia 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 covers the suggested implementation for the Software Manager. Although you will tailor this strategy to meet your organization's needs, it is recommended that you review this guide for a comprehensive understanding of the Software Manager. This chapter covers Implementing Entitlement Policy, assigning users to groups, and connecting applications to users.

Figure 5 Tasks completed in this guide



About Policy Management and Radia

As your organization grows and changes, it is your job to manage who has access to what software. You've invested time and money to determine the best way to handle policy information for your organization. Now, you want to use Radia to manage your digital assets. With Radia, you have the advantage of using your existing policy information, while using Radia to manage your digital assets.

Radia can use real-time policy information from:

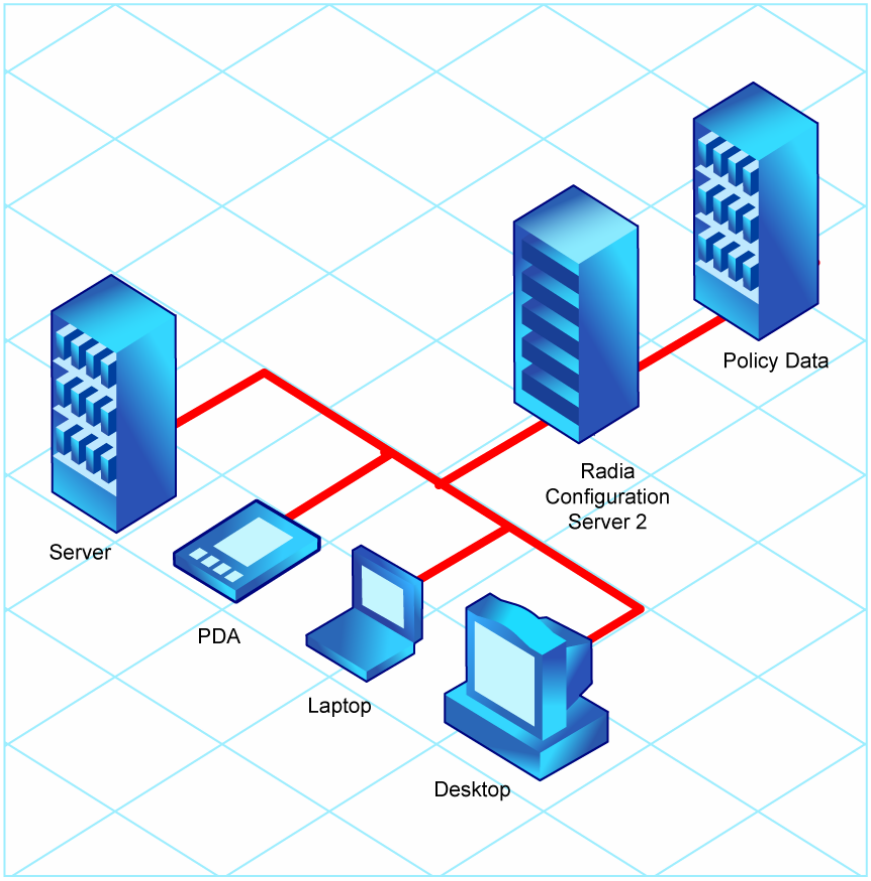
- NT Domains
- Active Directory
- NDS
- iPlanet
- ISOCOR
- SQL Server, Oracle, or Sybase
- SQL 92-compliant (ODBC) data sources
- Any LDAP-compliant directory

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

Accessing Existing External Policy Information

When a Radia client connects to the Configuration Server, Radia 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 Radia to search the Radia Database for this information. However, typically, you will want Radia to search your existing policy stores. This information is sent back to the Configuration Server, which determines which digital assets are to be managed for the user, group, or computer.

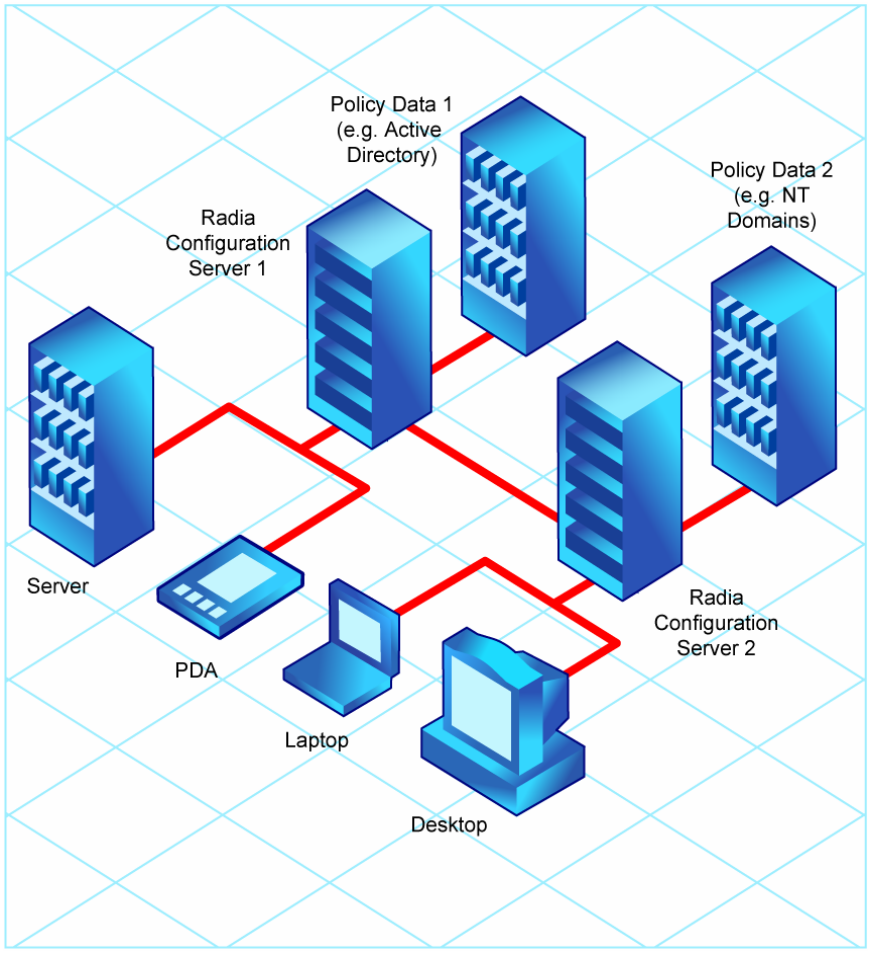
Figure 6 Policy information from an external source



Radia also supports using multiple 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 7 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 digital assets, Radia 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 Radia, see the HP OpenView web site.

Directories-Based Entitlement

(such as Active Directory and NDS)

If you want to leverage your investment in LDAP-based directory services or SQL-based databases, HP offers the Policy Manager. The Policy Manager is a plug-in to the Radia Integration Server (RIS) used for administration purposes such as mapping services to users in the directory tree. The Configuration Server can be configured to query the Policy Manager to determine what services should be distributed and managed for the client that is currently logged on.

The Policy Manager is an optional feature available from HP. Contact your HP sales representative for details.

Refer to the *Policy Manager Guide* for more information.

Radia's integration with existing policy greatly reduces the total cost of ownership of your environment by allowing you to continue to manage policies from your existing repository while Radia manages your digital assets.

About the Radia POLICY Domain

If you are using real-time policy information from an external source to manage your digital assets, you may need to configure a connection from your external policy store to the POLICY domain in the Radia Database. The configuration may vary based on the policy store.

This section is intended to provide 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 Radia Database 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.

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

The following section uses the System Explorer, which is available for 32-bit Windows platforms. For more information, refer to the *System Explorer Guide*.

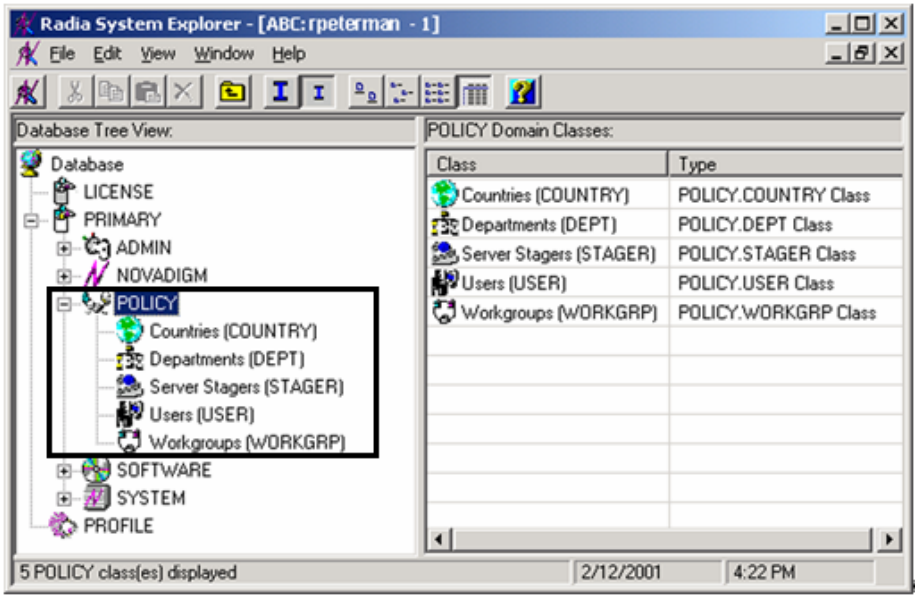
To access the POLICY domain

1. Go to **Start** → **Programs** → **Administrator Workstation** → **System Explorer**. The System Explorer Security Information dialog box opens.
2. If necessary, type a User ID and Password, and then click **OK**.

   The User ID, as shipped, is RAD_MAST. No password is necessary. This may have been changed in your installation. Check with your Radia security administrator to obtain your own User ID and Password, if necessary.

   The System Explorer window opens.
3. Double-click **PRIMARY**.
4. Double-click **POLICY**.



Classes in the POLICY Domain

The POLICY domain has five default classes, Countries (COUNTRY), Departments (DEPT), Server Stagers (STAGER), Users (USER), and Workgroups (WORKGRP), as described below.

Table 14 Classes in the POLICY Domain

Class	Description	Instance Examples
Countries (COUNTRY)	Use for clock synchronizations with the Configuration Server. Do not assign services to this class.	France, Japan, Italy
Departments (DEPT)	Use to group subscribers into departments.	Finance, Customer Service, Manufacturing
Server Stagers (STAGER)	Use to define Radia Staging Servers within your distribution network. Also, use to define storage locations on a Radia Staging Server computer.	CDROM, Stager, Server001
Users (USER)	Use to define individual subscribers.	William, John Doe, SSampson

Class	Description	Instance Examples
Workgroups (WORKGRP)	Use to group subscribers into functional groups. For example, a project team may be made up 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 *System Explorer Guide* for information about creating new classes.

Creating Users or Groups in Radia

There may be times when you need to create individual users or groups in Radia. For example, you might want to create a lab environment used to test the distribution and management of your digital assets. To create a simple environment, you may want to 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 Radia 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 System Explorer to create a new user (Robin) in the USER class.

The following instructions use the System Explorer. The System Explorer is currently available for 32-bit Windows platforms. For more information, refer to the *System Explorer Guide*.

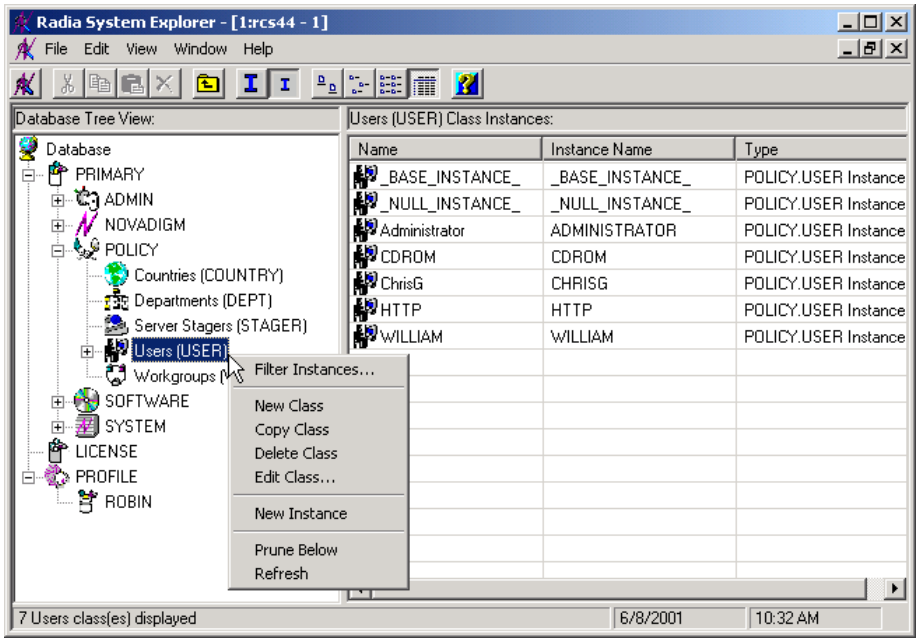
To create a new user

1. Go to **Start** → **Programs** → **Administrator Workstation** → **System Explorer**. The System Explorer Security Information dialog box opens.
2. If necessary, type a User ID and Password, and then click **OK**.

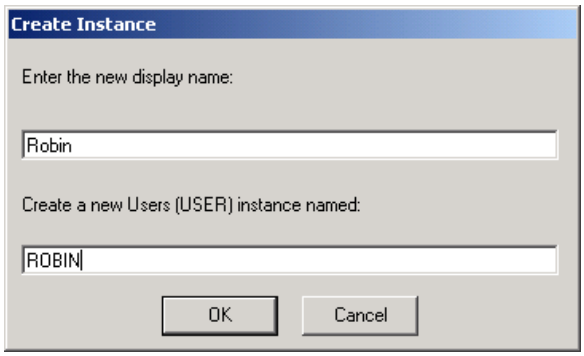
   The User ID, as shipped, is RAD_MAST. No password is necessary. This may have been changed in your installation. Check with your Radia security administrator to obtain your own User ID and Password, if necessary.

   The System Explorer window opens.
3. Double-click **PRIMARY**.
4. Double-click **POLICY**.
5. Right-click **Users (USER)**.



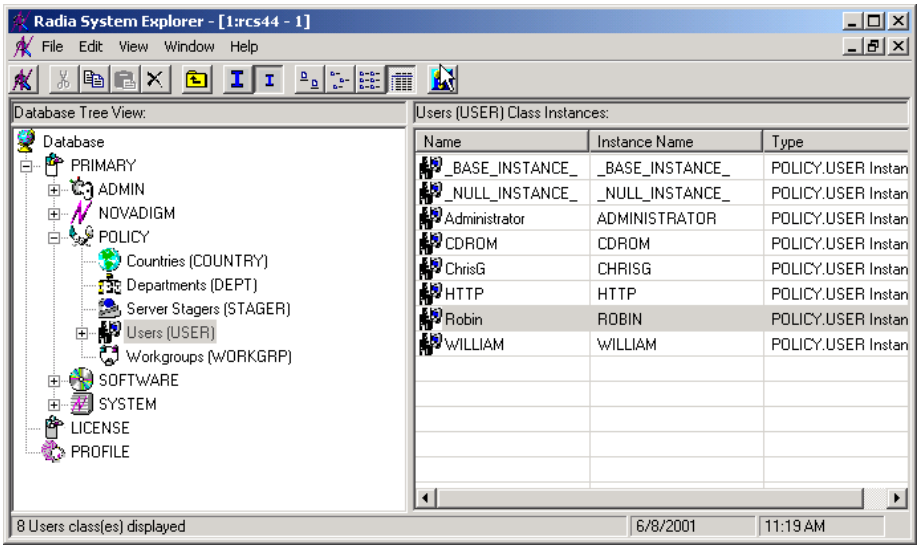
6 Select **New Instance**.

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, Robin, 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 System Explorer to assign the user Robin to the Sales department.

The Sales instance, shown in the Departments (DEPT) class in the figure on page 133, may not appear in your Radia Database. To add this instance (or instances that are appropriate to your organization), follow the procedure To create a new user on page 125. However, instead of right-clicking USER, you would right-click the appropriate class, such as Departments (DEPT).

The following instructions use the System Explorer. The System Explorer is currently available for 32-bit Windows platforms. For more information, refer to the *System Explorer Guide*.

To assign a user to a department

1 Go to **Start** → **Programs** → **Administrator Workstation** → **System Explorer**. The System Explorer Security Information dialog box opens.

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

The User ID, as shipped, is RAD_MAST. No password is necessary. This may have been changed in your installation. Check with your Radia security administrator to obtain your own User ID and Password, if necessary.

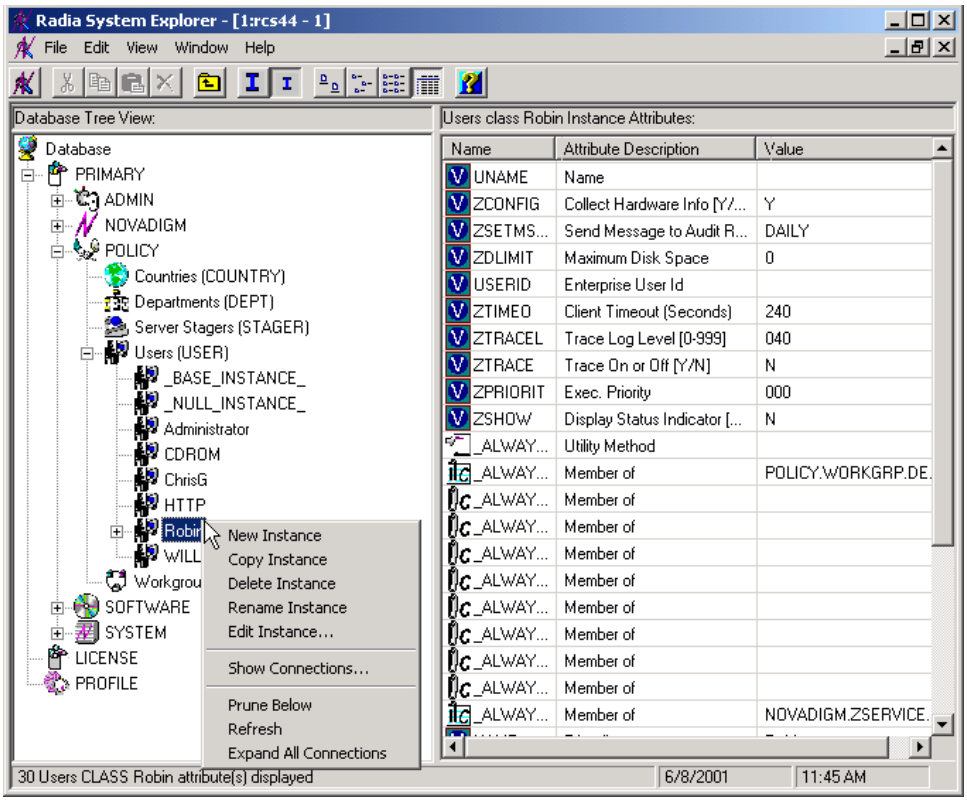
The System Explorer window opens.

3 Double-click **PRIMARY**.

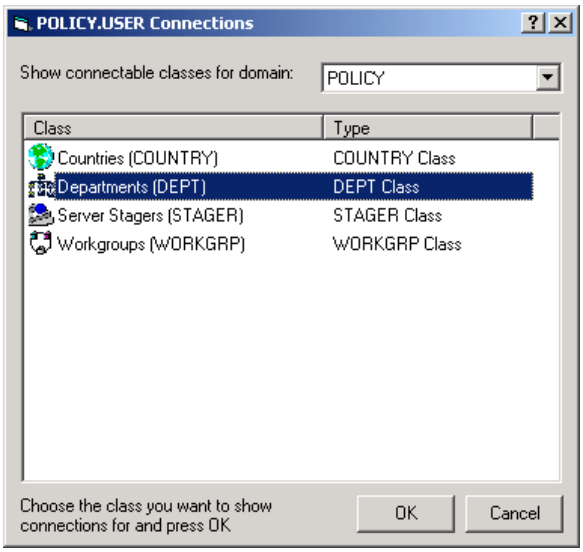
4 Double-click **POLICY**.

5 Double-click **Users (USER)** to open the list of all user instances.

6 Right-click the user instance (in this example, Robin) and select **Show Connections.**

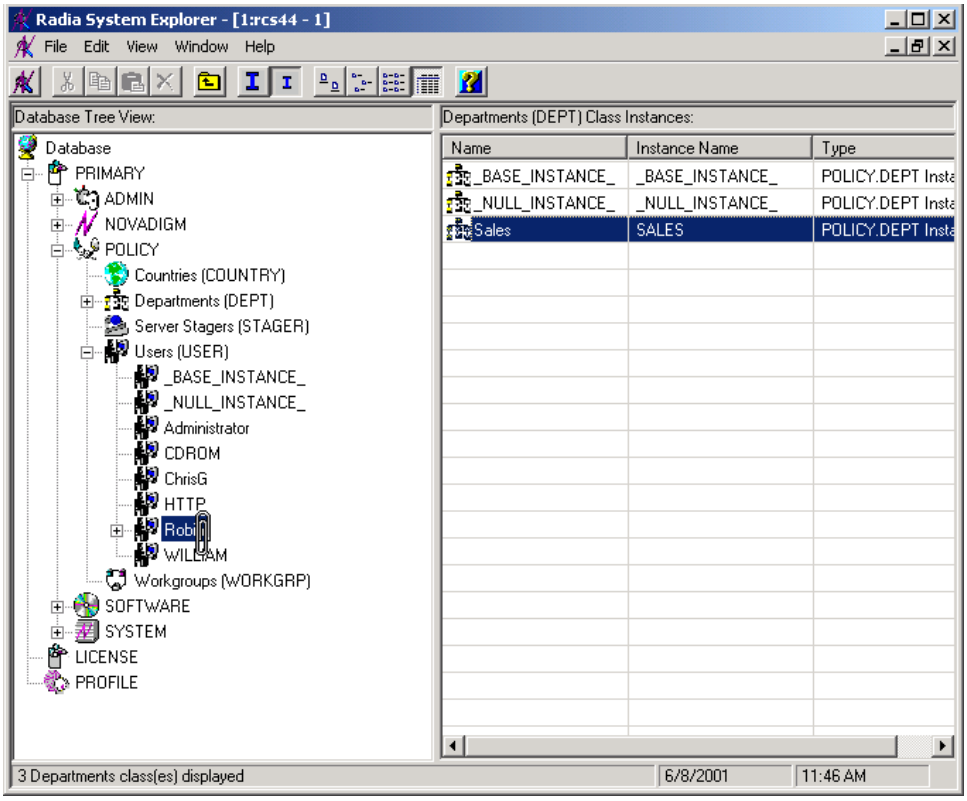


The POLICY.USER Connections dialog box opens. This dialog box displays a list of classes that you can connect the selected instance to.

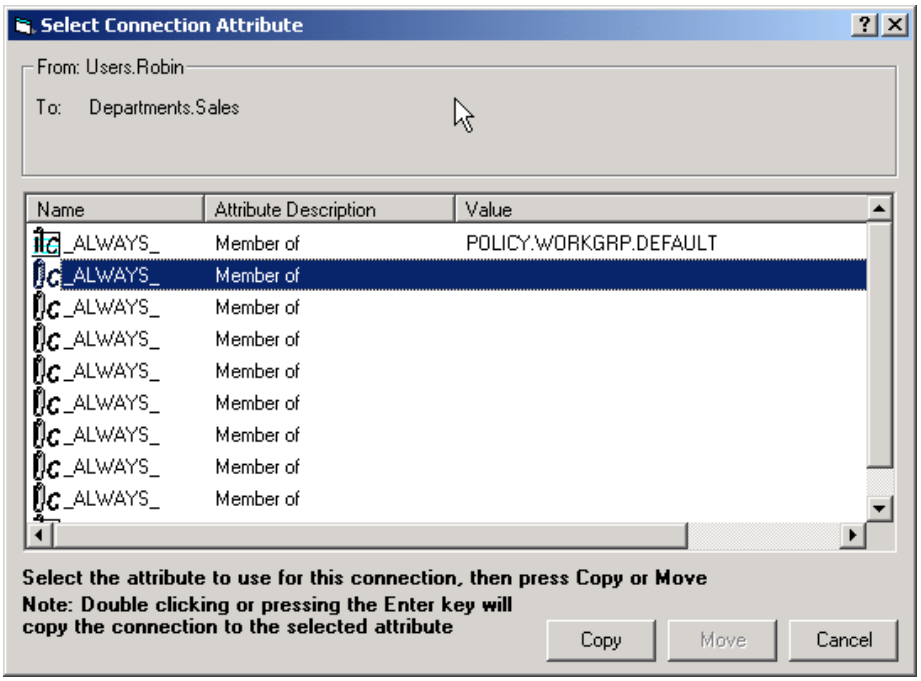


7 Select **Departments (DEPT)** and then click **OK**. The DEPT class instances appear in the list view of the System Explorer. This allows you to easily make a connection between an instance in the DEPT class and an instance in the USER class.

8 Select the **Sales** instance from the list view and drag it to the appropriate Users instance (in this example, Robin). When your cursor turns into a paper clip, release the mouse button.



9 The Select Connection Attribute dialog box opens.

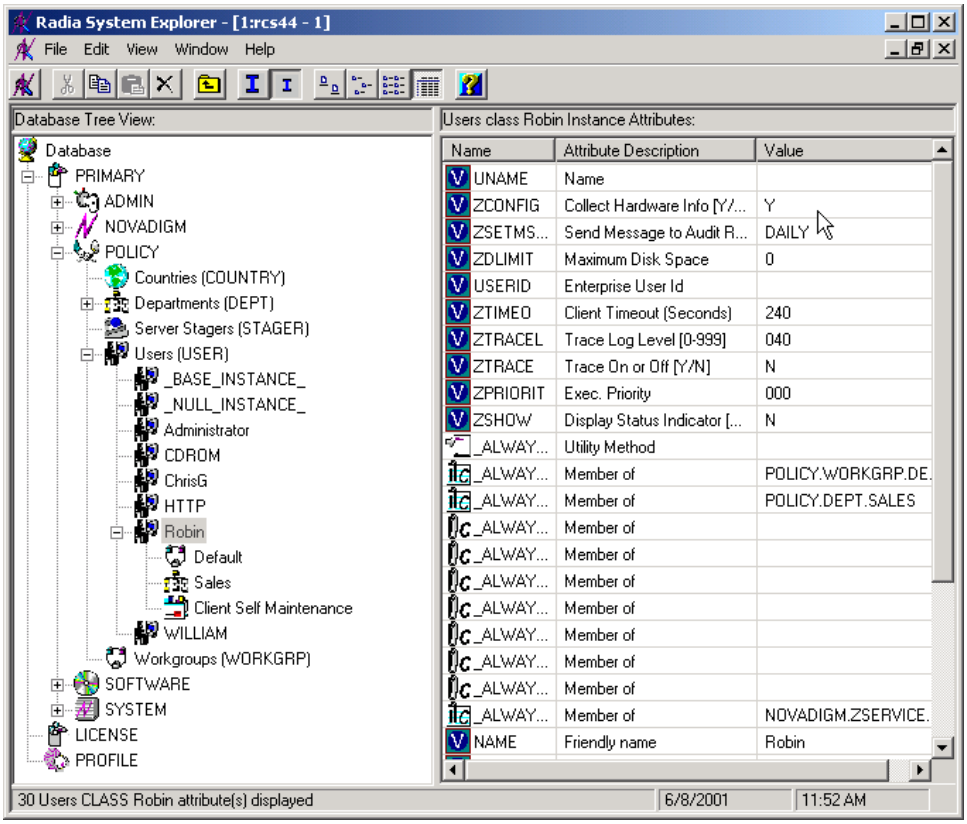


10 Click **Copy** to create the connection from Users.Robin to Department.Sales.

11 Click **Yes** to confirm the connection.

12 Click **OK** when you receive the confirmation that "Robin has been connected to Sales."

In the System Explorer tree view, notice that Sales is now listed under the Robin user instance, which indicates that Robin is part of the Sales department.



Connecting Services to Groups

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

If you are using the Policy Manager, refer to the *Policy Manager Guide* for more information.

In this section, you will learn how to connect users and groups to the services that Radia will manage. In the following example, we will use the System Explorer to authorize all subscribers in the Sales department for the Moneydance application.

The following instructions use the System Explorer. The System Explorer is currently available for 32-bit Windows platforms. For more information, refer to the *System Explorer Guide*.

To connect the Moneydance application to the Sales Department

1 Go to **Start** → **Programs** → **Administrator Workstation** → **System Explorer**. The System Explorer Security Information dialog box opens.

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

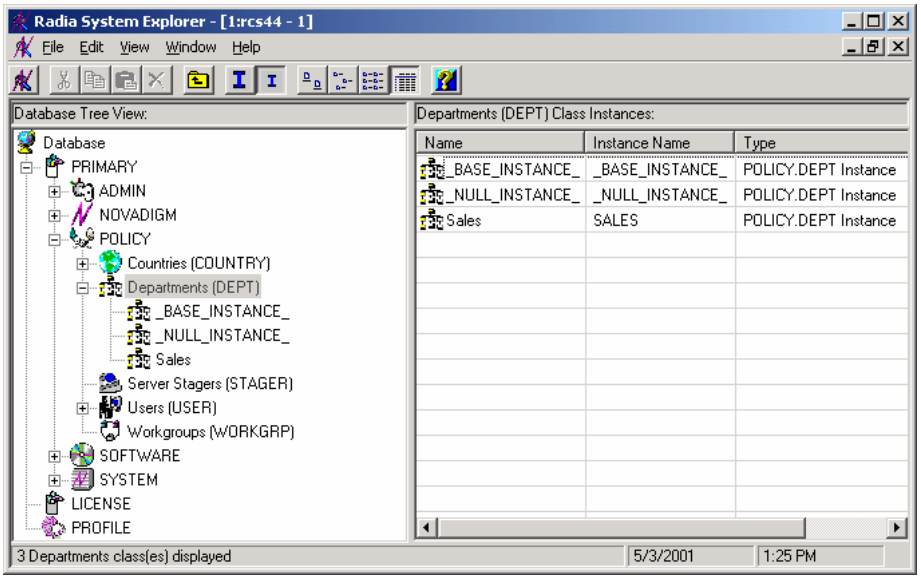
The User ID, as shipped, is RAD_MAST. No password is necessary. This may have been changed in your installation. Check with your Radia security administrator to obtain your own User ID and Password, if necessary.

The System Explorer window opens.

3 Double-click **PRIMARY**.

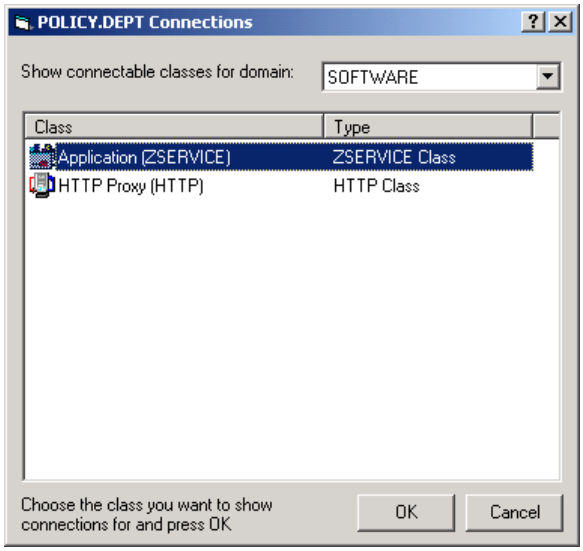
4 Double-click **POLICY**.

5 Double-click **Departments (DEPT)** to open the Departments class.

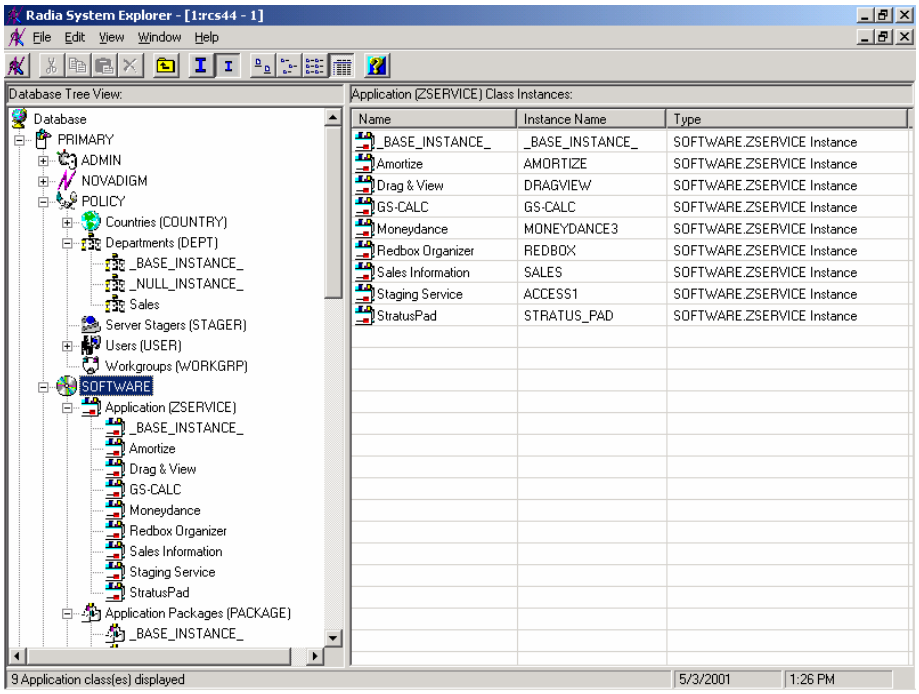


6 Right-click the **Sales** instance (in the tree view), and from the shortcut menu select **Show Connections**. The POLICY.DEPT Connections dialog box opens. This dialog box displays a list of classes that you can connect the selected instance to.

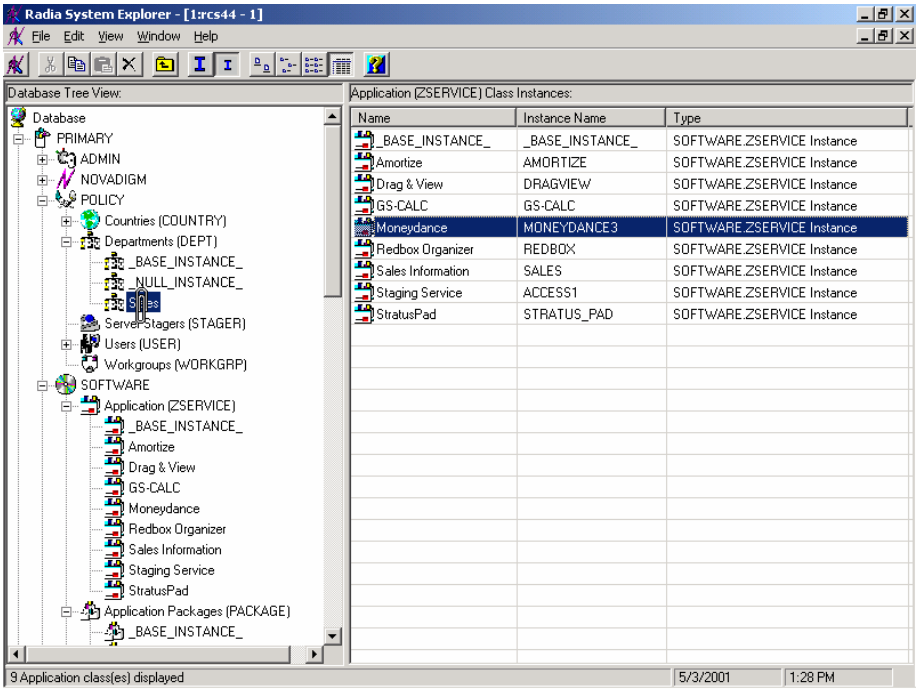
7 From the Show connectable classes for domain drop-down list, select **SOFTWARE**.



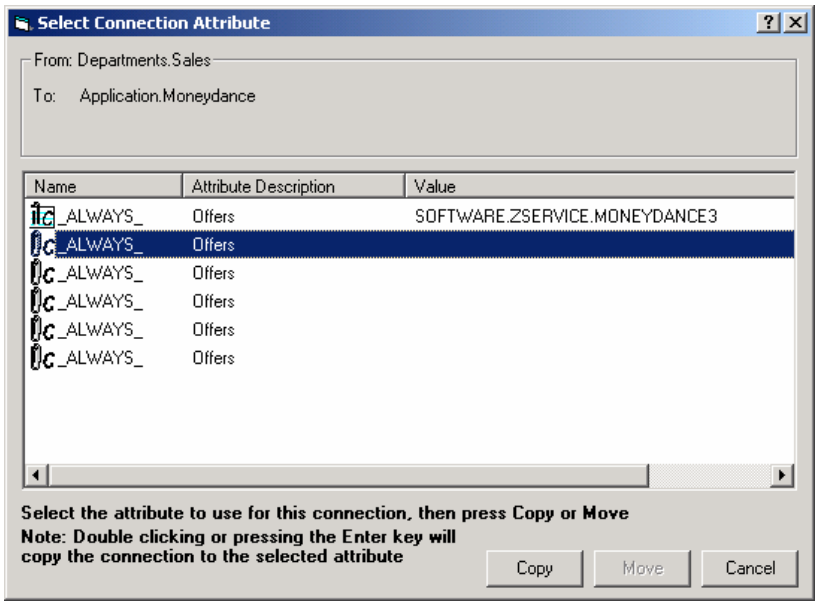
8 Click **Application (ZSERVICE)**, and then click **OK**. The instances in the ZSERVICE class appear in the list view.



9 Select the **Moneydance** instance from the list view and then drag it to the appropriate Departments instance (in this example, Sales). When your cursor turns into a paper clip (see the next figure), release the mouse button.



10 The Select Connection Attribute dialog box opens.

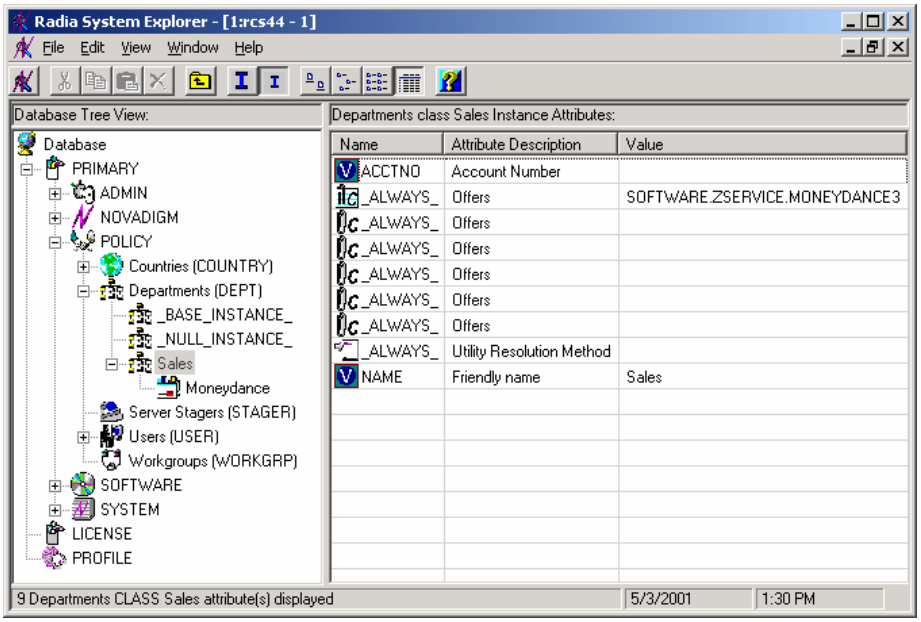


11 Click **Copy** to create the connection from Departments.Sales to Application.Moneydance.

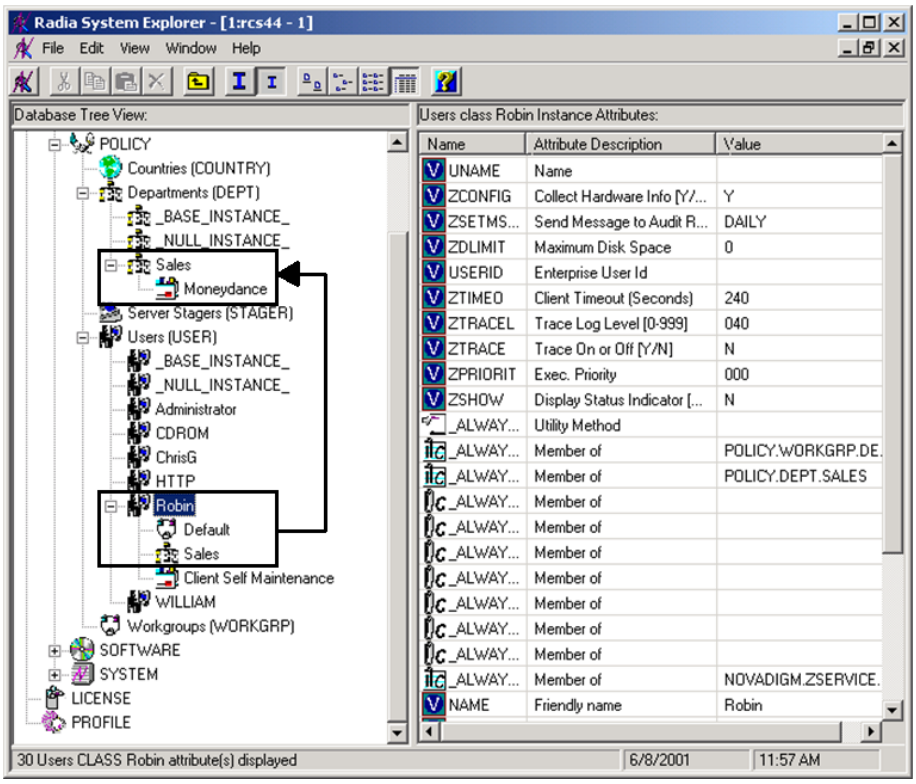
12 Click **Yes** to confirm the connection.

13 Click **OK** when you receive the confirmation that "Sales has been connected to the Moneydance."

In the System Explorer tree view (see the next figure), notice that Moneydance is listed under the Sales department instance, which indicates that the entire Sales department is now authorized to receive the Moneydance application.



In the next figure, notice that Robin, listed in the Users (USER) class, is part of the Sales department. You can also see that the Moneydance application has been authorized for the entire Sales department. Therefore, as long as Robin is part of the Sales department, Radia will manage the Moneydance 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

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

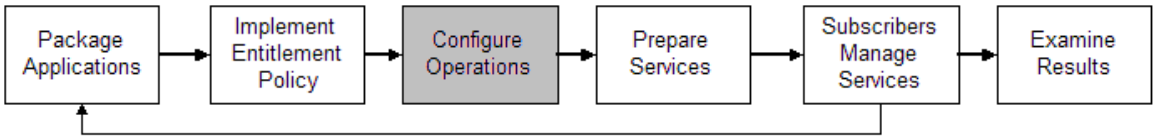
7 Configuring Client Operations Profiles

At the end of this chapter, you will:

- Understand the benefits of Radia client Operations Profiles.
- Know how to implement Radia client Operations Profiles.
- See a simple implementation example.

This guide covers the standard implementation for the Software Manager. Although you will tailor this strategy to meet your organization's needs, it is recommended that you review this guide for a comprehensive understanding of the Software Manager. This chapter introduces you to how to configure the operations of your Radia client. It covers the CLIENT domain, and provides information on providing failover capabilities, designating servers for a client based on criteria you set, controlling trouble shooting settings, hardware scan settings and user interface settings.

Figure 8 Tasks completed in this guide



Radia Client Operations Profiles

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

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

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

The CLIENT Domain

The CLIENT domain in the Radia Database controls Client Operations Profiles. It has six classes with sample instances that you can use to configure your Radia client computer's operations. We provide an example of using the client computer's network location, stored in the ZCONFIG object, to prioritize the downloadable locations for application data for each client 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 Radia client.
- **Hardware Scan Config (RADHWCFG)**
  Use an instance in this class to control the type of hardware scan that the Radia client 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 Software Manager User Interface.
- **Server Access Profile (SAP)**
  Use instances in the Server Access Profile (SAP) class to define Configuration Servers and possible data access points for Radia managed services.

Recommendations

We make the following recommendations for using Client operations profiles.

- Use our Professional Services to help you implement this feature.
- Configure Client Operations Profiles 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 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 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 Configuration Server, Proxy Server, or CD-ROM drive. Radia Client Operations Profiles 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 Configuration Server can be identified as type RCS. A Configuration Server, Proxy Server, or CD-ROM drive can be identified as DATA in the TYPE attribute. Use DATA type only for servers from which the client will download applications.

In addition, each 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 Configuration Server to get the client computer's Client Operations Profile.

- **Service resolution (S)**
  Use this Configuration Server to resolve the client computer's services.
- **Client self maintenance (M)**
  Use this Configuration Server to perform Client Self Maintenance.
- **Reporting (R)**
  Use this Configuration Server for storing reporting objects from the client computer. These objects are stored in the PROFILE file in the Radia Database.
- **Data download (D)**
  Use this Configuration Server to download application data to the client computer.
- **All (A)**
  Use this Configuration Server for any of the roles listed above.

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

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

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

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

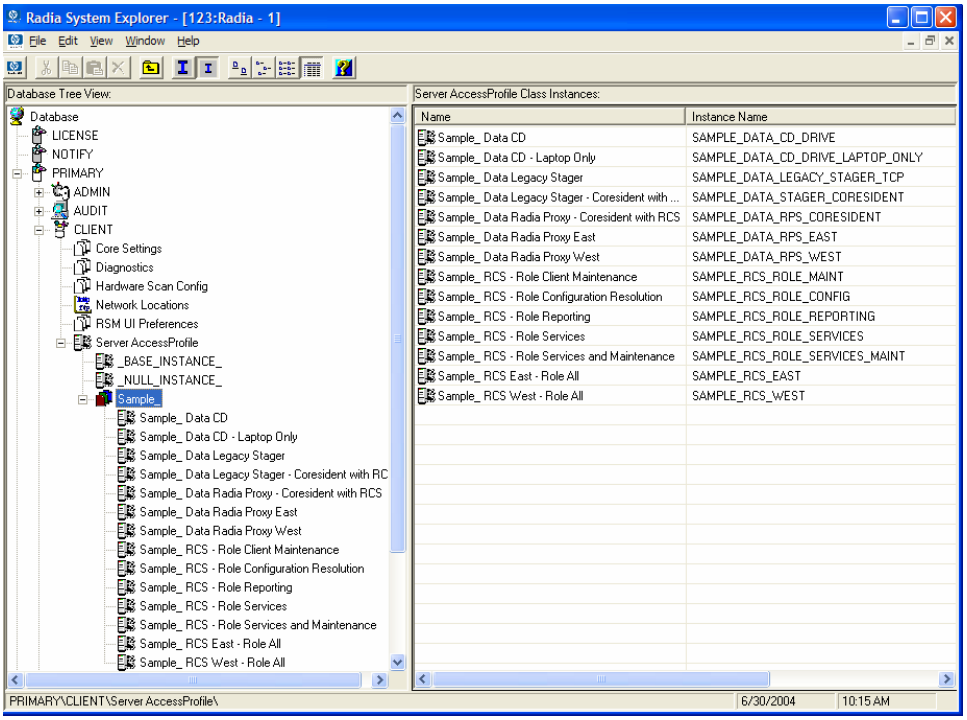
Task 1 Identify Radia Servers

Identify your Radia 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 Radia Server can be a Configuration Server, Proxy Server, or CD-ROM. Radia Servers with TYPE=DATA, must have a role of Data download (D). Configuration Servers, set to TYPE=RCS, can serve many roles. You will need to decide which roles your Configuration Servers can perform.

Only a 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 System Explorer to create one SAP instance for each Server Access Profile. Table 15 on page 147 describes the attributes in the SAP class. We provide you with samples for each type of Server Access Profile in the Radia Database. The next figure displays the SAP samples we provide.



Use System Explorer 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 15 on page 147to configure the instance for your enterprise.

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

Table 15 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.
TYPE	**Type [RCS /DATA]** Specify the Type of Radia server. Set to `RCS` if using Configuration Server. Set to `Data` for Proxy Server or CD-ROM. If the client computer is unable to reach any of its Server Access Profile, then the client will default to the last known Configuration Server.
URI	**Universal Resource Identifier** Create the Universal Resource Identifier to specify the Configuration Server, or Proxy Server. See Table 16 on page 151 for examples.
ROLE	**RCS Role A,O,S,M,R,D** 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 A = all O = Client Operations Profiles S = Service Resolution M = Client Self Maint R = Reporting, D= Data Download. Default: The default value is A. Note: Only a 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.

Attributes	Description
ENABLED	**Enable SAP [Y/N]** Specify if this SAP is enabled (Y) or disabled (N). If the variable is blank or non-existent, then this SAP is enabled. Default: The default value is Y.
TIMEOUT	**Communications Timeout (0-3200)s** Specify the timeout in seconds. This will override client timeout (ZMASTER.ZTIMEO) if it contains a valid numeric value. If blank, then use existing variable value on client.
PUSHBACK	**Push Back (0-999 retries)** Set to 0 to skip a Configuration Server if the Configuration Server pushes back on the Client Connect. Set to 1 to 999 for number of retries if the Configuration Server pushes back. Default: The default setting is 0.
THROTYPE	**Throttle [NONE/ADAPTIVE/RESERVED/]** Type of bandwidth throttling to use. • 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. This attribute applies to Windows only. This will override client bandwidth throttling if it contains a valid value. If blank, then use existing variable value on the client computer.

Attributes	Description
BANDWDTH	**Bandwidth Percentage (1-99)** 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. This will override client bandwidth setting if it contains a valid value. If blank, then use existing variable value on client computer.
STREAM	**Enable Streaming [Y/N]** Specify Y to use streaming. This will override the client setting in ZMASTER.ZNORSPNS. Default: The default value is N. Caution: Streaming is not suitable for all network environments. Consult your network administrator before setting this to Y.
PROXY	**Internet Proxy URI** *Do not modify.* The internet proxy URI through which the client will connect to the SAP. Maintained by client.
PRIORITY (&(LOCATION .SAPPRI))	**Selection Priority** *Do not modify.* The SAP obtains its priority by looking at the priority specified in the Location class.

Attributes	Description
PRODUCT	**Product Filter** Specify which types of Radia clients can use this SAP instance. Specify multiple clients separated by a comma. Below are suggested identifiers for each Radia client: Application Manager: RAM Inventory Manager: RIM Software Manager: RSM Radia OS Manager: ROMS Radia Patch Manager: PATCH On your radskman command line, specify which products to filter by using the product parameter. For example, if this SAP should only be used by Application Manager, then you may want to set this attribute to RAM. Then, set product to RAM on your radskman command line. Default: Blank means that all products can use this SAP instance.
FILTER	**Filter Expression [Obj.Var = Value]** 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. 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.

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 16 on page 151.

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 16 below:

Table 16 URI Examples

SAP Type	URI and TYPE attributes are set to:
Configuration Server over TCP/IP using default port of 3464	`URI = tcp://novarcs:3464` `TYPE = RCS`
Configuration Server over TCP/IP using port 7800	`URI = tcp://novarcs:7800` `TYPE = RCS`
Configuration Server using SSL on port 443	`URI = tcps://novarcsssl:443` `TYPE = RCS`
Proxy Server using HTTP	`URI = http://novarps:3466` `TYPE = DATA`

CD-ROM	`URI = file://&(ZCONFIG.ZHDWCDDR)`
	`|/DATA/`
	`TYPE = DATA`

Task 8 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 a client computer based on its subnet. If so, use System Explorer 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 a client computer includes an attribute called ZNETLOC. The ZCONFIG.ZNETLOC variable identifies the client computer's subnet using underscores instead of periods. You may want to name the Location instance based on possible subnets of your client 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 156 shows you how to connect the subscribers to the appropriate location class using the client computer's ZCONFIG.ZNETLOC variable.

Task 9 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.

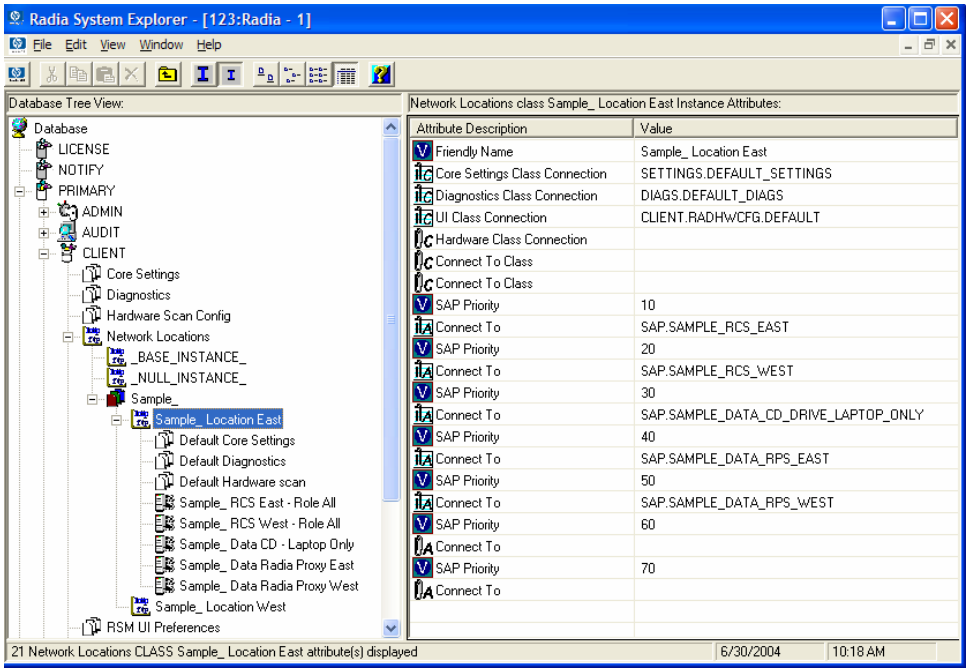


Table 17 on page 154 describes the attributes of an instance in the LOCATION class. For example, if you want your SAMPLE_RCS_ WEST to be used before your SAMPLE_RCS_ EAST, increase its priority to 7. To do this, change the SAPPRI for SAMPLE_RCS_WEST to 7 as shown in the next figure.

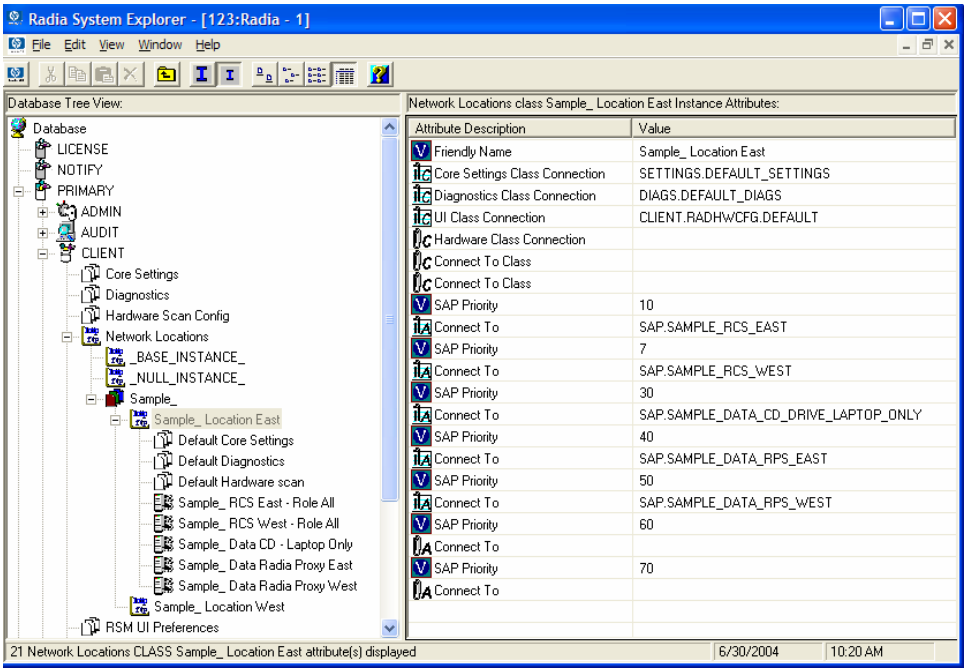


Table 17 Attributes of the LOCATION Class

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

Attribute	Description
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.
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 30 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 30.
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 40 by default.

Attribute	Description
ALWAYS	**Connect to** Specify an SAP instance for the priority entered into SAPPRI above this attribute. This SAP will default to a priority of 40.
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 50 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 50.
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 60 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 60.
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 70 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 70.

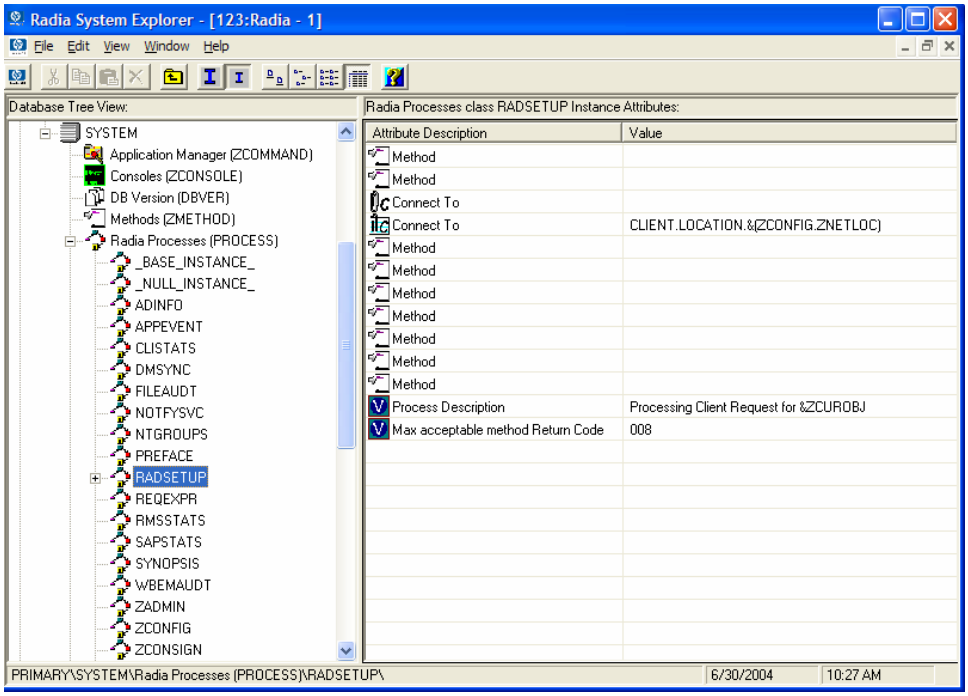
Task 10 Enable Client Operations Profiles

There are two phases to this step. First, you will need to create a process on the Configuration Server so that the objects associated with Client

Operations Profiles are resolved. Second, you will need to enable the client computer to use Client Operations Profiles.

Enable on the Configuration Server

To enable Client Operations Profiles, you must create a new instance called RADSETUP in the Radia 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 client computer's ZCONFIG object. The ZNETLOC attribute identifies the client 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 Client Operations Profiles configuration settings based on locations within your network. The next figure shows an example.



Enable on the Client

By default, Client Operations Profiles are disabled on client computers for backwards compatibility with older version of Radia. There are three ways to

enable Client Operations Profiles on the client computer. Choose your method based on whether the Radia client has already been installed, and the method that suits your needs best.

If you have not already installed the Radia client,

- You can customize objects.txt to add the COP variable to the RADSETUP object. To do this, add the following to the `objects.txt` file:

```
RADSETUP COP = Y
```

If you want to enable Client Operations Profiles on already existing Radia clients:

- You can customize the install.ini to add the COP variable to the RADSETUP object. To do this, add one line to the [objects] section in the install.ini. The figure below shows an example of the section with a new line.

```
[Objects]
; Set Radia object attribute values
; A value of _NONE_ will set the attribute to blank
;
RADSETUP_COP=Y
;ZMASTER_ZDSTSOCK=
;ZMASTER_ZIPADDR=
;ZMASTER_ZNTFPORT=3465
```

If you want to enable Client Operations Profiles on already existing Radia clients:

- You can use a rexx method, `initmeth.rex` to add and set the COP variable in the RADSETUP object. `Initmeth.rex` runs each time a "First Refresh Catalog" is called and can build the RADSETUP object with COP=Y to enable Client Operations Profiles. The figure 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 Client Operations Profiles. To enable, add COP=Y to your list of parameters for `radskman`. This will only enable or disable Client Operations Profiles for this Client Connect. Use `initmeth.rex` as shown above to enable COP for all Client 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 Client Operations Profiles after enabling it, run `radskman` with COP=N to disable for that Client 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 Client 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 18 Attributes of the SETTINGS Class

Attribute	Description
NAME	**Friendly Name** Type the friendly name of the instance.
SAPPING	**Ping all SAP [Y/N]** Set to **Y** if the client 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 **Default**: The default setting is N.

Attribute	Description
PUSHBACK	**Push Back (0-999 retries)** Set to 0 to skip a Configuration Server if the Configuration Server pushes back on the Client Connect. Set to 1 to 999 for number of retries if the Configuration Server pushes back. Default: The default setting is 0.
EQUISORT	**Secondary SAP Priority [R/S]** 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. Default: The default setting is R.
USELSAP	**Use Last SAP [N/Y]** Set this Y to specify that the last SAP used in this Client 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 client will go through the SAPs in priority for each service. During a Client 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. Default: The default setting is Y.
RCSDATA	**Download DATA from RCS [Y/N]** 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 client computers to use Configuration Servers, set RCSDATA to N. Default: The default setting is Y.

Attribute	Description
ADINFO	(Windows Only) **Query Active Directory Info [Y/N]** Specify Y if you want to collect the client 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 *System Drive*:\Program Files\Novadigm\Lib\RADSETUP. This information will be sent to the Configuration Server for all resolution processes. Default: The default setting is Y.
ZGRPINFO	(Windows Only) **Query NT User Group Info [Y/N]** Specify Y if you want to collect the client 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 *System Drive*:\Program Files\Novadigm\Lib\RADSETUP. This information will be sent to the Configuration Server for all resolution processes. **Default**: The default setting is Y.
LSCRIPT	**Disable Connect on UI Reboot [Y/N]** If you have set a service to perform an immediate reboot and you run radskman from a login script, set this to Y to run radskman from the login script. If you have set a service to perform an immediate reboot, and you want radskman to be restarted in the User context when a user logs, set this to N. In other words, if your users are configured to connect to Configuration Server when they log in, set this to N. If you want to do an immediate reboot with context=u, and you want the user to re-establish connection with the Configuration Server, then set LSCRIPT=Y. For more information on reboot options, see the section Restarting the Client Computer. Default: The default setting is Y.

Attribute	Description
ALWAYSD	**Always Download CFG Objects [Y/N]** 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 client object is corrupted for any reason, then it will be re-downloaded even if the desired state didn't 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 doesn't change the desired state. Default: The default setting is Y.
ALWAYSS	**Always Upload CFG Objects [Y/N]** Set to Y to always upload all objects in the RADSETUP directory to the Configuration Server. The default location for the RADSETUP directory is *System Drive*:\Program Files\Novadigm\Lib\RADSETUP. Set to N to prevent the objects from being sent. Default: The default setting is Y.
EXBSETUP	**Pre Config Resolution Script** Specify a script to run before pre-configuration processing. This script must be in the client computer's IDMSYS directory. The default location is *System Drive*:\Program Files\Novadigm. Default: The default setting is PRESETUP.REX.
EXASETUP	**Post Config Resolution Script** Specify a script to run after pre-configuration processing. This script must be in the client computer's IDMSYS directory. The default location is *System Drive*:\Program Files\Novadigm.
CMETHOD	**Post Catalog Script** Specify a script that can run after catalog resolution, but before service processing.
EXBOUTBX	**Pre Outbox Script** Specify a script that can run after service processing, but before the objects in the outbox are flushed to the Configuration Server.

Attribute	Description
EXBEXIT	**Post Connection Script** 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 client computer's IDMSYS directory. The default location is *System Drive*:\Program Files\Novadigm. Note: Client Operations Profiles must be enabled on the client for the EXBEXIT to be used. If Client Operations Profiles are not enabled, the EXBEXIT will be ignored.
TIMEOUT	**Communications Timeout (0-3200)s** Specify the timeout in seconds for the Server Access Profile (SAP). This will override the client timeout (ZMASTER.ZTIMEO) if it contains a valid numeric value. If the value is blank, then the client will use the existing timeout value on client.
THROTYPE	**Throttle [RESERVED/ADAPTIVE/NONE/]** Type of bandwidth throttling to use. • 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.
BANDWDTH	**Bandwidth Percentage (1-99)** 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.

Attribute	Description
RADTRAY	(Windows Only) **Radtray Command Line Arguments** Set command line arguments you want to use for the Radia System Tray. Specify Y for the first argument to enable the Radia 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: • **/C -** Show the Radia 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. Example: Y, /C /NOPAUSE enables the Radia System Tray in console mode and does not display the **PAUSE** button.
USEDEFS	**Use Default SAP [Y/N]** If a SAP cannot be found for the needed ROLE, specify Y to default to the Configuration Server set on the command line.
DEFROLE	**Default SAP ROLE (A,O,S,M,R)** Specify roles for the Configuration Server specified on the command line. If not specified, the ROLE is set to A (All), and the Configuration Server will be able to perform any ROLE. Note: USEDEFS must be set to Y to use DEFROLE.
RAD2XUI	**Enable RADUI 2.x** Default setting Y displays terminal messages. Set to N to turn off UNIX console messages.

Attribute	Description
RSTROPT	(Windows Only) **Bandwidth Checkpoint Restart** Use this attribute to determine when a file is eligible for checkpoint restart based on calculated network bandwidth. This will apply to *all* files to be downloaded in this Client Connect. Specify eligibility in the format (Below Threshold limit, Network Threshold Value, Above Threshold). Suppose you set RSTROPT to 100KB, 86KB, 10MB. First the client calculates the network bandwidth. One of two scenarios will apply: • If the network bandwidth is under 86KB, the file size is compared to 100KB. If the file size is over 100KB, checkpoint restart is enabled for that file. • If the network bandwidth is over 86KB, the file size is compared to 10MB. If the file size is over 10MB, checkpoint restart is enabled for that file.
DISKFREE	**Minimum Free Disk Space Threshold** Specify a minimum of free disk space for Radia to maintain. If a service is over the limit, it will not be installed.
REMUNINS	**Allow Remote Notify Uninstall [Y/N]** 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 Client Connect is started from a remote notify. The remove notify string must contain the text req="Un-install."
DETPROXY	(Windows Only) **Internet Proxy detection [Y/N]** Set to N to skip running Internet proxy detection at the beginning of the Client Connect.

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

Diagnostics (DIAGS)

Use this class to override default trace settings on the Radia client 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 Radia client. The information in the `radstate` output is based on data retrieved from numerous Radia client objects. For additional information on `radstate`, see the technical document "RADSTATE: Client Diagnostic Utility" on 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 Radia client 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 19 Attributes of the DIAGS Class

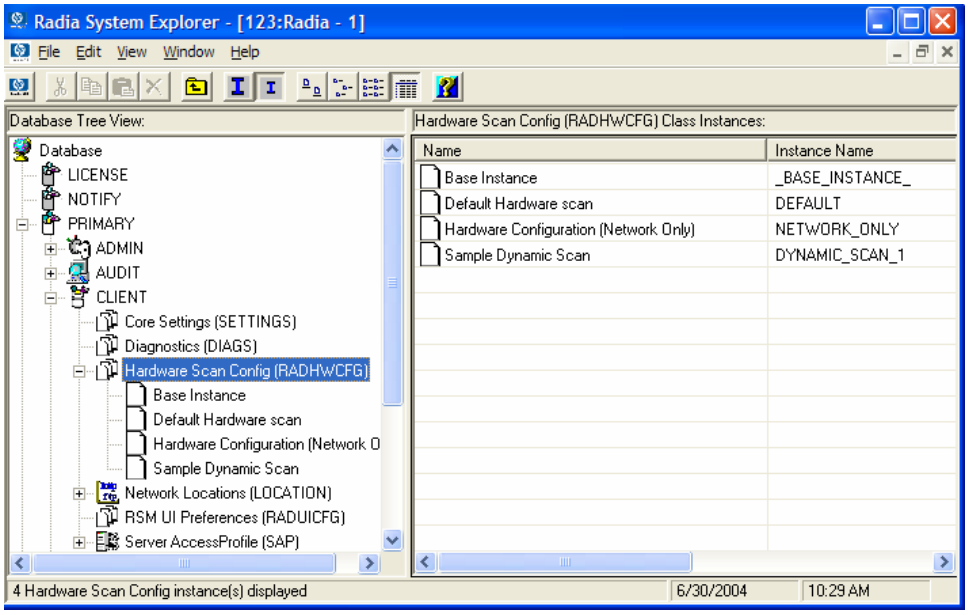
Attribute	Description
NAME	**Friendly Name** Type the friendly name of the instance.
RADSTATE	**Command String for radstate** This will run radstate with the parameters specified in this attribute. The base instance of the DIAGS class is set to VO, which will run radstate in verbose mode, building the ZRSTATE and ZRSTATES objects. See the documentation on radstate for more information. If no parameters are specified, radstate will not run. Radstate must exist in the IDMSYS 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	**Communication Tracing [Y/S/N]** • Specify N to turns off communication buffer tracing. Tracing is off by default. • Specify S to provide summary communication buffer information to the client 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 client log. All data transmitted and received will be echoed to the client log file Caution**:** Setting ZTRACE = Y may generate very large logs and severely impact performance of the client. Do not set this unless instructed to do so by Technical Support.
ZTRACEL	**Trace level (000/040/999)** Specify tracing level. If blank, use existing value. Caution: Setting ZTRACEL to a higher number may generate very large logs and severely impact performance of the client. Do not set this unless instructed to do so by Technical Support.

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 client 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.

Client Operations Profiles must be enabled to use the RADHWCFG class. For testing, you may want to create a RADHWCFG object on the client 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.



We provide you with four sample instances in RADHWCFG.

- **Base Instance**
  Create copies of the base instance to create your own hardware scans.
- **Default Hardware Scan**
  This instance scans for the most commonly requested information.
- **Hardware Configuration (Network Only)**
  This instance scans for network information only.
- **Sample Dynamic Scan**
  This instance provides samples using the Dynamic Scan variables.

Table 20 below details each of the possible hardware scans. Examples of the ZCONFIG attributes that may be returned are provided.

Note that the attributes returned depend on what the hardware configuration is. For example, if the client device has only one printer connected, then only one ZHDWPA0*n* attribute will be reported in ZCONFIG.

Table 20 Attributes in the RADHWCFG Class

Attribute	Description
NAME	**Friendly Name** The friendly name of the instance.

Attribute	Description
CPU	**CPU [Y/N]** Specify Y to scan for CPU information. ZCONFIG attributes: ZHDWBIOS, ZHDWCOMP, ZHDWCPU, ZHDWCPUN, ZHDWCPUS, ZHDWFPU, ZHDWXPAG, ZHWCPU01, ZHDFPU01
OS	**OS [Y/N]** Specify Y to scan for Operating System information. ZCONFIG attributes: REBOOTD, REBOOTT, WTSSRVR, ZHDWLANG, ZHDWOS, ZHDWOSDB, ZHDWOSOG, ZHDWOSOW, ZHDWSVCP
MEMORY	**Memory [Y/N]** Specify Y to scan for memory information. ZCONFIG attributes: ZHDWMEM, ZHDWMEMF
HDLOCAL	**Local Drives [Y/N]** Specify Y to scan for internal hard drives. ZCONFIG attributes: ZHDWCDDR, ZHDWD00, ZHDW00C, ZHDWD00F, ZHDWD00S, ZHDW00T, ZHDWD01, ZHDW01C, ZHDWDF_A, ZHDWDLST, ZHDWDNUM
HDREMOTE	**Remote Drives [Y/N]** Specify Y to scan for external hard drives. ZCONFIG attributes: ZHDW00, ZHDWD00C, ZHDWD00F, ZHDW00S, ZHDW00T, ZHDWDLST, ZHDWDNUM
NETWORK	**Network [Y/N]** Specify Y to scan for network information. ZCONFIG attributes: GATEWY01, IPADDR01, LADAPT01, NETLOC01, SUBNET01, ZGATEWAY, ZHDWIPAD, ZHDWLANA, ZHDWNET1, ZHDWNNET, ZNETLOC, ZSUBNET
PERIPHER	**Peripherals [Y/N]** Specify Y to scan for peripherals such as keyboard and mouse. ZCONFIG attributes: ZHDWKYBD, ZHDWMOUS, ZHDWPPAR, ZHDWPSER, ZHDWVIDO, ZHDWVRES

Attribute	Description
PRINTER	**Printers [Y/N]** Specify Y to scan for printers. ZCONFIG attributes: ZHDWPA00, ZHDWPA01, ZHDWPPRN
HAL_VER	**HAL Statistics [Y/N]** Specify Y to scan for the HAL (Hardware Abstraction Layer) version. ZCONFIG attributes: HALCOMP, HALDATE, HALFNAME, HALFVER, HALINAME, HALLANG, HALPNAME, HALPVER, HALSIZE.
APP_VER	**Application Version [Y/N]** Specify Y to scan for versions of MSI (ZHDWVMSI) and IE (ZHDWVIE).
WMISCAN	**Use WMI to collect data [Y/N]** Specify Y to perform the scan using WMI (Windows Management Instrumentation).
DSCAN00n	**Dynamic Scan 00n** Specify Y to use the dynamic scan variable. See Dynamic Scanning below.

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 Radia. 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 Software Manager User Interface. You must be licensed for the Software Manager client. 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 Software Manager to use this class.

Table 21 Attributes of the RADUICFG Class

Attribute	Description
BNHOME	**Display Home Button [Y/N]** Specify Y to display the Home button on the Radia Bar.
BNMYSOFT	**Display My Software [Y/N]** Specify Y to display the My Software button on the Radia Bar.
BNPREFER	**Display Preferences [Y/N]** Specify Y to display the Preferences button on the Radia Bar.
BNHISTRY	**Display History [Y/N]** Specify Y to display the History button on the Radia 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.

Attribute	Description
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.
STRTFILE	**Startup parameter filename** Specify the filename 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 Software 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 Software Manager's title bar.
COLTYPE	**Columns [Forced/Required]** Set to `Forced` if you want only the columns specified in COLNAMES to appear. Set to `Required` 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.

Attribute	Description
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.
BTNINST	**Enable Install Button [Y/N]** Specify Y to enable the **Install** button.
BTNUPDT	**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.

Client Operations Profile Example

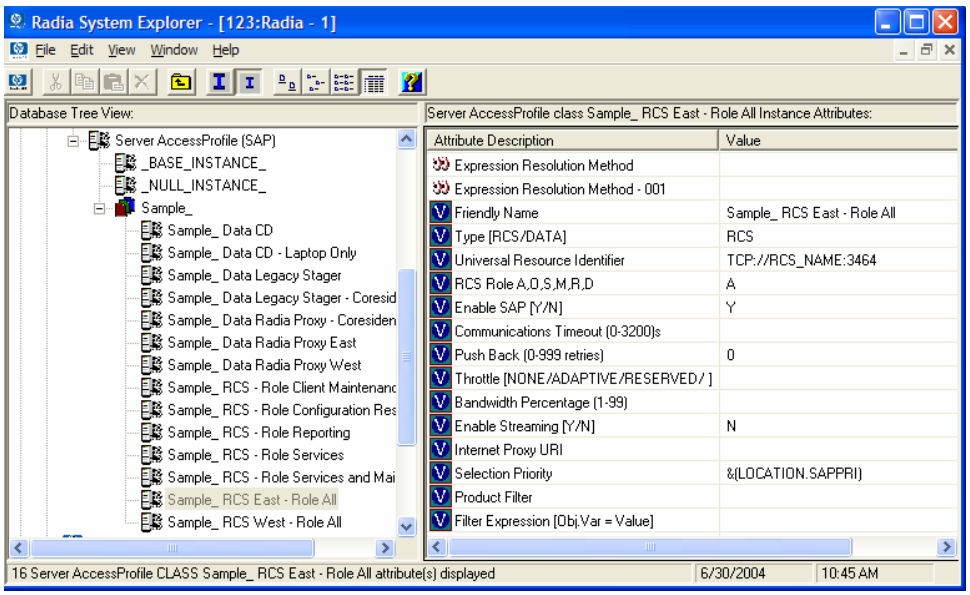
This section provides a simple example of how to configure a Client Operations Profile. The driving force is to have your client computers connect with the most appropriate Configuration Server. Usually, you will want to assign your client computers to a Configuration Server based on network address.

Scenario

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



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

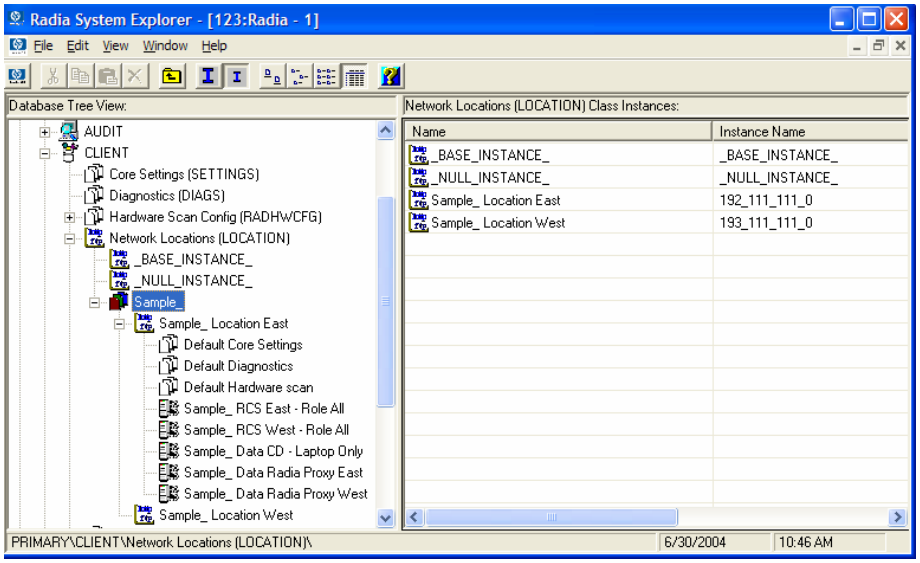
only Configuration Servers. Therefore, all servers will have SAP.TYPE set to RCS.

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 Configuration Server can provide client 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 a client 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 a client in the EAST region and the RCS_EAST is busy. In other words, the task limit defined in your 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.

Once 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 Client Operations Profiles to provide redundancy in your environment.
- Select which servers will perform which roles.
- You can assign client computers to specific servers based on network location or any other criteria.
- You must enable Client Operations Profiles in the Radia Database and on the client computer.

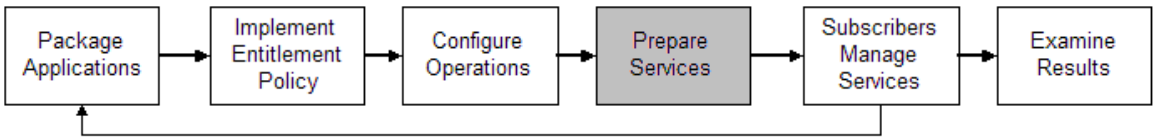
8 Preparing Services

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 client computer.
- Be aware of service options.

This guide covers the suggested implementation for the Software Manager. Although you will tailor this strategy to meet your organization's needs, it is recommended that you review this guide for a comprehensive understanding of the Software Manager. This chapter covers preparing services.

Figure 9 Tasks completed in this guide



Restarting the Client Computer

You may need to restart a client computer based on an application event. To do this, 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 client 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 22 on page 181 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 22 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. Radia 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 client 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 Software 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 Radia client 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. Radia 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 Client 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 System Explorer. Many of the values for these attributes are set when using the Administrator Workstation, such as the Radia Publisher or the New Application Wizard in the System Explorer. You can also use the System Explorer 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 System Explorer. The Radia client uses these attributes. For example, an attribute such as INSTDATE is used to record the date the service was installed on the client computer. The value for this attribute is stored in the PROFILE file for the client computer in the Radia Database.

Table 23 Modifiable SOFTWARE.ZSERVICE Attributes

Attribute	Description
BDELETE	**Service Pre-Delete Method.** Run before client operations profile resolution.
BREPAIR	**Service Pre-Repair Method.** Run before client operations profile resolution.
BUPDATE	**Service Pre-Update Method.** Run before client operations profile resolution.
ZSTOPnnn	**Expression Resolution Method** Stops resolution if the expression evaluates to TRUE. **Example**: WORDPOS(EDMGETV(ZMASTER,ZOS),'UNIXHPUX UNIXLNUX')=0 This example expression will stop resolution on the instance if the client computer's operating system if the operating system is *not* HP-UX or Linux. In other words, the application will not be installed unless the client computer is running HP-UX or Linux.

Attribute	Description
ZSVCNAME	**Service Name/Description** Name of the service used for display in the Software Manager user interface. Value is set initially in the Short Description field in the New Application Wizard.
ZSVCTTYP	**Application Target Type [A/S]** Indicates which Radia client this application was packaged for, Application Manager or Software Manager. Value is set initially in the New Application Wizard. Possible values are **A** for Application Manager and **S** for Software Manager.
ZSVCMO	**Mandatory or Optional Service [M/O]** 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 Software Manager, services are usually marked as optional, O. If you are using Application Manager and Software 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 Software Manager subscriber to have the option of installing the application, but, once installed, want the maintenance or removal of the application to be mandatory, set ZSVCMO to be OM. Note: If you may need to edit the ZSERVICE class template, to allow you to set ZSVCMO to OM. See the System Explorer Guide for more information on editing a class template. To process mandatory applications using Software Manager, add "enterprisemanagement=auto" to the args.xml file.
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.

Attribute	Description
ALWAYS	**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.PUTHIST_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** *Reserved for future use.*
UPDDDATE	**Upgrade Date (Programmatic)** *Reserved for future use.*
AUTHOR	**Author Name** Name of the author of the service that appears in the extended information area in the Software Manager user interface. Value is set initially in the Author field in the New Application Wizard.
DESCRIPT	**Application Description** 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.

Attribute	Description
VENDOR	**Vendor Name** Name of the vendor of the service that appears in the Software Manager user interface. Value is set initially in the Vendor field in the New Application Wizard.
URL	**WEB URL Name** 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 Software Manager user interface. Value is set initially in the Web URL field in the New Application Wizard
CATGROUP	**Catalog Group Name** Use CATGROUP to group a set of applications into a group. You can display applications based on their group in the Software Manager user interface.
PRICE	**Price** Type in the price of an application to be displayed to subscribers in the extended information area in the Software Manager user interface.
SCHEDOK	**Update Schedule Locally [Y/N]** *For Software Manager only.* Specify Y to allow the subscriber to change the update schedule locally. Specify N to maintain control on the Configuration Server.
VERSION	**Version Description** Version of the software. This appears in the properties for the service in Software Manager user interface. The value is set initially in the Version field in the New Application Wizard.
NAME	**Friendly Name** This name appears in the properties for the service in the Software Manager user interface. The value is set initially in the Short Description field in the New Application Wizard.
OWNER	**Application Contact** *Reserved for future use.*
RUNDLG	**Dialog Processing [Y/N]** Specifies whether to enable processing of instances in the DIALOG class during the installation of the service. Specify Y for Yes and N = No. Default: N

Attribute	Description
REBOOT	**Install/Update/Delete/Version Chang** Used to restart the client computer based on application event. Specify your action by equating an application event to a reboot type, panel, or connect. Event to restart on: AI = Install AD = Deinstall AU = Update AR = Repair AV = Verify Type of reboot: S = Soft Boot (Default of type Y panel.) H = Hard Boot (Default of type A panel.) N = None Type of panel: Q = No panel. A = OK button only. Y = OK and Cancel button. Type of connect: None specified: Reboot on Machine connect (context = m). U = reboot on user connect only (context = u). MU = reboot when both machine and user parts of the service have been installed. Example: AI=S performs a soft boot on application installation

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

Attribute	Description
REMOVAL	**Un-Managed Behavior [A/D/U]** Controls how the application is managed when a service is removed. • Set REMOVAL to A (Abandon) to delete the service's objects on the client, but leave the application components. The service will no longer be managed by Radia. • Set REMOVAL to D (Delete) to delete the service's objects and components. The service will still be managed by Radia. • Set REMOVAL to U (Unmanage) to stop management of the service by Radia. Neither the objects nor the components are deleted. This applies only to optional applicatons (ZVSCMO set to O) that are removed based on entitlement policy. If a subscriber removes an optional application, the service's objects are always removed no matter what REMOVAL is set to. Default: D
RECONFIG	**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.
ZSVCCAT	**Service Visible in Catalog [Y/N]** Specifies whether the service is visible in the Software 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.
UIOPTION	**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.
CACHE	**App Element Caching [Y/N]** *For Windows Installer applications only.* Enables element caching. Specify Y for Yes and N for No. Default: N

Attribute	Description
CACHELOC	**CACHE Location On Client** *For Windows Installer applications only.* Location of the folder on the client computer that is used to cache the compressed application files needed for the product. Radia support for Windows Installer tags the PRODGUID value to this value to create the folder. For example, If `CACHELOC=C:\progra~1\Novadigm and PRODGUID = 12345_XXXX`, then the cache folder would be: `c:\progra~1\Novadigm\12345_XXXX\cache.` Note: The folder `\cache` is automatically appended to PRODGUID. If you are not deploying a Windows Installer-enabled application, the files will be cached in IDMDATA. Default: _UNDEF_
CACHELIM	**Percnt Disk Limit For Cache** *For Windows Installer applications only.* 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. This is checked after every file is cached on the disk.
ZDISCONN	**Disconnect on Install [Y/N]** Allows the client to disconnect from the Configuration Server if there is an open session with the Configuration Server. • Specify Y to disconnect the client from the Configuration Server. • Specify N to keep the client connected to the client from the Configuration Server. Default: N
ZSYSACCT	**Install under System Account [Y/N]** Specifies whether to install the service under the system account or the user's account. • Specify Y to install the application using the system rights. • Specify N to install the application using the rights of the logged on user. Default: N

Attribute	Description
MCELIGBL	**Service Multicast Eligible [Y/N]** Indicates if the application is eligible for multi-casting. Specify Y for Yes and N for No. Default: Y
RSTRSIZE	**Download restart threshold (bytes)** 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).
ZSVCMODE	**Application Context [M/U/MU/EMU]** • 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 Client 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 Software 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 client computer's service objects. These attributes should not be modified using System Explorer.

Table 24 Calculated ZSERVICE Attributes – DO NOT MODIFY

Attribute	Description
ZSVCCSTA	**Service Status on Client** Status code for the service. Used to determine why files for a service may not be deployed correctly. Values range from 000-999.
SIZE	**Application Size - Uncompressed** The size of the uncompressed application displayed to the subscribers in the extended information area in the Software 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.
COMPSIZE	**Application Size - Compressed** The size of the compressed application displayed to the subscribers in the extended information area in the Software 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.
ZAVIS	**Available, Verified, Installed, Sync F** The Radia client manages and maintains this attribute to show the different states of the application in the catalog. The four states are: • Available indicates whether a service is available from the 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 Configuration Server. The possible values for each are: Y = Yes N = No X = Unknown
VERDATE	**Verified Date of Service** Indicates when the application was last verified (in local time) on the client computer. The Radia client manages and maintains this attribute. This is displayed to the subscribers in the extended information area in the Software Manager user interface. This attribute is useful for reporting purposes. The value is in the format of MMM DD,YYYY HH:MM:SS. **Example**: Jul 28, 2003 16:10:00

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

Summary

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

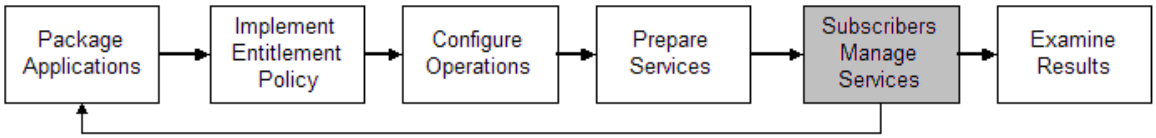
9 Software Manager User Interface

At the end of this chapter, you will:

- Know how to customize the Software Manager.
- Understand how your subscribers can access the Software Manager user interface.
- Be able to use the Software Manager user interface, from a subscriber's perspective.

This guide covers the standard implementation for the Software 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 Software Manager. This chapter covers customizing the Software Manager client and using the Software Manager user interface.

Figure 10 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 Software Manager User Interface

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

Accessing the Software Manager User Interface

Before running the Software Manager for Unix, make sure your DISPLAY environment variable is set. See Table 3 on page 27 for more information.

To access the user interface

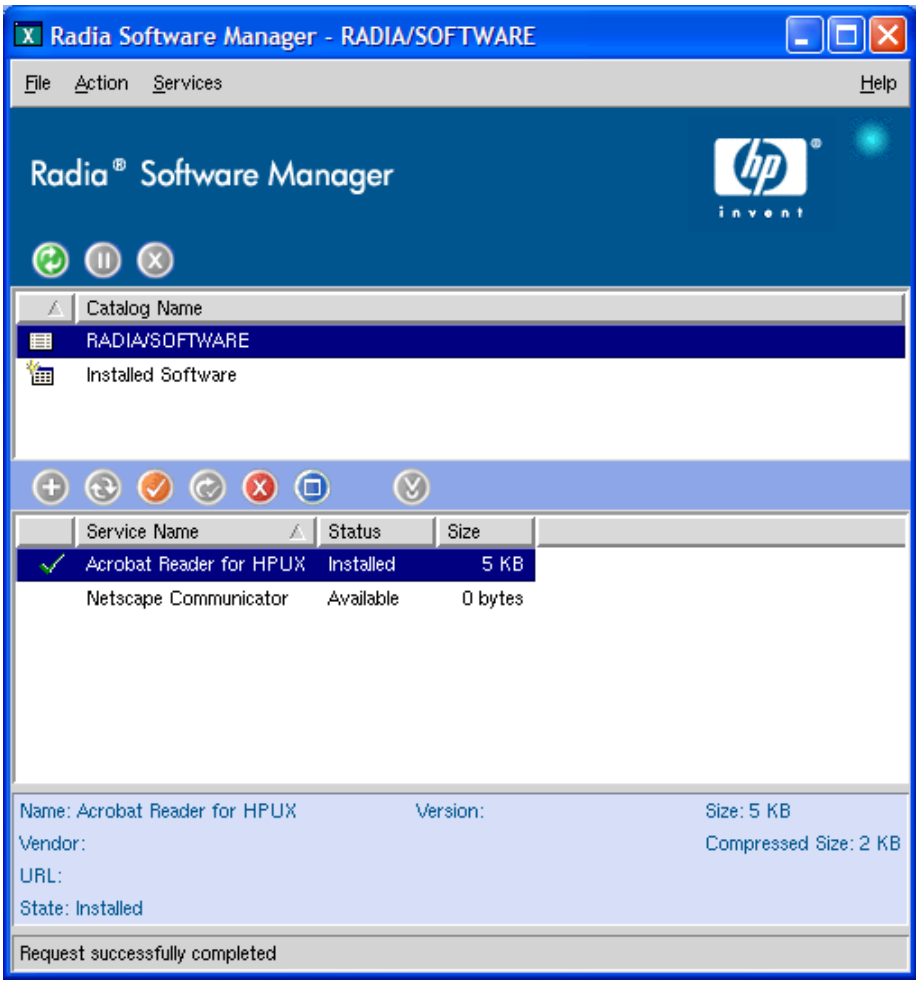
1 Change your current working directory to the directory where you installed the Software Manager (default `/opt/Novadigm/`).

2 Type **`./radiaui`**, and press **Enter**.

The Radia 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 Software Manager User Interface

The Software 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.
- **Software Manager menu options**
  Each section contains specific Software Manager options.

Global Toolbar

The Global Toolbar allows you to refresh the catalog, pause the current action, or cancel the current action. Once 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

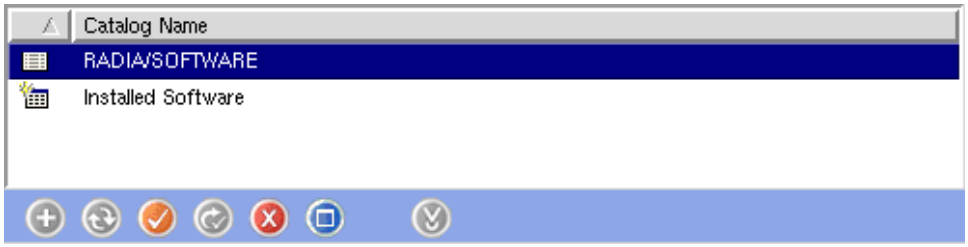
- To pause the current action using the Global Toolbar, click **Pause** .
- To resume a paused action, click **Resume** . (The Pause button is replaced with this button after you pause an action).

To cancel the current action

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

The Catalog List

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

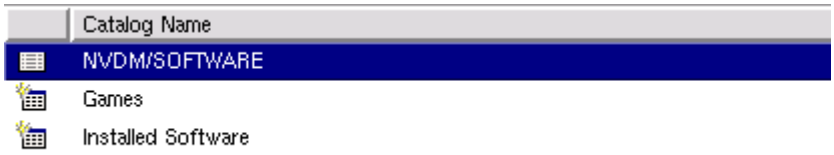


To select a catalog

- In the Catalog List, click on the 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 System Explorer, which is available for 32-bit Windows platforms.

1 Go to **Start** → **Programs** → **Administrator Workstation** → **System Explorer**. The System Explorer Security Information dialog box opens.

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

The User ID, as shipped, is RAD_MAST. No password is necessary. This may have been changed in your installation. Check with your Radia security administrator to obtain your own User ID and Password, if necessary.

The System Explorer window opens.

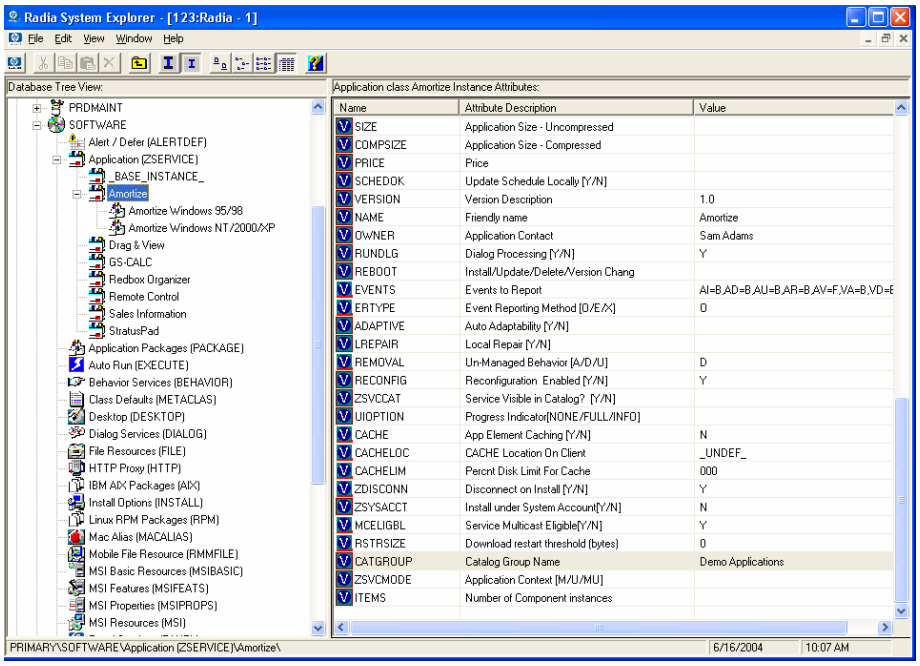
3 Double-click **PRIMARY**.

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**.



The Service List

The Service 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 202 for more information.

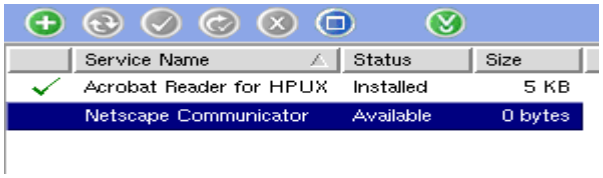


Table 25 Buttons in the Radia Service List Section

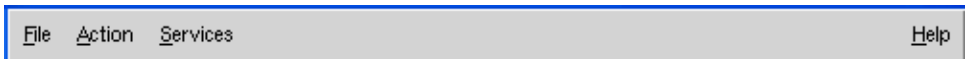
Button	Action	Description
	Install	Installs the selected service on your machine
	Update	Updates the selected service.
	Verify	Verifies the files for the selected service.
	Repair	Repairs the selected service.
	Remove	Removes the selected service from your machine.
	Expand/Collapse	Expands or collapses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

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

Some of the buttons in the Radia 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 202 for more information.

The Software Manager Menu Options

Use the Software Manager Menu options to configure and customize your Software Manager.



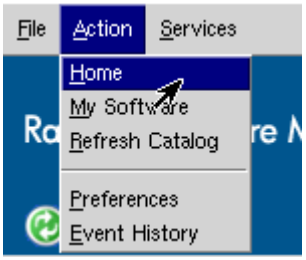
The following sections explain each option in the Software Manager menu in detail.

File

Use the **File** menu option to exit the Software Manager.

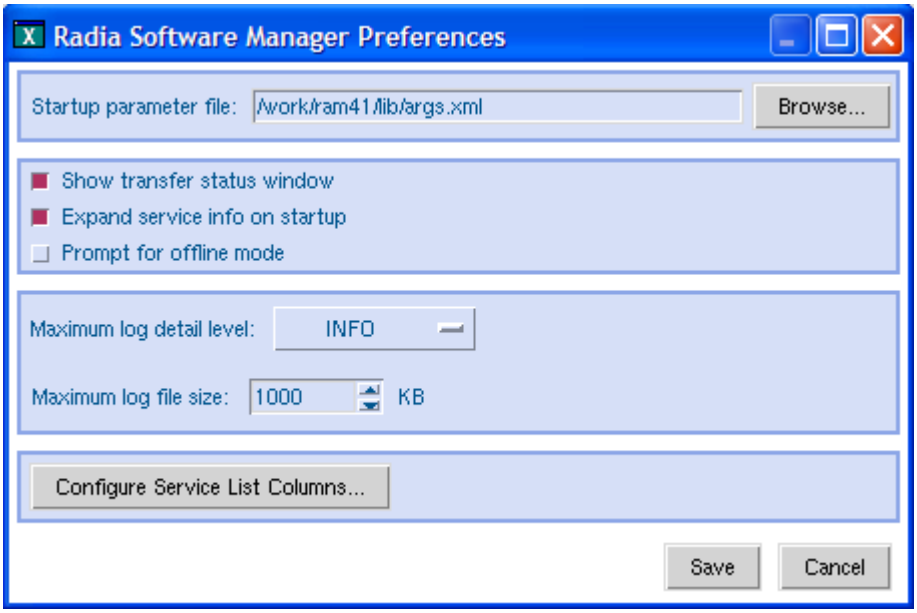
Action

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 Radia Service List, displaying all available services in the 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 Software 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/Novadigm/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.

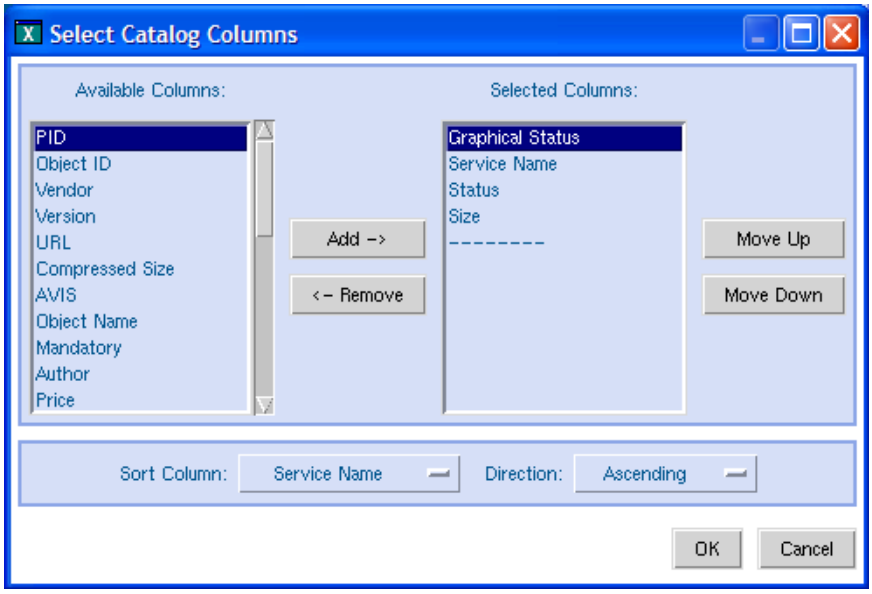
— **Expand service info on startup**
Select this check box to display the Service info at the bottom of the service list for the selected service.

— **Prompt for offline mode**
Select this check box if you would like to be prompted to work offline if a connection to the 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 26 on page 205.

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 Software 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.

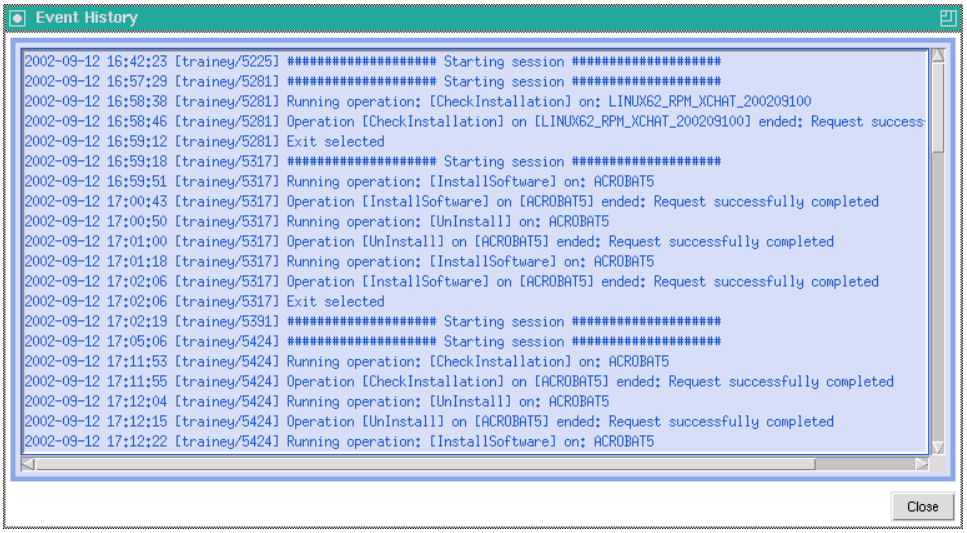
4 Click **Save** to keep your changes and return to the Software Manager.

Table 26 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.
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 • 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.

Column Heading	Description
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 Software 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.

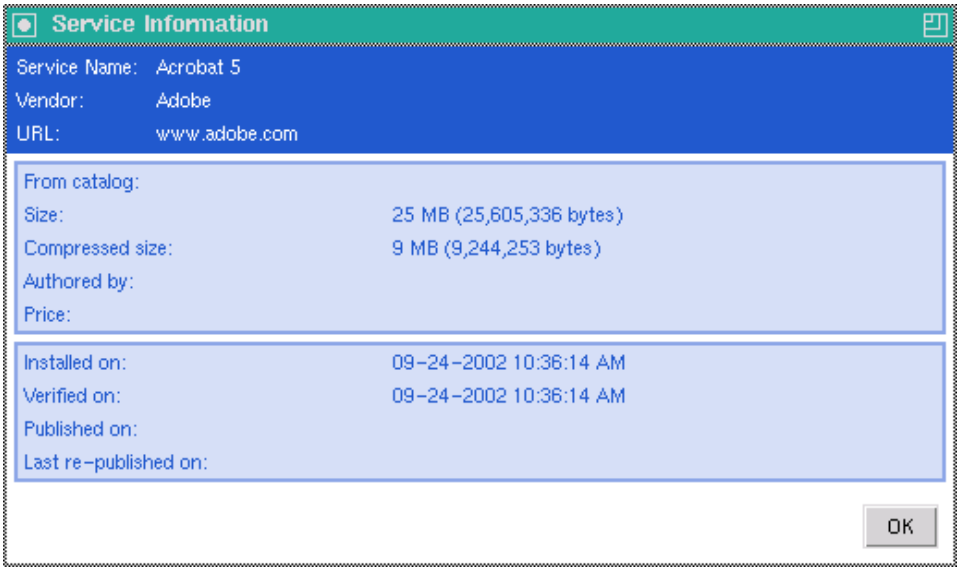
Refreshing the Catalog

The catalog is refreshed whenever you log on to the Software 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

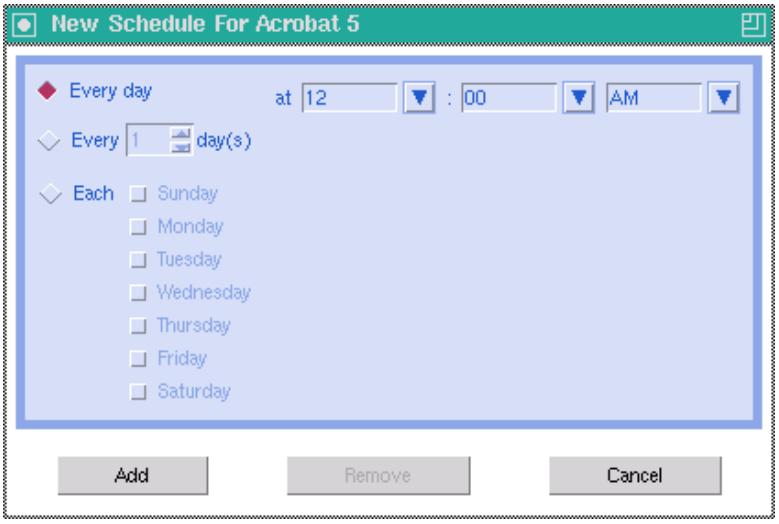
After selecting an installed service, select Schedule from the Services menu to specify a schedule that will automatically update the applications that are installed on your computer. For example, you can schedule updates to occur during non-business hours, when you are not using your computer and network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

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

To schedule updates for an installed application

1. In the Software 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

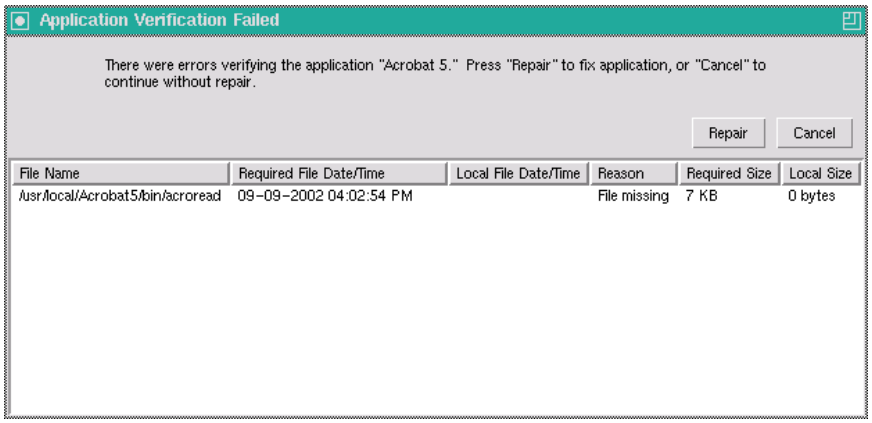
To check the installation of an application

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.

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**. Radia 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 Client Logs

In previous versions of Radia, each of the main client 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 Radia 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 client 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 client 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 27 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 filename without a path. By default logs are stored in the IDMLOG folder.	N/A	Alog=Application1.log

Parameter	Description	Default	Example
Log	The name of the log file to create. Use a valid filename without a path. By default logs are stored in the IDMLOG folder. If there is an existing log file with the same name, Radia creates a backup of that file called *logname*.bak. If there is already a *logname*.bak, Radia 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.

Radia Self Maintenance

Maintenance for the Radia clients is available from Technical Support. The maintenance will include import decks for the Radia 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 client's platform and current product level. Once you have decided to roll out the maintenance to the client computers, you can add the service to the user's entitlements.

In previous versions of the product, the maintenance functions were in the NOVADIGM domain. If you are using Radia clients below the 4.x version, you will still use the NOVADIGM domain for maintenance activities. Refer to the appropriate *Application Manager* or *Software Manager Guide* for your version of the client.

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 166 for more information. For details on radskman, refer to the *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 client 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 Configuration Server service and copy the export files to the 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 *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 *Configuration Server Guide.*
5. Restart the Configuration Server.

6 Assign the Maintenance Server to the appropriate users in the POLICY domain.

To run the maintenance portion of a Client Connect process, the mnt parameter of the radskman command line, must be set to Y.

During catalog processing, the client 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. The default location for this is `C:\Program Files\Novadigm\_Maint_`.

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 client computer, the Software Manager client will check if the application is configured for deferral. If it is, the Radia client 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 Radia client will display the deferral dialog box.

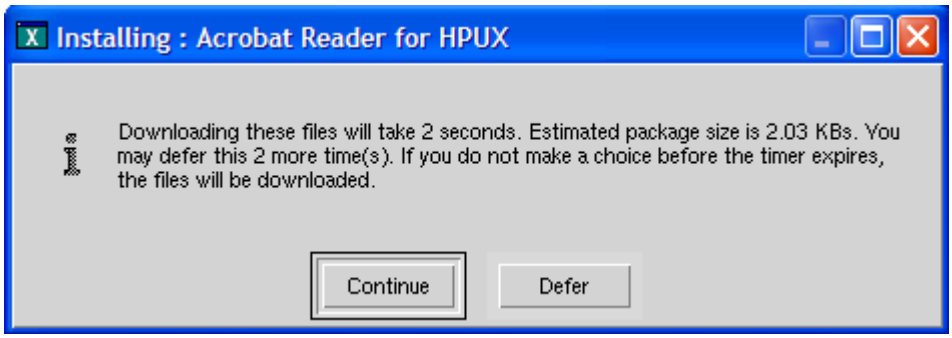
- The Alert Mode (DM) is configured for the current operation: Install, Update, or Both.
- The current network speed is lower than Network Threshold Speed (DT).
- The UIOPTION attribute in the ZSERVICE instance is not set to NONE.

- 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 Software Manager, the following will be displayed:



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 Radia 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** → **Administrator Workstation** → **System Explorer**. The System Explorer Security Information dialog box opens.

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

> The User ID, as shipped, is RAD_MAST. No password is necessary. This may have been changed in your installation. Check with your Radia security administrator to obtain your own User ID and Password, if necessary.

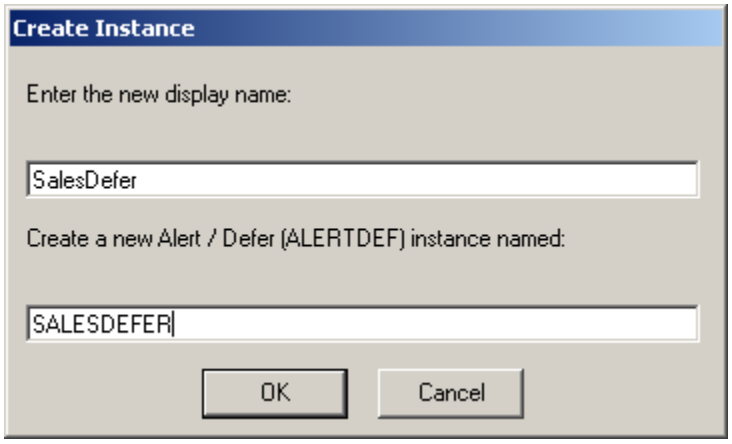
3 The System Explorer window opens.

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.

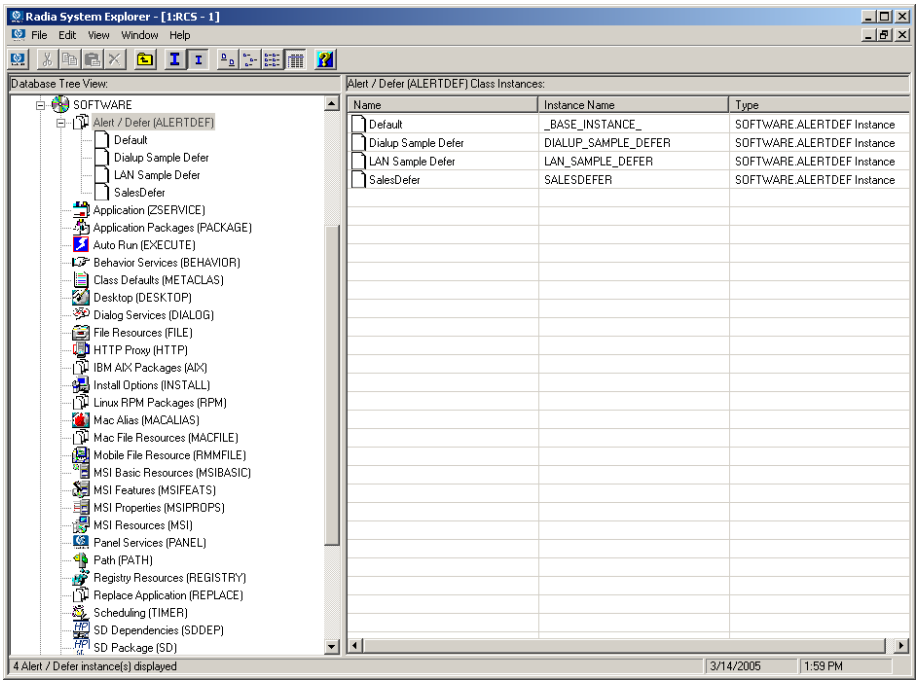
Configuring a Deferral

Once 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 System Explorer 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. SeeTable 28 below for information on the attributes for this class.

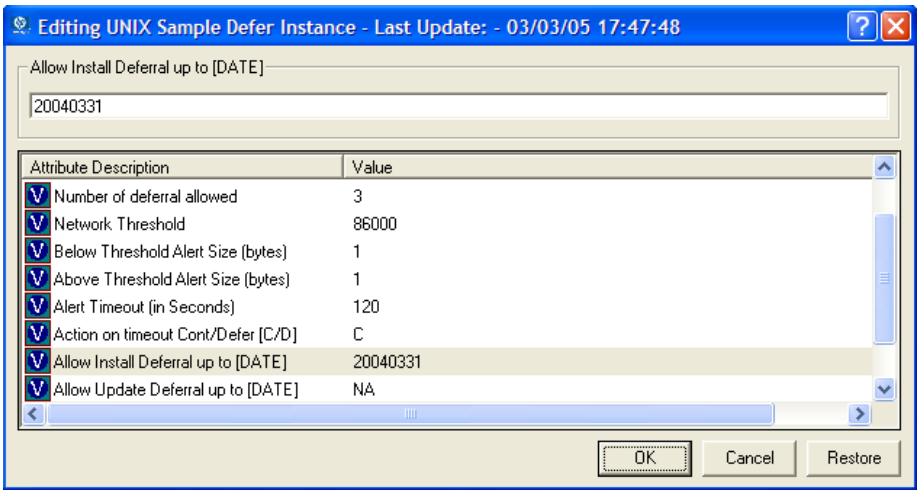
Table 28 Variables in the ALERTDEF class

Variable	Description	Default Value
ALERTMSG	**Alert Message** An exclamation point (!) preceding "Service Alert Message" denotes a high priority message.	
DM	**Alert Mode [I/U/B]** • Set to I for Install. • Set to U for Update. • Set to B for either Install or Update.	B

Variable	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

Variable	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. *Do not modify*.	&(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.

Once 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 System Explorer to click and drag the Alert/Defer (ALERTDEF) instance to the appropriate Application (ZSERVICE) instance. For additional information on using the System Explorer, see the System Explorer Guide.

Consolidated Client Logs

In previous versions of Radia, each of the main client 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 Radia 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 client 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 client 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 29 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 filename without a path. By default logs are stored in the IDMLOG folder.	N/A	Alog=Application1.log

Parameter	Description	Default	Example
Log	Name of log file to create. Use a valid filename without a path. By default logs are stored in the IDMLOG folder. If there is an existing log file with the same name, Radia creates a backup of that file called *logname*.bak. If there already is a *logname.*bak, Radia 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 Software Manager User Interface for use with your Web Browser

The Software 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 Software 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 don't 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 client computer, the subscriber, or the results of a subscriber's activity. See the Radia client Directories and Objects chapter in this book starting for more information.

Summary

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

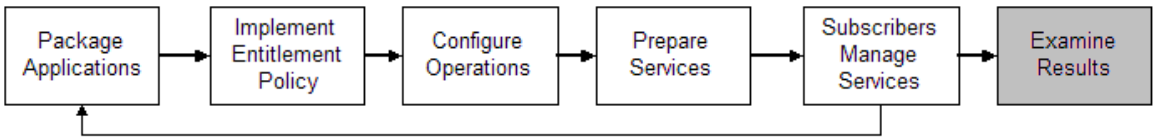
10 Radia Client Directories and Objects

At the end of this chapter, you will:

- Be familiar with key Radia client objects.
- Know the hardware attributes that the Software Manager for UNIX client 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 Software Manager. Although you will tailor this strategy to meet your organization's needs, it is recommended that you review this guide for a comprehensive understanding of the Software Manager. This chapter covers Radia client objects.

Figure 11 Tasks completed in this guide



Radia Client Directory Structure

Below is an example of the directory structure on a Software Manager client computer. (Directories in Table 30 below are preceded with `/opt/Novadigm/` by default).

Table 30 Client directories

Directory (/opt/Novadigm/..)	Description
`/opt/Novadigm`	Client Directory (IDMSYS)
`../CACertificates`	SSL Certificates
`../lib`	LIB Directory (IDMROOT)
`../lib/MAINT`	Maintenance Storage Directory
`../lib/BACKUP`	Upgrade Maintenance Backup folder
`../lib/data`	Data Storage (IDMDATA)
`../lib/SYSTEM`	Starting Directory (startdir) created during connect (Name will vary).
`../lib/SYSTEM/RADIA`	Configuration Server name (mname)
`../lib/SYSTEM/RADIA/SOFTWARE`	Directory Name (dname)
`../lib/SYSTEM/RADIA/SOFTWARE /ZSERVICE`	ZSERVICE Class

Directory (/opt/Novadigm/..)	Description
../lib/SYSTEM/RADIA/SOFTWARE/ZSERVICE/DRAGVIEW	Sample application directory
../log	Log directory (IDMLOG)

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

Software Manager Directories

The initialization settings for the Software Manager for Windows are located in the .nvdrc file on the client computer. This is located, by default, in the home directory of the account used to install the client.

Table 31 NOVAEDM Parameters

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

About Radia Client Objects

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

Radia client Objects are stored in the IDMLIB directory on the client computer. After installing the Software Manager client and connecting to the Configuration Server, you can use Radia client objects to answer questions such as:

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

While there are multiple Radia objects on a client computer at any time, there is a core group of objects that supply information about and the status of the current Client Connect. Table 32 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 Client Connect, but only the most commonly used ones are noted here. Check the HP OpenView web site for information on other client objects.

Table 32 Core Client Objects

Object	When created or updated	Type of Information included
ZCONFIG	ZCONFIG is created at start of Client Connect process. See Table 33 on page 231 for more information.	Contains basic hardware information for the client computer such as processor, operating system, and drives.

Object	When created or updated	Type of Information included
SYNOPSIS	This object is transferred to the Configuration Server at the end of the Client Connect. Note: Client Operations Profiles must be enabled for this object to be present. See Table 34 on page 232 for more information.	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.
SAPSTATS	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. Note: Client Operations Profiles must be enabled for this object to be present. See Table 35 on page 234 for more information.	The SAPSTATS object has one instance for each of the client 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.
PREFACE	PREFACE is sent to the Configuration Server at every phase of a radskman process including: • Client operations profile resolution • Client Self Maintenance resolution • Catalog resolution • Single service resolution (This can happen multiple times depending on what services are processed.) • Outbox flush See Table 36 on page 236 for more information.	Contains core information about each invocation of radskman.
SMINFO	(Linux Only) SMINFO is created at the start of the Client Connect process. See Table 37 on page 237 for more information.	SMINFO collects information that is independent of the hardware and software installed on the computer, and some network information.

Radia Client Version

Some of the objects described in this book apply only to Radia clients version 3.1 and above. To verify the client's versions, open the connect.log file in the IDMLOG 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.

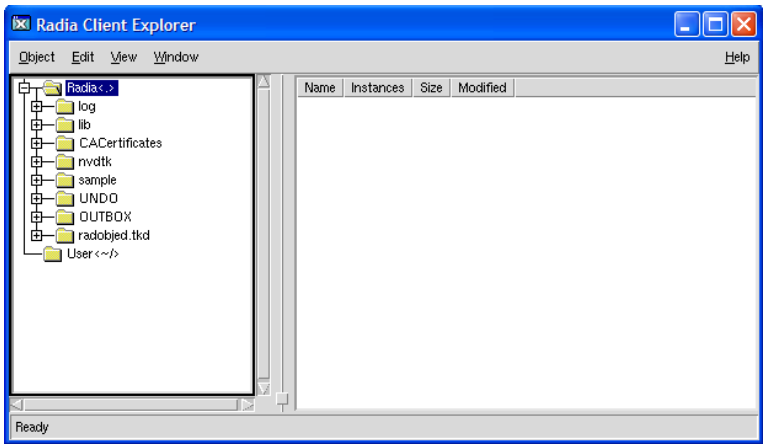
Using the Client Explorer to View Objects

Client Explorer is installed as a component of the Administrator Workstation. Use it to view objects in the IDMLIB directory. You can view any object if you have access to the client computer's IDMLIB directory. Otherwise, you may need to manually retrieve the object file, and store it on your Radia administrator computer.

To view an object using the Client Explorer

1 Start the Client Explorer by running `radobjed` in the directory where you installed the Administrator Workstation.

The Client Explorer opens.



2 Navigate to the client 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 Client 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 client computer. Use the Client 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 client computer.

The ZCONFIG object is sent to the Configuration Server automatically for viewing with the System Explorer. If you do not want this object sent to the 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 client computer.

Table 33 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
ZHDWXHN	Host Name	qalinux
ZOBJNAME	Name of Object	HARDWARE_SCAN
ZOSMAJOR	Major Component of OS version	2
ZOSMINOR	Minor Component of OS version	4

Attribute	Description	Example
ZOSREV	OS revision (output of uname –v)	#1 Thu Mar 13 17:54:28 EST 2003
ZOSVER	OS version (output of uname –r)	2.4.20-8
ZUSERID	User ID or computer name	LINUXUSER

Client Operations Profile Summary (SYNOPSIS)

The SYNOPSIS object is created on clients using Client Operations Profiles. The SYNOPSIS object summarizes the most recent Client Connect. Use the SYNOPSIS object to confirm the success or failures of the Client Connect process. See Chapter 7, Configuring Client Operations Profiles for more information on implementing Client Operations Profiles.

Table 34 SYNOPSIS 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 *Radia Management Applications Messages and Codes Guide*
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
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

Attribute	Description
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 client 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 clients using Client Operation Profiles, and is used to report the Server Access Profile (SAP) status and usage

statistics from the Radia client. 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 Client Operations Profiles.

Table 35 SAPSTATS Object Attributes

Attribute	Description
BANDWDTH	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 client will connect to the SAP. Maintained by client.
ROLE	Role of the SAP. Possible values are: **O**: Client **O**perations Profiles **M**: Self **M**aintenance **S**: **S**ervices **D**: **D**ata **A**: **A**ll of the above roles
SPEED	Speed to the SAP from the client computer measured in Bytes per second

Attribute	Description
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 client 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 - Configuration Server DATA - Proxy Servers, Radia 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 is sent to the Configuration Server at every phase of a radskman process including:

- Client Operations Profile resolution
- Client 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 Client 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 Client Connect, the type of connect, and the context.

Table 36 PREFACE Object Attributes

Attribute	Description
CMDLINE	The `radskman` command line parameters used for the current Client 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 DomainName/MachineName. Example: CN=ALEE,CN=Computers,DC=usa,DC=asdfoods,DC=com
CTYPE	Type of Radia client. The possible values are: • RSM - Software Manager • RAM - Application Manager • RPS - Proxy Server or Radia 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 IDMROOT on the client computer. LOCALUID contains the value derived from the STARTDIR radskman parameter. For example, if startdir = $USER then LOCALUID would contain the user's ID. If STARTDIR = SYSTEM then LOCALUID would contain 'SYSTEM'. UID stands for user's initial directory not the user's identification.
MACHNAME	Client computer's machine name.
USEREXEC	The user who is currently logged on and who executed the command. For Notify and Timers, this would be SYSTEM. For logon scripts, this would be the subscriber's network account name.
ZCONTEXT	The context for this connect. Possible values are: M – Machine, U – User, or blank.
ZDOMNAME	The Radia Database's domain specified in the DNAME parameter of the radskman command line. If DNAME is not specified in the command line, the default is SOFTWARE.
ZMGRNAME	The Configuration Server's name specified in the MNAME parameter of the radskman command line.

Attribute	Description
ZUSERID	The ZUSERID field contains the same value found in ZMASTER.ZUSERID of the client. In most scenarios, this represents the machine name of the client 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 `radskman` parameter sets this value.

Systems Management Information (SMINFO)

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

Table 37 SMINFO Attributes

Attribute	Description
ASSETTAG	Unique Asset Tag number of the client computer from the BIOS.
COMPDOMN	Computer Domain
COMPNAME	Computer Name
IPADDR	Client computer's IP address
MACADDR	Client computer's MAC address
MACHUUID	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

By default, directories created by CM are assigned permissions 0777 (read, write, execute for everybody) and objects are assigned 0666 (read, write, for everybody). In order to change the default permissions assigned when new directories and objects 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/OVCM/lib/SYSTEM/RADIA/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

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 or directories are created by CM.
   - For directories: LIBPERM
   - For objects: OBJPERM

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

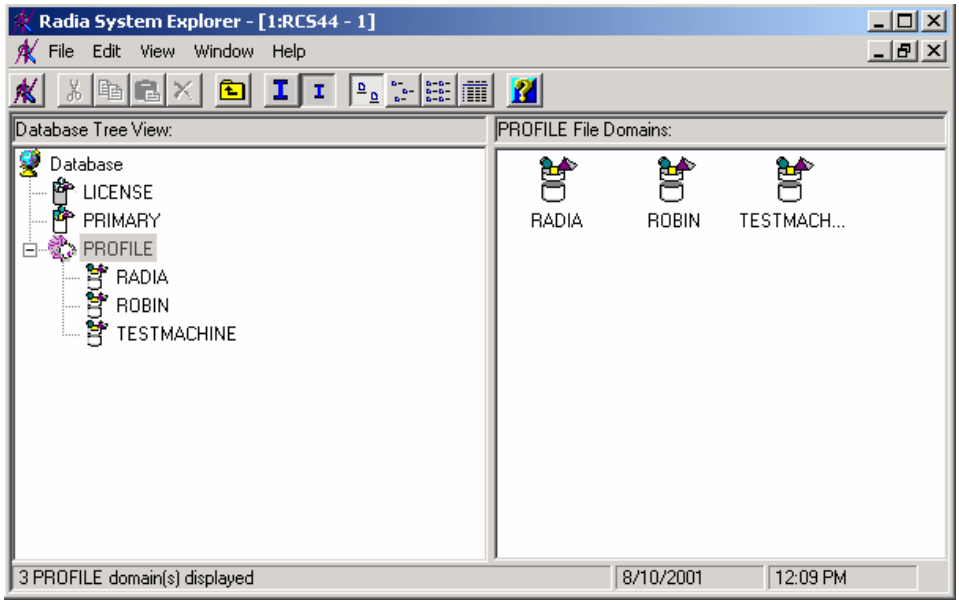
   ```
   OBJPERM     0755
   ```

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

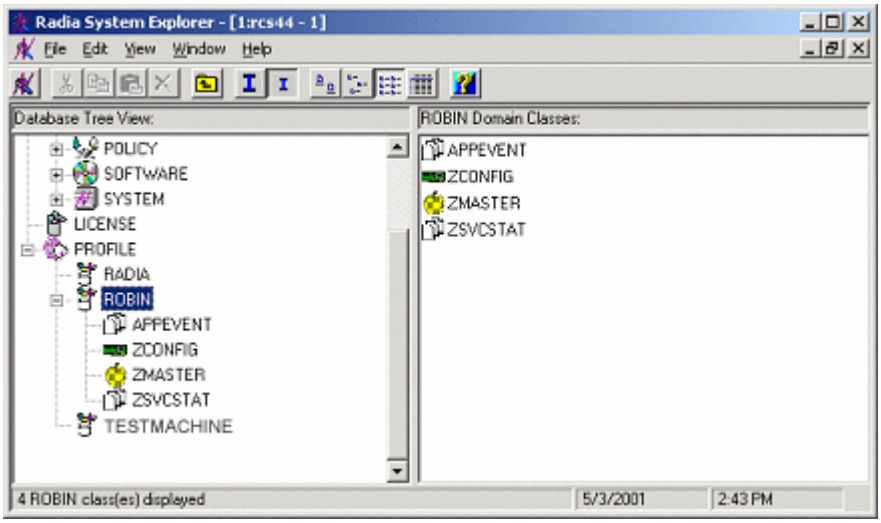
   ```
   LIBPERM     0666
   ```

The PROFILE File

The objects that are received during a Client Connect are stored in the PROFILE file. This information is for viewing and reporting only. Each client computer or user ID is stored as a domain within the file, and each object is stored as a class within that domain. Each class is identified by the computer name, the user ID, or by a customized variable.



Under each domain or client computer, there are at least two instances created, ZCONFIG and ZMASTER.



After a service is installed, the APPEVENT and ZSVCSTAT objects are created. These provide information about the configuration of the client computer. Other objects may appear based on your configuration.

Table 38 Objects in the PROFILE File

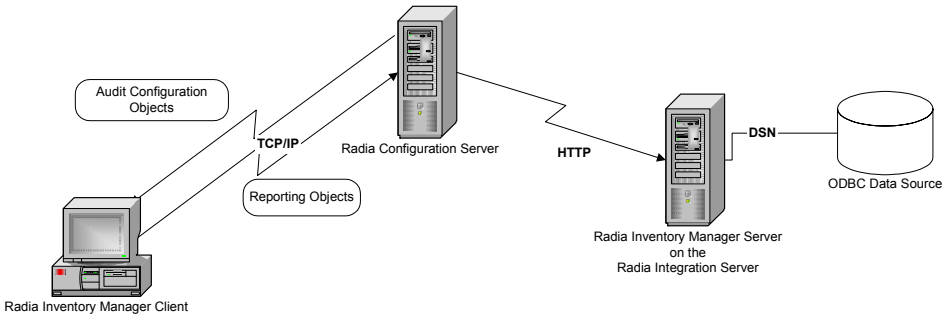
Instance	Information Recorded
APPEVENT	Provides information about an event such as success or failure on installation.
ZCONFIG	Contains basic hardware information for the client computer. Includes practical hardware information such as processor, operating system, and drives.
ZDELSVC	Displays only when you remove a service. Contains one instance per service. Each instance includes information such as time of removal, Configuration Server name, and service name.
ZMASTER	Contains information that identifies the subscriber, and other information necessary to run the Software Manager.
ZSVCSTAT	Contains one instance per service. Each instance includes information such as time of installation, Configuration Server name, and service name.

ZCONFIG and APPEVENT are primarily used to describe the current configuration on the client computer, and are described in depth in this chapter. For more information on ZMASTER and ZSVCSTAT, see the HP OpenView web site.

Reporting with Inventory Manager

The 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 Radia Inventory Management client is a WBEM (Web-based Enterprise Management) consumer. WBEM is a standard for collecting information defined by the Distributed Management Task Force (DMTF). For additional information on WBEM, see **http://www.dmtf.org**.

The Inventory Manager consists of two parts, the Inventory Manager server and the Inventory Manager client. The Inventory Manager server enables centralized reporting and administration based upon the discovery results. The Inventory Manager client discovers configuration information on the client device, and reports the results to the Inventory Manager server. The results are sent to the Configuration Server during connection activities, and forwarded to the Radia Integration Server. Optionally, the data can be sent for insertion into an ODBC-compliant database. You can view the Inventory Manager reports from either the Radia Integration Server or from the Radia Management Portal, if installed.



The Inventory Manager provides the following benefits:

- Audits hardware information.
- Audits software, including the ability to audit specific files or classes file.
- Collects files from client devices.
- Generates reports on collected information through an ODBC-compliant database.
- Reports on Personal Digital Assistants (PDAs).

The Inventory Manager is one module of the Radia Integration Server. The Radia Integration Server stores and maintains the information discovered by

the Inventory Manager in an ODBC-compliant database, and uses active server pages to provide reports from the Radia Database. For computers with WBEM services installed the Radia Inventory Management client can query the WBEM namespace and return information such as hardware, file system, daemons, and event logs. For computers that do not have WBEM services installed, the Inventory Manager uses Radia client objects to generate information on the file system and hardware. Refer to the *Inventory Manager Guide* for additional information.

The Inventory Manager is an additional feature available from HP. Contact your HP sales representative for details.

Client Logs

One log is created from the three main client modules, radskman, radpinit, and radconct. The default name for the log is connect.log, and its default location is `/opt/Novadigm/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 client computers. Each of the three main client 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 Radia client. The information in the radstate output is based on data retrieved from numerous Radia client objects.

When `radstate` is run with the Verbose parameter (mode v), it provides basic information regarding the Radia client 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.
- Radia Timer Information

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

Radstate should be run:

- Whenever Radia client-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 client desktop. Radstate is executed from the command line using the appropriate parameters, separated by a comma, for example:

```
radstate mode=vo, IDMROOT=/opt/Novadigm/lib
```

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

Summary

- Use the System Explorer or Client Explorer to review the information collected from a client 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 Radia objects or generate reports.

11 Deploying Mandatory Applications for the Software 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.

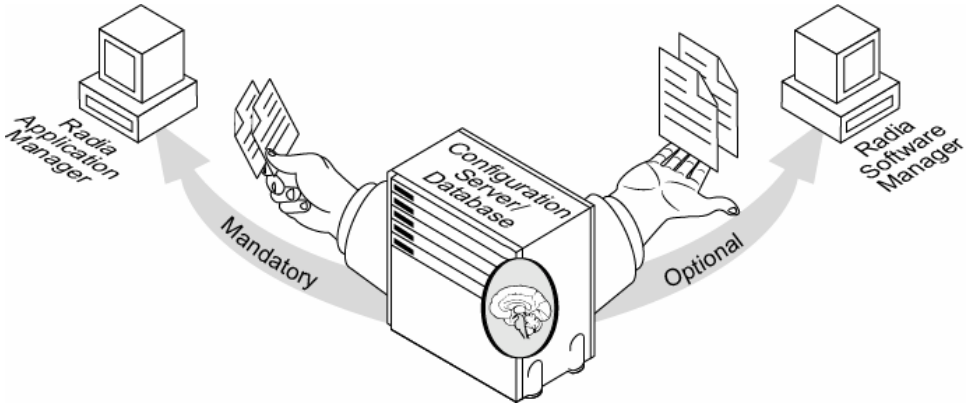
By now, you have a detailed understanding of the Software Manager client. Your subscribers install, update, verify, and remove applications from their computers with the Software Manager user interface. Subscribers have control, which means that the software available in the Software Manager user interface 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 digital assets. 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 don't 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 Application Manager client to handle the deployment, without relying on your subscribers.

Installing the Application Manager with the Software Manager, allows you to handle both mandatory and optional applications because it installs both the Software Manager client and the Application Manager client.

You must have the proper license in order to enable the Application Manager along with the Software Manager. Contact your HP sales representative for details.

Figure 12 Enabling Software Manager and Application Manager



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

Distributing Mandatory Applications with the Software Manager Client

In addition to using the Application Manager to handle mandatory applications, you can also configure the Software 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 **Software Manager** to designate that you are creating an optional service. See Creating a Service on page 103 for more information.

  OR

- Use the System Explorer 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 System Explorer to modify the attribute.

This section covers how to configure mandatory applications using the System Explorer.

To designate an application as mandatory

1. Go to **Start** → **Programs** → **Administrator Workstation** → **System Explorer**. The System Explorer Security Information dialog box opens.
2. If necessary, type a User ID and Password, and then click **OK**.

   The User ID, as shipped, is RAD_MAST. No password is necessary. This may have been changed in your installation. Check with your Radia security administrator to obtain your own User ID and Password, if necessary.

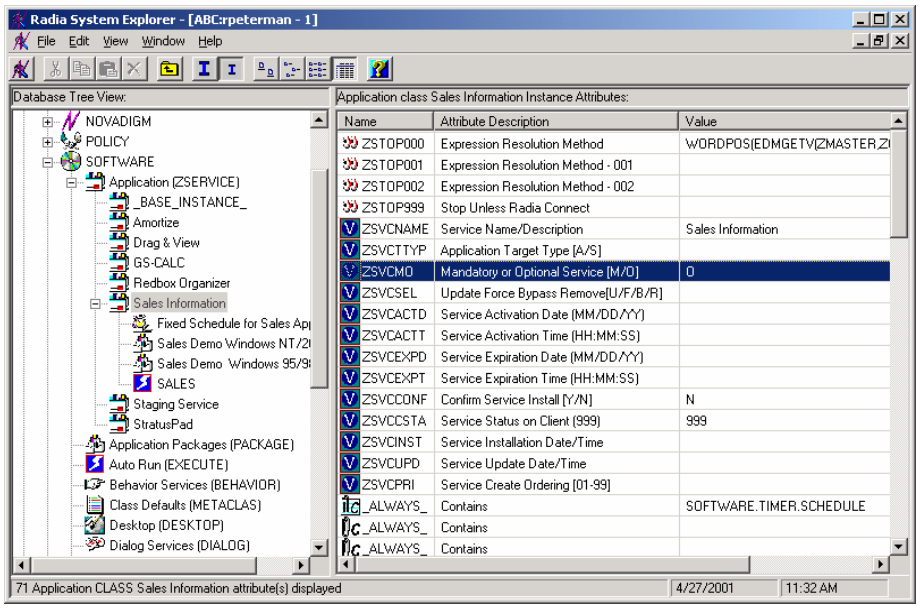
   The System Explorer window opens.

3 Double-click **PRIMARY**.

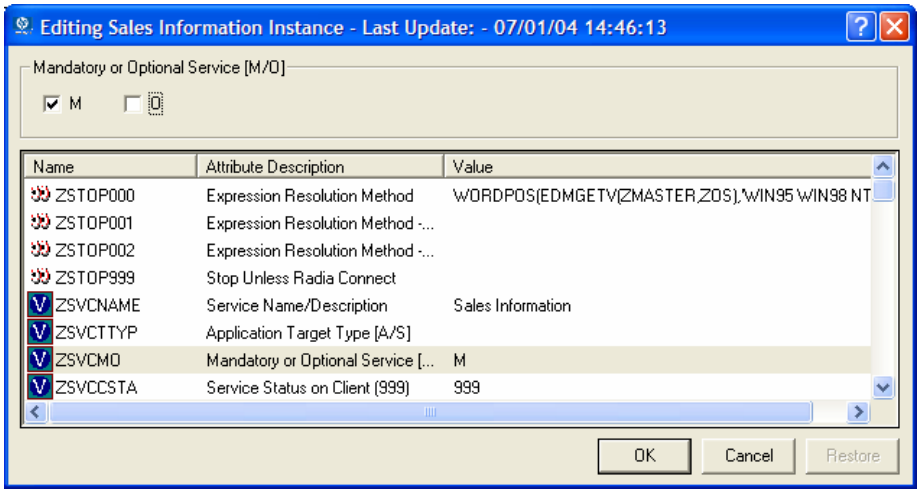
4 Double-click **SOFTWARE**.

5 Double-click **Application (ZSERVICE)**.

6 Double-click the application, such as Sales Information, whose ZSVCMO attribute you want to change.



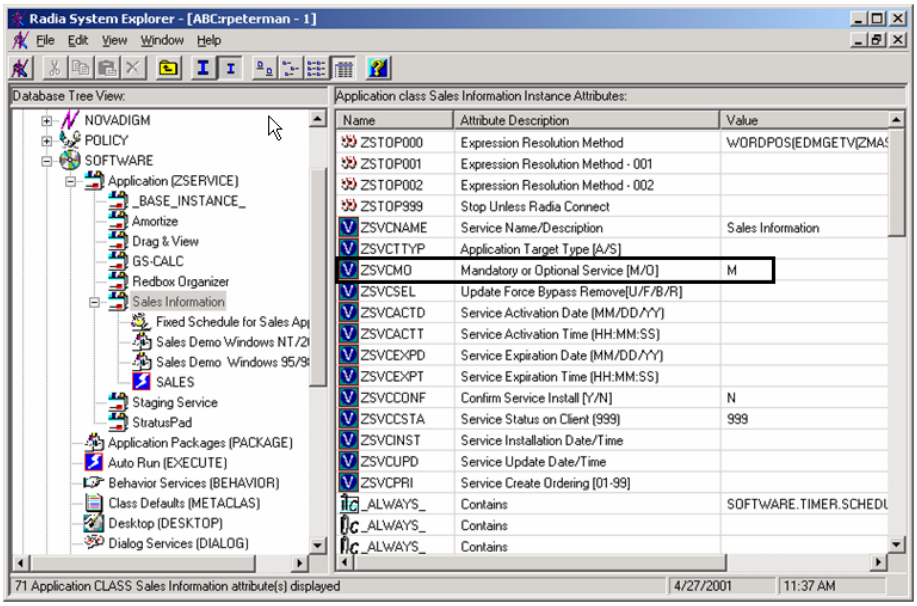
7 Double-click **ZSVCMO**. The Editing Instance dialog box opens.



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 Application Manager Client

The Application Manager client allows you to retain complete control over the deployment of mandatory applications without relying on the subscriber to connect to the Configuration Server.

This section introduces you to some of the deployment methods available with the Application Manager. For detailed information about implementation strategies and these methods, refer to the *Deploying Applications* chapter of the *Application Manager Guide for UNIX* on the HP OpenView web site.

Radia Scheduler

Use the Radia 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 client computer connects to the Configuration Server, a ZTIMEQ object is created on the client 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.

Radia Notify

Use Radia Notify to force one or more client computers to connect to the Configuration Server to install, update, or remove an application. Each client computer runs the Radia Notify service in the background. This service waits to receive a Notify message from the Configuration Server. When a message is received, the client computer connects to the Configuration Server and performs the action initiated by the Notify operation. Radia Notify can also send e-mail notification to client 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, Radia 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 Client computer, and the versioning action takes place on the client 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 client computer in the `IDMROOT` directory, there is a file args.xml. This file contains parameter settings for the Software 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 Software Manager, mandatory applications will be deployed.

Summary

- To process mandatory applications use the System Explorer to designate the application as mandatory.
- You can process mandatory applications automatically when the Radia client connects to the 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 Radia 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 digital assets organized in the Radia Database, we recommend that you create a naming convention to be used within your organization.

This section provides some recommendations that you can use as a starting point to create your own standards.

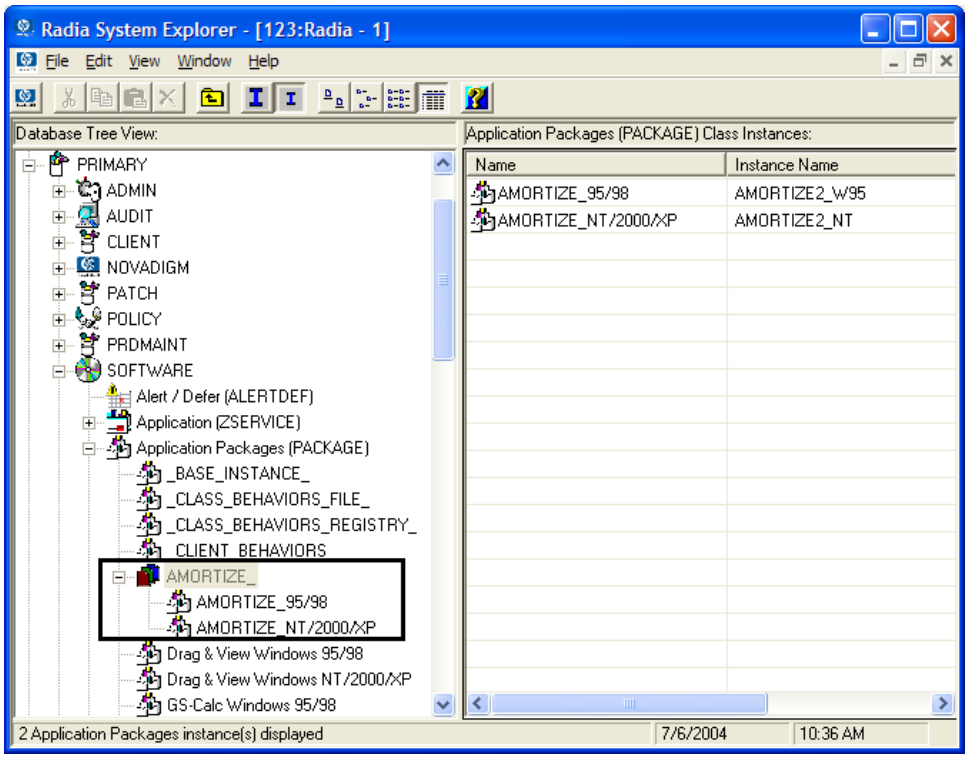
Categorizing Information

In general, consider using unique high-level identifiers with an underscore (_) to categorize information in the Radia Database. The System Explorer 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 System Explorer's filtering capabilities to display only the instances with that identifier.

See the *System Explorer Help* for more information.

For example, if you had a Windows 95/98 version and a Windows NT/2000 version of an application to calculate loan amortizations, you might name the packages AMORTIZE_95/98 and AMORTIZE_NT/2000 as shown in the next figure.



Naming Conventions for the POLICY Domain

We recommend that you use a variation of the following standards.

Table 39 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 40 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 digital assets using the following standards.

Table 41 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
VER	Identifies the version of the application.	80
OS	Identifies the operating system that the application runs on.	HPUX

Table 42 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 Radia administrators will keep you organized in the future.

B Adding Attributes to the Radia Database

The following procedure shows you how to add an attribute (also known as a variable) to your Radia Database.

Be sure to create a backup of your Radia Database before adding an attribute to it.

At a minimum, you will need the following information before you make the changes to your Radia 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** → **Administrator Workstation** → **System Explorer**. The System Explorer Security Information dialog box opens.
2. If necessary, type a User ID and Password, and then click **OK**.

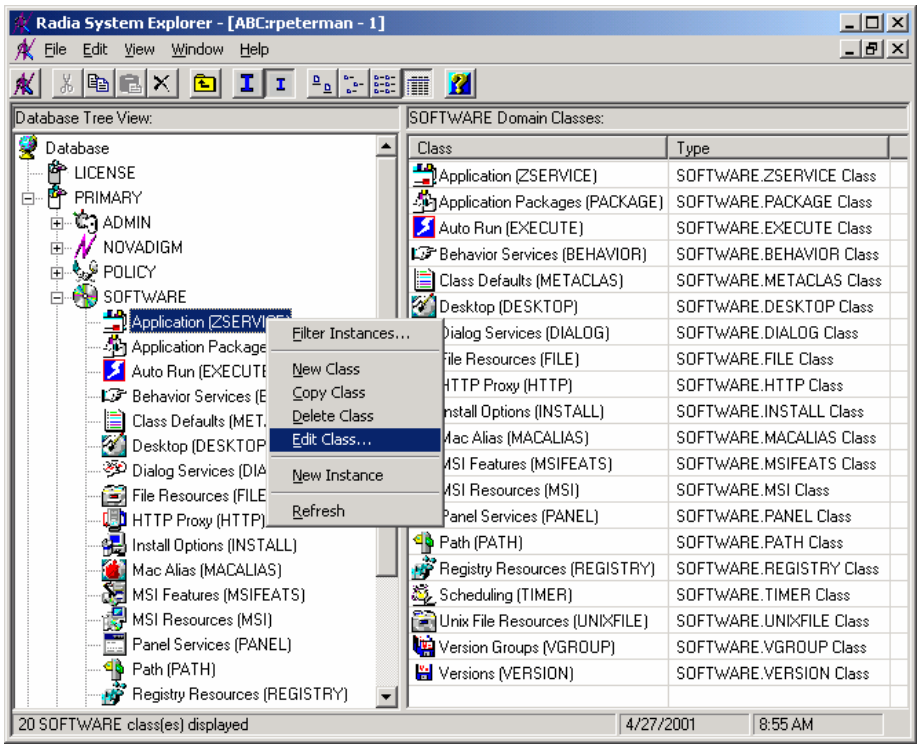
   The User ID, as shipped, is RAD_MAST. No password is necessary. This may have been changed in your installation. Check with your Radia security administrator to obtain your own User ID and Password, if necessary.

   The System Explorer 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 System Explorer options. To do this:

On the System Explorer 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 *System Explorer Guide*.

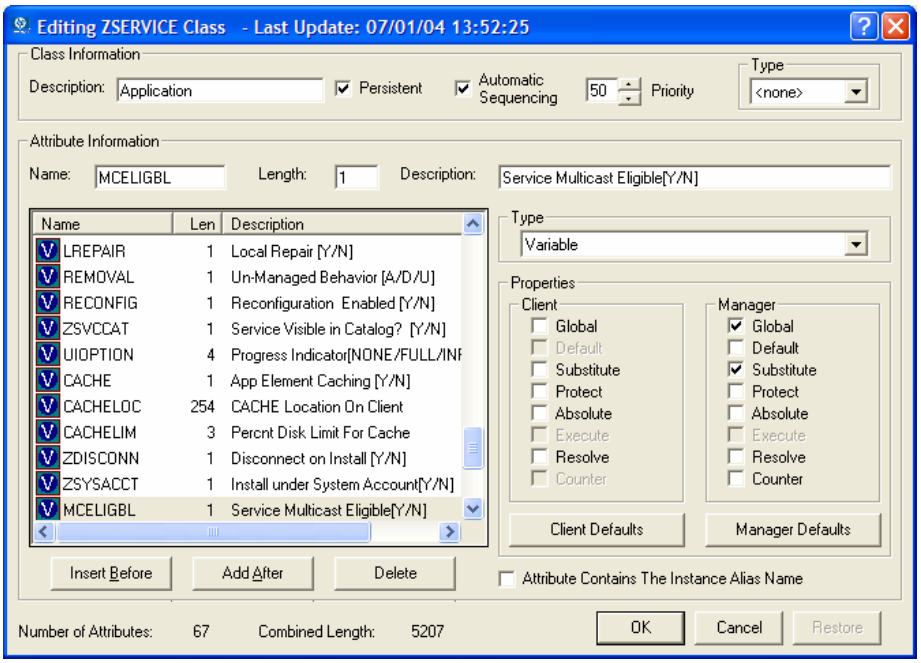
6 Determine where, in the Attribute List, the attribute should be inserted.

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 *System Explorer Guide* for more information.

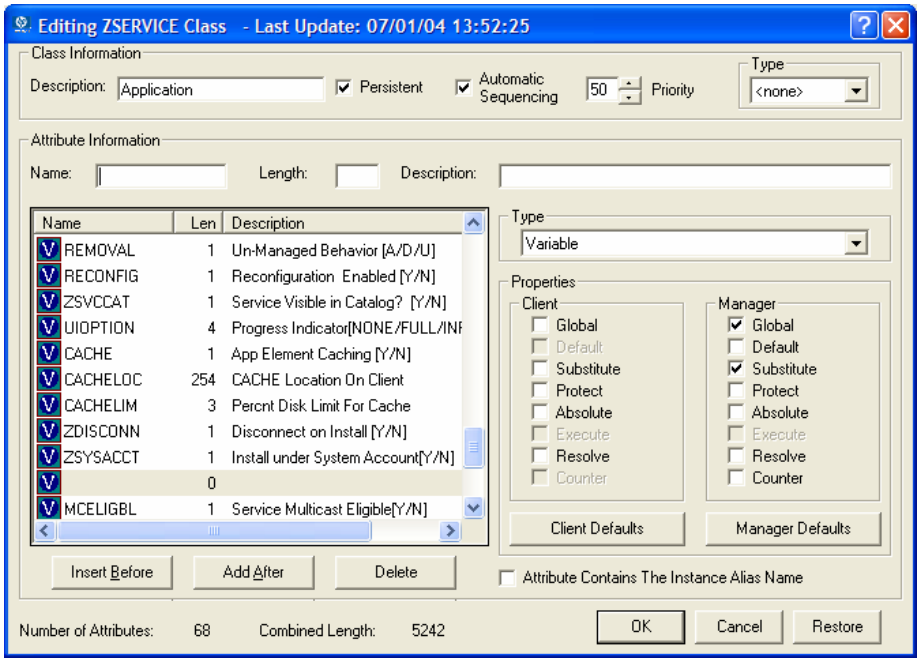


8 Click **Insert Before** to insert the attribute before the selected one.

or

Click **Add After** to add the new attribute after the selected one.

A blank attribute appears.

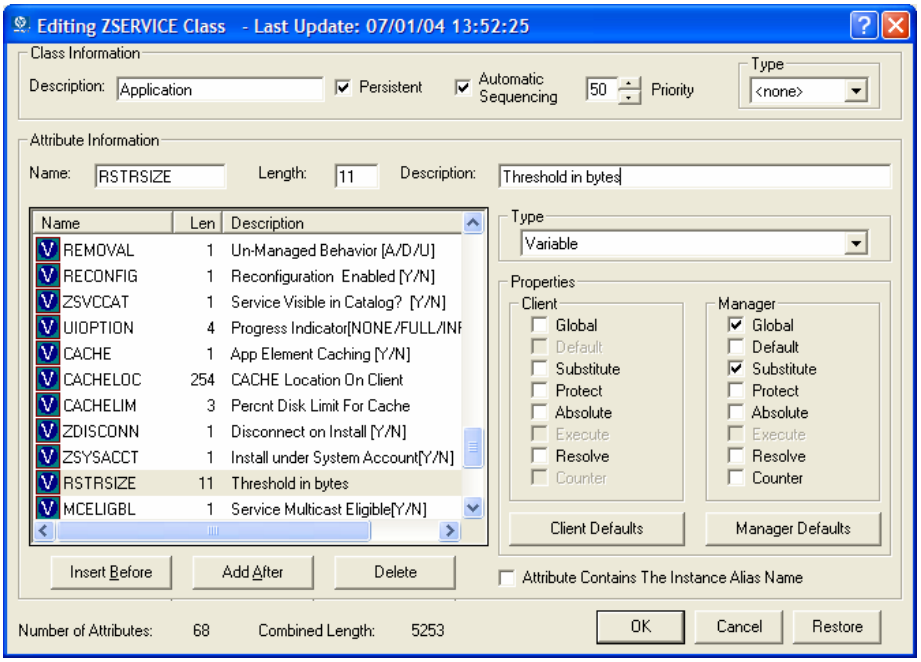


9 In the Name field, type the name of the new attribute.

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 Client or Manager Properties, select the appropriate check boxes.

14 Click **OK**.

15 Click **Yes** to confirm the changes to the class.

Glossary

Active Component Server

See *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.

APPEVENT

APPEVENT is the client object that provides information about an application event, such as success or failure of the installation.

Application Manager

The Application Manager Radskman is the Radia client executable that manages mandatory services. The Radia administrator uses the System Explorer to specify the services that the Application Manager manages on the subscriber's computer. No user interface is available.

applications

Also called software, data, or services.

Applications are one type of content that Radia can manage on subscriber computers. Use the Radia 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 Configuration Server and client computer. Each attribute defined in a class template has a set of Configuration Server properties and a set of client properties.

audience list

An audience list is a directory of the subscribers for an application used by Radia 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 Radia 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 Radia Database by its class.

class connection variable

A class connection variable determines the path of resolution for a client's distribution model during the Client 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 Radia 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 *Radia client*.

client computer

A client computer is a subscriber's computer that has the Radia client software installed on it.

Client Explorer

The Client Explorer (Object Editor) can be used to view or edit local objects, or create new objects. You can also use the Client Explorer to view objects located on a file server or on other computers to which you are connected via a local area network (LAN).

client object

A client object is a file located on the client computer that contains information about the configuration of services or hardware.

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 Configuration Server class instance. Typically, this class' instances have distributable data associated with them such as FILE, REGISTRY, or DESKTOP.

Use the System Explorer'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 System Explorer's Class Editor to set the class type to "Configuration".

Configuration Server

Also called *Active Component Server* or *Manager*.

The Configuration Server distributes applications to client computers. It runs on the server and maintains the Radia Database, which stores information that the Configuration Server needs to manage digital assets for distribution to client computers.

Database

See *Radia Database*.

desired state

The desired state embodies the content that Radia manages for a specific subscriber's computer. A model representing the desired state for each subscriber's computer is stored in the Radia Database. The desired state model is created and managed using the System Explorer.

domain

A domain logically partitions a file in the Radia 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. Radia 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 Radia 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 Configuration Server and installed when you first install Radia. Others are the NOTIFY file and the PROFILE file. Radia administrators will do most of their work in the PRIMARY file.

instance

Also called *class instance*.

An instance is a Radia 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.

Inventory Manager

The 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 Radia Inventory Management client is a WBEM (Web-based Enterprise Management) consumer.

Manager

See *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.

Client methods run on the subscriber's computer, while Configuration Server methods run on the Configuration Server computer.

method variable

The method variable identifies the method, or program, to be executed as part of the resolution process.

For 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. Configuration Server methods are located in the Configuration Server BIN subdirectory for .exe methods or in the Manager REXX subdirectory for REXX methods.

For Radia client methods, it contains the name of the method to execute on the subscriber's computer. The name of a method variable that executes a Radia client method identifies the event (such as installing or removing software) for which the method should be executed. Client methods are located in the IDMSYS location on the subscriber's computer.

Notify

A notify forces one or more client computers to connect to the 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 client 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 Client 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 Software 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 Radia Publisher, you are storing the package in the Radia Database.

publish

To bundle a set of related data into a single unit that can be managed by Radia.

Publisher

See *Radia Publisher*.

Radia Application Manager

See *Application Manager*.

Radia client

The Radia client (Radia Application Manager and/or Radia Software Manager) runs on the subscriber's computer. It communicates with the Radia 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 Radia client makes any adjustments necessary to make the actual state match the desired state.

Client Explorer

See C*lient Explorer*.

Radia Configuration Server

See *Configuration Server*.

Radia Database

The Radia Database stores all of the information necessary to manage digital assets on a client computer, including:

- The software and/or data that Radia distributes.
- The desired state of each client computer with respect to the Radia-managed content.
- The policies determining which subscribers can subscribe to which packages.
- Security and access rules for Radia administrators.

Use the System Explorer to manipulate the Radia Database.

Radia Inventory Manager

See *Inventory Manager*.

Radia Publisher

The Radia Publisher is used to create packages of data and store them in (i.e., promote them to) the Radia Database.

Radia Scheduler

The Radia Scheduler service (radsched), installed with the Application Manager, allows you to deploy a service at a specific time.

Radia Software Manager

See *Software Manager*.

Radia Staging Server

See *Staging Server*.

resolution

Resolution occurs when the Configuration Server accomplishes a unit of work in response to a service request. The unit of work is defined by the contents of the Radia Database and parameters included in the service request itself.

In other words, what Radia does depends upon what information is stored in the Radia Database and what information accompanies the request for Radia to perform some action.

For example, the Radia client Connect submits service requests by sending an object to the Configuration Server. The 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 *Radia 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 Radia Publisher that results in the creation of one Radia package.

Software Manager

The Software Manager (radiaui) is the Radia client used to manage optional services. The Radia administrator uses the System Explorer to specify the services that are available to the subscriber.

The subscriber installs and manages data that is available from the Software Manager user interface (Service List).

Staging Server

The Staging Server is used to store data required for deploying applications on a computer other than the computer with the Configuration Server.

subscriber

A subscriber is the person who uses Radia-managed applications on a client computer.

symbol

A symbol is the name of a variable in global memory, preceded by an ampersand.

symbolic substitution

Database instances and client 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, Radia 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 Radia logon dialog box on the Radia client, when the subscriber visits the Radia 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 Radia Database doesn't change. Only the value in the in-storage object derived from the Radia 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

The System Explorer is used to manipulate the contents of the Radia Database.

Timer

See *Radia Scheduler*.

variable

A variable is a piece of named storage that contains a changing value. The variable's value forms a part of the client'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 Radia 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 client computer such as processor, operating system, and drives.

ZMASTER

The ZMASTER object contains information about the client computer that is necessary to run the Application Manager such as the identity of the subscriber and the IP address of the client computer.

ZTIMEQ

The ZTIMEQ object is created, based on information in the Scheduler (TIMER) instance, when a timer is deployed to the client computer.

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