

HP OpenView Staging Server Using Radia

Radia Staging Server Guide

Version: 4.0i

for the UNIX and Windows operating systems

Note: All of the information in this guide pertains to the Windows operating systems with the exception of the Netware Installation and Unix Installation sections.



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- Troubleshooting information
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About this Guide

Who this Guide is for

This guide should be used by systems administrators who want to install and use the Radia Staging Server. You must be familiar with the Radia System Explorer and the Radia Client Explorer to be able to implement the features in this publication.

What this Guide is about

The *Radia Staging Server Guide*:

- describes how to install and configure the Radia Staging Server.
- discusses additional features, such as:
 - dynamic server staging
 - pre-population of the Radia Staging Server
 - using a local CD-ROM as a staging location
 - co-resident Radia Staging Server and Radia Configuration Server
 - Windows Installer applications

This book covers information for the Windows, NetWare, and UNIX platforms for Radia.

Summary of Changes

Chapter 3: Additional Features

- Page 84, *Preloading Windows Installer Enabled Applications*: new section.
- Page 86, *The Radia MSI Redirector Service*: new section.

Editorial Improvements

In addition to the changes listed above, this version contains various editorial and style updates to each chapter and section and the index.

Conventions

You should be aware of the following conventions used in this book.

Table P.1 ~ Styles

Element	Style	Example
References	<i>Italic</i>	See the <i>Publishing Applications and Content</i> chapter in this book.
Dialog boxes and windows	Bold	The Radia System Explorer Security Information dialog box opens.
Code	Andale Mono	radia_am.exe
Selections	Bold	Open the \Admin directory on the installation CD-ROM.

Table P.2 ~ Usage

Element	Style	Example
Drives (system, mapped, CD)	Italicized placeholder	<i>SystemDrive</i> :\Program Files\Novadigm might refer to C:\Program Files\Novadigm on your computer. <i>CDDrive</i> :\client\radia_am.exe might refer to D:\client\radia_am.exe on your computer.
Files (in the Radia Database)	All uppercase	PRIMARY
Domains (in the Radia Database)	All uppercase	PRIMARY.SOFTWARE May also be referred to as the SOFTWARE domain in the PRIMARY file.
Classes (in the Radia Database)	All uppercase	PRIMARY.SOFTWARE.ZSERVICE May also be referred to as the ZSERVICE class in the SOFTWARE domain in the PRIMARY file.

The table below describes terms that may be used interchangeably throughout this book.

Table P.3 ~ Terminology*

* Depends on the context. May not always be able to substitute.

Term	May also be called
Application	software, service
Client	Radia Application Manager and/or Radia Software Manager
Computer	workstation, server
NOVADIGM domain	PRDMAINT domain Note: As of the 4.0 release of the database, the NOVADIGM domain is being renamed the PRDMAINT domain. Therefore, if you are using an earlier version, you will see the NOVADIGM domain in the database.
Radia Configuration Server	Manager, Active Component Server
Radia Database	Radia Configuration Server Database

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About Server Staging

At the end of this chapter, you will:

- Understand Server Staging.
- Know the process for Server Staging.
- Understand when to use Server Staging.

What is Server Staging?

Server staging is a method of loading a portion of the work required to deliver application software from the Radia Configuration Server to another server located more "closely" to the client computer. A server is "closer" to a client computer if the connection between them is more efficient than the connection between the client computer and another "farther" server. The factors that determine the efficiency of a connection between a server and a client computer include hardware capability, network bandwidth, workload on the servers, network traffic patterns, and the volume of software to be distributed.

When using server staging, the application software to be distributed is copied to a staging server. The Radia Staging Server then provides the software to those clients subscribed to the Radia Staging Server.

This publication describes:

- Server staging and its components.
- The installation of the server staging components.
- The configuration and implementation of server staging.
- Troubleshooting server staging.

Radia Staging Server Processing

As configured at installation, the first client to connect to the Radia Configuration Server will retrieve a copy of the application software from the Radia Configuration Server, and then send a copy to the Radia Staging Server. See Figure 1.1 on page 13. The next client computer that connects to the Radia Configuration Server is directed to obtain its application software from the Radia Staging Server. To see how to populate the Radia Staging Server before the first client request, see *Pre-populating the Radia Staging Server* on page 48.

In Figure 1.1, "objects" refers to client configuration information stored in the Radia Configuration Server Database or on the client. "Data" refers to the application software that Radia distributes to the subscribers. The Radia Configuration Server and the client computers are connected to the Internet, or a corporate intranet. In addition, the client computers are connected to a high speed Local Area Network.

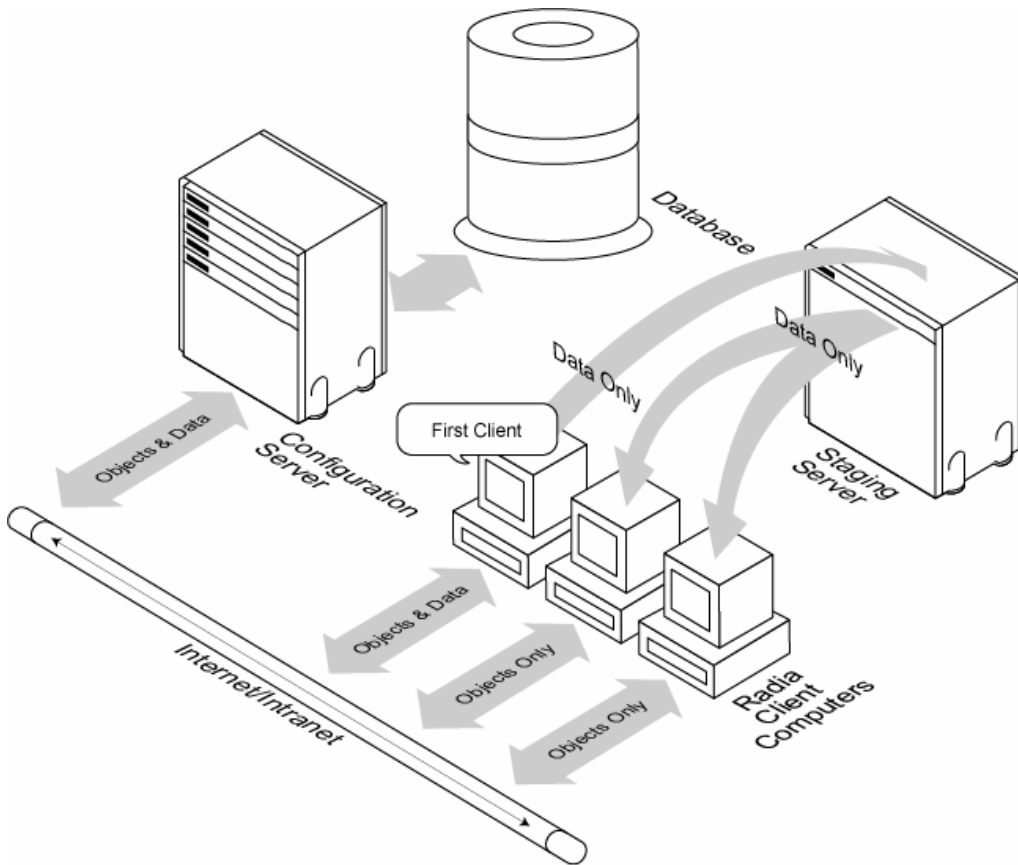


Figure 1.1 ~ Default Radia Staging Server processing.

A copy of the application software, sent by the first client, uses disk space on the Radia Staging Server. At the cost of this space and the network bandwidth to copy the software, all but the first client computer can obtain their copies from the Radia Staging Server. The rest of the clients receive the software over a higher speed, more narrowly shared local connection. In addition to faster delivery of the software to the client computers, the Radia Configuration Server benefits from a reduction in its workload.

You can enable server staging for users, departments, or workgroups. If a subscriber is configured to use server staging, *all* of his application software will be obtained from the Radia Staging Server if the files are on the Radia Staging Server. If the files are not already on the Radia Staging Server, they are retrieved from the Radia Configuration Server Database, and then copied to the Radia Staging Server by the client computer.

Note

Use the Radia Proxy Server if you would like to use http and dynamic caching. For more information, see the *Radia Proxy Server Guide*. See your HP representative for details.

When to Use Server Staging

Server staging is beneficial to a subscriber when these conditions are present:

- The Radia Staging Server has available disk space to store the application software to be distributed.
- The users subscribe to a *common* set of applications.
- The amount of application software to be distributed must be sufficiently large enough to make it beneficial to store a copy on the server. If the distribution involves a small amount of data, the benefit of staging will be correspondingly small, and may not justify the expense.

In the best-case scenario, all of the application software to be delivered is subscribed to by all of the clients on the network. Each client computer except the first one to request the software will obtain the files from the Radia Staging Server. The result is a net decrease in time required to deliver the application software at the cost of storing a compressed copy on the server.

Server staging may *not* be beneficial for a subscriber under the following conditions:

- The subscriber is assigned a significantly large application that no other subscriber needs.
- The subscriber does not use most of the application software that other subscribers use.

In the worst-case scenario, each subscriber is assigned a unique set of application software. The client computer copies it twice, once to itself from the Radia Configuration Server, and once from itself to the Radia Staging Server. In this case, no other client benefits from the application software having been staged. The result is a net increase in time required to deliver the application software and an increase in the disk space it occupies.

Summary

- Server staging enables an additional server to act as an extension of the Radia Configuration Server. The Radia Staging Server stores a copy of the application software that Radia distributes, and delivers it to the Radia Client computers that are attached to the server.
- The first client computer that connects after a staging server has been assigned will copy the files to itself and then to the Radia Staging Server. Each subsequent client will receive the files directly from the Radia Staging Server.
- The potential benefit of server staging must be evaluated individually for each server and its attached client computers.
- Use server staging when a group of subscribers will share a set of common applications.

Installation and Configuration

At the end of this chapter, you will:

- Be able to install the Radia Staging Server software.
- Know how to configure the Radia Configuration Server Database for staging.
- Be able to assign subscribers to use the Radia Staging Server.

Configuration Overview

Before you can use server staging, you must prepare your Radia implementation. To configure your enterprise for server staging, you will need to complete the following tasks:

1. Install the client software.
2. Install the Radia Staging Server component on the designated server.
3. Identify a path on the Radia Staging Server as the location where application software will be stored.
4. Configure the Radia Database for the Radia Staging Server.
5. Assign the appropriate subscribers to the Radia Staging Server.

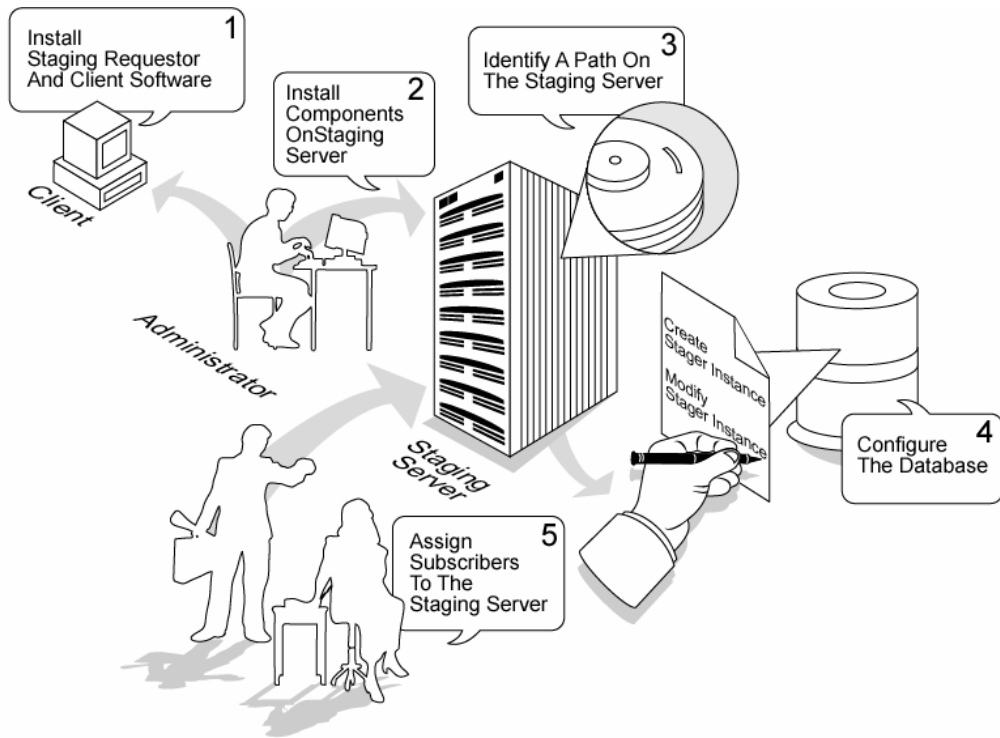


Figure 2.1 ~ Overview of the Radia Staging Server configuration.

Radia Server Staging Installation

There are two software components to a server staging installation:

- The Radia Staging Requestor
- The Radia Staging Server

The Radia Staging Requestor runs on the client computer, and is *automatically* installed as part of the Radia Client installation. The Radia Staging Requestor communicates with the Radia Staging Server component to retrieve data from, and supply data to, the Radia Staging Server.

If the subscriber has been configured in the Radia Configuration Server Database to use the Radia Staging Server, the Radia Staging Requestor will request the application software from the designated Radia Staging Server when the subscriber connects to the Radia Configuration Server. If the application software was previously copied to the Radia Staging Server, the Radia Staging Requestor will retrieve the application software from the Radia Staging Server. If the application software was not previously copied to the Radia Staging Server, the Radia subscriber will obtain the application software from the Radia Configuration Server. The Radia Staging Requestor will then deliver a copy to the Radia Staging Server. The next subscriber that is assigned to the same Radia Staging Server for the same application will find the application on the Radia Staging Server.

If you have pre-populated the Radia Staging Server, then every client computer will receive the software from the Radia Staging Server. See *Pre-populating the Radia Staging Server* on page 48 for information on how to do this.

The Radia Staging Server component runs on a server, and must be installed separately on each server to be used as a Radia Staging Server. It delivers and stores copies of application software.

Note

The Radia Staging Server software can be found on the Radia Infrastructure CD-ROM in the **Staging_Server** subdirectory of the **Extended_Infrastructure** folder.

For previous versions of Radia, you may find the software on the Radia Application Manager or Radia Software Manager CD-ROM.

Versions of the Radia Staging Server component are available for a wide variety of operating systems, including NetWare, Windows NT, Windows 2000, and UNIX. On the Windows NT and Windows 2000 platforms, it can run as a service that is automatically started.

To install the Radia Staging Server component on a Windows NT or Windows 2000 system, HP recommends that you belong to the "Administrator" group. This assures that you have appropriate permissions to create the Radia Staging Server service, and to install the Radia Staging Server software. If you are using a version of Radia prior to 3.0, the service may be called EDM Stager.

Windows Installation

To install the Radia Staging Server on Windows NT or Windows 2000

1. Navigate to the **Stager** folder on the CD-ROM.
2. Double-click the appropriate operating system. In this example, we are using Windows NT.
3. Double-click the appropriate hardware platform if needed. In this example, we are using Windows NT on the Intel platform.
4. Double-click **Install.exe**, and click **OK** in the **Run** dialog box.

The command prompt window opens.

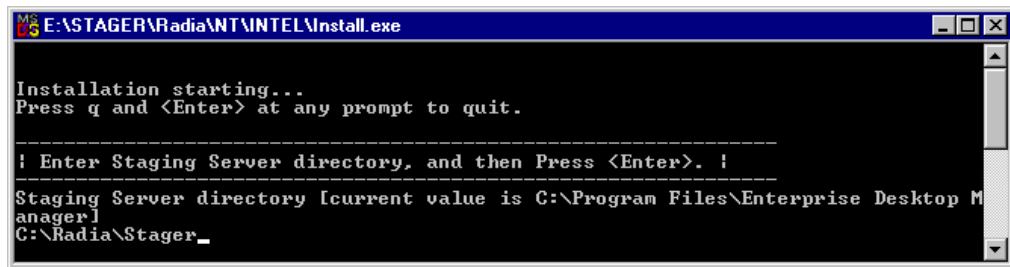


Figure 2.2 ~ Specifying the Radia Staging Server directory.

5. Type a Radia Staging Server directory such as **C:\Radia\Stager**, and then press Enter.

OR

Press Enter to accept the default directory of **<System Drive>:\Program Files
\Enterprise Desktop Manager**.

Note

For each value requested during this installation procedure, press Enter if you want to accept the default.

The following message is displayed.

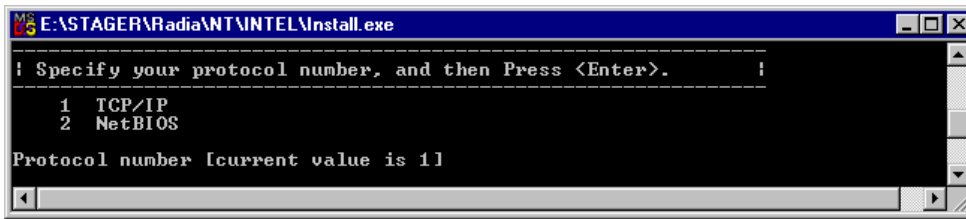


Figure 2.3 ~ Specifying the communications protocol.

6. Type **1** or **2** to specify the communications protocol, and then press Enter. In this example, we accepted the default of **TCP/IP**.

The following message is displayed.

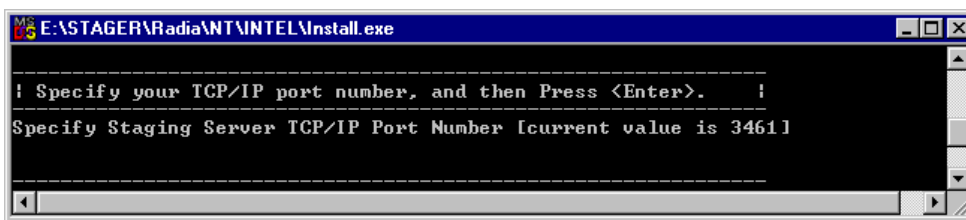


Figure 2.4 ~ Specifying the TCP/IP port number.

7. Type the TCP/IP port number, and then press Enter.

We accepted the default of **3461**. This value must match the value coded in the Radia Configuration Server Database STAGER class instance ZSTGPORT attribute.

If the communications protocol is NetBIOS, type the host name of the Radia Staging Server (default for NetBIOS is EDM_STAGER). This value must match the value coded in the Radia Database STAGER class instance ZSTGSRVR attribute. If the communications protocol is NetBIOS, the default host name is EDM_STAGER.

If using NetBIOS, you will be asked for a LAN Adapter Number. Press Enter to accept the default of **0**.

The following message is displayed.

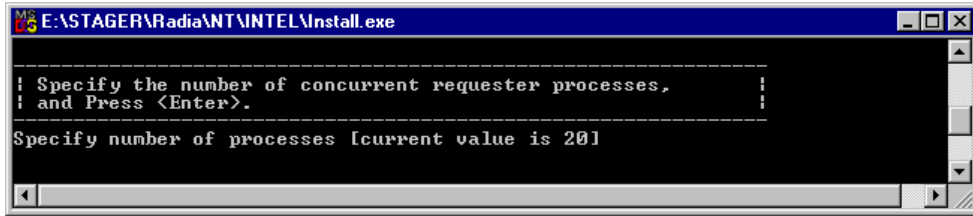


Figure 2.5 ~ Specifying the number of concurrent requester processes.

8. Type the number of concurrent requester processes, and then press Enter.
This is the maximum number of concurrent Radia Staging Requestor processes that can be serviced by this Radia Staging Server. Press Enter to accept the default of **20**.
The following message is displayed.

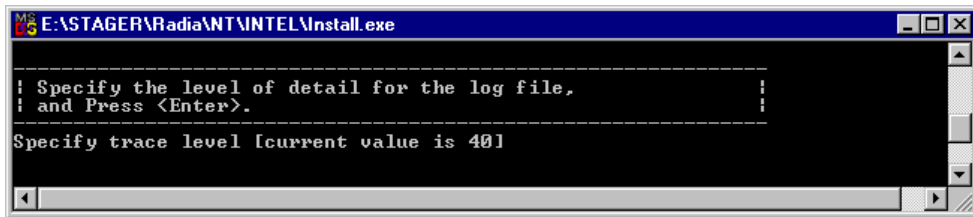


Figure 2.6 ~ Specifying the trace level.

9. Specify the level of detail for the log file. Valid values are 0-50. HP recommends accepting the default unless HP Technical Support directs you to do otherwise. Press Enter to accept the default of **40**.
The following message is displayed.

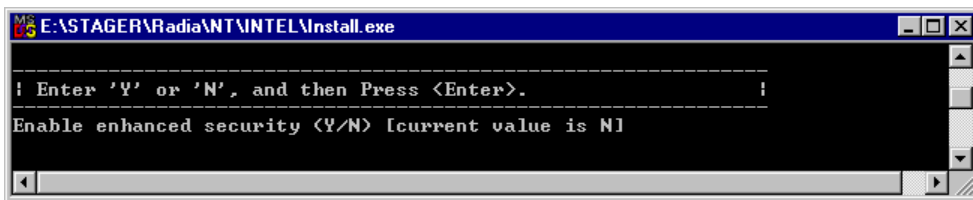


Figure 2.7 ~ Enabling enhanced security.

10. Select the type of security. If you type **Y** to accept enhanced security (enabling password protection), you will be prompted for a password for the Radia Staging Server. Press Enter to accept the default of **N**.

The following message is displayed.

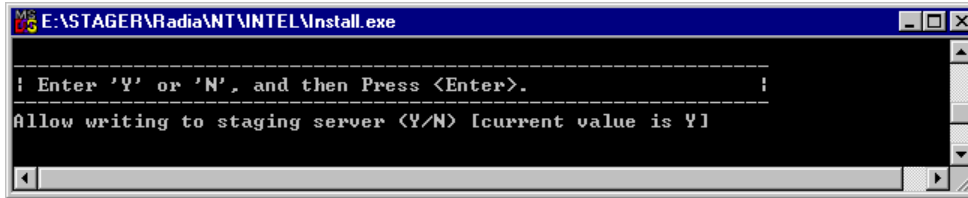


Figure 2.8 ~ Allowing writing to the Radia Staging Server.

11. Specify if you would like to allow writing to the Radia Staging Server. If disabled, the Radia Staging Requestor can only retrieve data from the Radia Staging Server, and will not be able to write to the Radia Staging Server. In other words, the client is not able to populate the Radia Staging Server. The Radia administrator will have to load data onto the Radia Staging Server by other methods. Press Enter to accept the default of **Y**.

The following message is displayed.

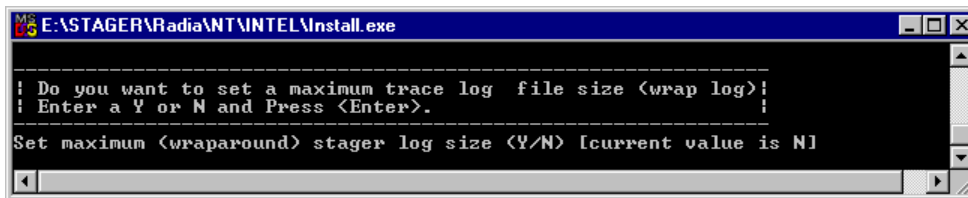


Figure 2.9 ~ Select if you want to set a maximum log size.

12. Select if you want to create a maximum file size for the log. If you select **Y**, you will be asked to assign a value to the log file. The log will be overwritten from the beginning once the maximum log size is attained. If you select **N**, logged data is always appended to the end of the log file. Press Enter to accept the default of **N**.

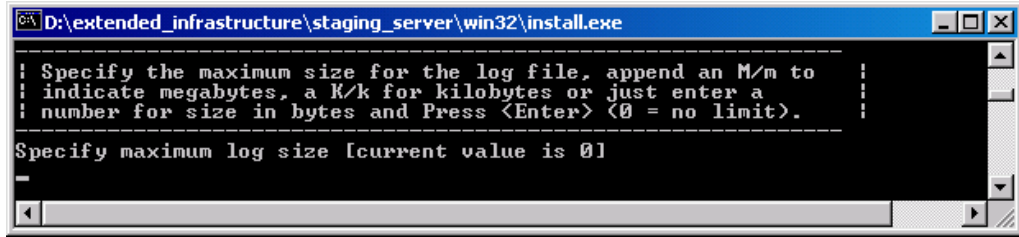


Figure 2.10 ~ Set the Radia Staging Server log size.

13. If you select **Y**, specify the maximum log size. Press Enter to accept the new size. A summary of your selections displays on your screen.

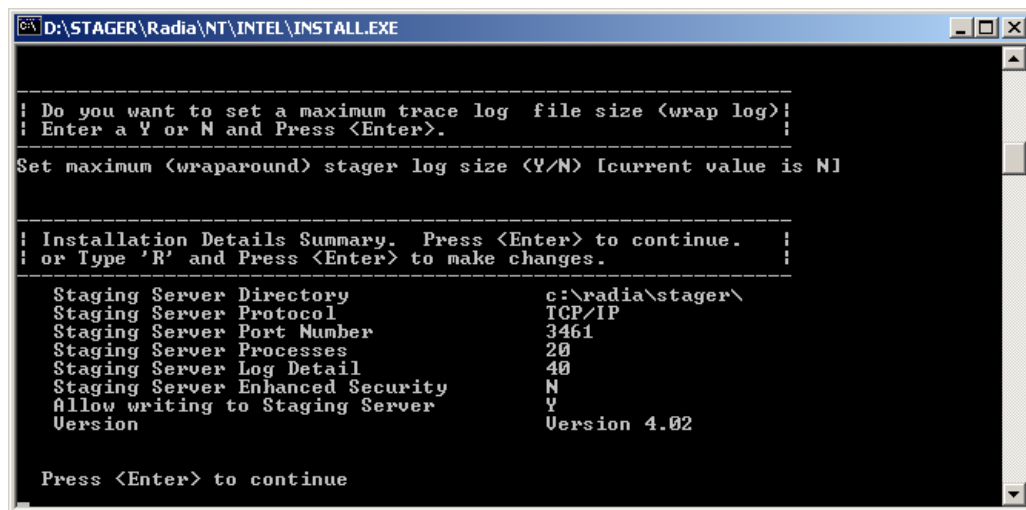


Figure 2.11 ~ Summary of installation parameters.

14. Press Enter to accept these parameters and install the Radia Staging Server component.
- OR**
- Type **R** if you want to make changes.
- OR**
- Close the window to abort the installation.

Once you accept the changes, the necessary files will be copied to your Radia Staging Server and the Radia Staging Server will be started.

Your possible responses to the command prompts during the installation process are summarized in Table 2.1 below.

Table 2.1 ~ Installation Variables	
Information Item	Default
Communications Protocol TCP/IP or NetBIOS	TCP/IP
Staging Server Identification If the communications protocol is TCP/IP, enter the IP port number of the Radia Staging Server computer. This value must match the value in the Radia Database STAGER class instance ZSTGPORT attribute. If the communications protocol is NetBIOS, enter the host name of the Radia Staging Server. This value must match the value in the Radia Database STAGER class instance ZSTGSRVR attribute.	If the communications protocol is TCP/IP, the port number is 3461. This is a well-known port that has been registered by Novadigm for this purpose. If the communications protocol is NetBIOS, the host name is EDM_STAGER.
LAN Adapter Number Not required if protocol is TCP/IP.	0
Staging Requestor Processes Maximum number of concurrent Radia Staging Requestor processes that can be serviced by this Radia Staging Server.	20
Staging Server Trace Level The default provides good performance consistent with collecting meaningful trace information. Valid values are 0-50. HP recommends accepting the default.	40
Enhanced Security Can be used to password-protect access to the Radia Staging Server.	Disabled
Allow Writing to Staging Server If disabled, the Radia Staging Requestor can only retrieve data from the Radia Staging Server. It cannot write data to the Radia Staging Server. The Radia administrator will have to load data onto the Radia Staging Server manually using the pre-population technique.	Enabled
Set a Staging Server Log Wraparound Size If enabled, you will be asked for a maximum log size. The log will be overwritten from the beginning once the maximum log size is attained. If disabled, logged data is always appended to the end of the log.	Disabled

NetWare Installation

To install the Radia Staging Server on NetWare

1. Transfer the appropriate files to your Radia Staging Server.
2. Log on to the Novell Console and load **INSTALL.NLM**.
3. Type a Radia Staging Server directory. The default is the current working directory. In this example, we used **SYS:\RADSTAGE**.
4. Select TCP/IP for the communications protocol.
5. Type the TCP/IP port number. We accepted the default of **3461**. This value must match the value coded in the Radia Configuration Server Database **STAGER** class instance **ZSTGPORT** attribute. More information on **STAGER** class attributes can be found in Table 2.2 on page 35.
6. Specify the number of concurrent requester processes. This is the maximum number of concurrent Radia Staging Requestor processes that can be serviced by this Radia Staging Server. Press Enter to accept the default of **20**.
7. Specify the level of detail for the log file. Valid values are 0 to 50. HP recommends accepting the default unless HP Technical Support directs you to do otherwise. Press Enter to accept the default of **40**.
8. Select the type of security. If you type **Y** to accept enhanced security, you will be prompted for a password for the Radia Staging Server. Press Enter to accept the default of **N**.
9. Specify if you would like to allow writing to the Radia Staging Server. If disabled, the Radia Staging Requestor can only retrieve data from the Radia Staging Server, and will not be able to write to the Radia Staging Server. The Radia administrator will have to load data onto the Radia Staging Server by other methods. Press Enter to accept the default of **Y**.
10. Select if you want to create a maximum file size for the log. If you select **Y**, you will be asked to assign a value to the log file. The log will be overwritten from the beginning once the maximum log size is attained. If you select **N**, logged data is always appended to the end of the log file. Press Enter to accept the default of **N**.
11. A summary of your selections displays on your screen. Type **R** if you want to make changes. Press Enter to accept the settings. If you want to abort installation, close the window.

```

-----
| Installation Details Summary. Press <Enter> to continue. |
| or Type 'R' and Press <Enter> to make changes.         |
-----
Staging Server Directory          SYS:\RADSTAGE
Staging Server Protocol          TCP/IP
Staging Server Port Number       3461
Staging Server Processes         20
Staging Server Log Detail        40
Staging Server Enhanced Security N
Allow writing to Staging Server   Y
Version                          Version 4.0

Press <Enter> to continue

```

Figure 2.12 ~ NetWare Radia Staging Server installation summary.

Once you accept the settings, the necessary files will be copied to your Radia Staging Server.

To automatically start the Radia Staging Server service on NetWare

1. Create a file called **RAD_STG.NCF** that contains the following line:
LOAD SYS:\RADSTAGE\EDMSTGSV.NLM
2. Copy **RAD_STG.NCF** into **SYS:\SYSTEM**.
3. Modify **AUTOEXEC.NCF** to launch the **RAD_STG.NCF**.

Note

You can also add **LOAD SYS:\RADSTAGE\EDMSTGSV.NLM** directly to **AUTOEXEC.NCF**.

UNIX Installation

To install the Radia Staging Server on UNIX

1. Copy the appropriate files for your platform to your Radia Staging Server from the CD-ROM. You may want to create a user specifically for the Radia Staging Server such as **nvdmmgr**.
2. Run **install** from the directory where you installed the Radia Staging Server files.
3. Type the path and name of the Radia Staging Server directory such as **/opt/Novadigm/stager**. The default is the home directory of the user performing the installation.
4. Type the TCP/IP port number. We accepted the default of **3461**. This value must match the value coded in the Radia Database **STAGER** class instance **ZSTGPORT** variable. More information on **STAGER** class variables can be found in Table 2.2 on page 35.

5. Specify the number of concurrent requester processes. This is the maximum number of concurrent Radia Staging Requestor processes that can be serviced by this Radia Staging Server. Press Enter to accept the default of **20**.
6. Specify the level of detail for the log file. Valid values are 0-50. HP recommends accepting the default, unless HP Technical Support directs you to do otherwise. Press Enter to accept the default of **40**.
7. Select if you would like enhanced security. If you type **Y** to accept enhanced security, you will be prompted for a password for the Radia Staging Server. Press Enter to accept the default of **N**.
8. Specify if you would like to allow writing to the Radia Staging Server. If disabled, the Radia Staging Requestor can only retrieve data from the Radia Staging Server, and will not be able to write to the Radia Staging Server. The Radia administrator will have to load data onto the Radia Staging Server by other methods. Press Enter to accept the default of **Y**.
9. Select if you want to create a maximum file size for the log. If you select **Y**, you will be asked to assign a value to the log file. The log will be overwritten from the beginning once the maximum log size is attained. If you select **N**, logged data is always appended to the end of the log file. Press Enter to accept the default of **N**.
10. A summary of your selections displays on your screen. Type **R** if you want to make changes. Press Enter to accept the settings. If you want to abort installation, close the window.

```
-----
| Installation Details Summary. Press <Enter> to continue.      |
| or Type 'R' and Press <Enter> to make changes.                |
-----
Staging Server Directory           /work/stager/unix/
Staging Server Protocol            TCP/IP
Staging Server Port Number        3461
Staging Server Processes          20
Staging Server Log Detail         40
Staging Server Enhanced Security  N
Allow writing to Staging Server    Y

Installation Platform             SOL
Release Date                     06-26-98
Version                          Version 4.0

Press <Enter> to continue
```

Figure 2.13 ~ UNIX Radia Staging Server installation summary.

Once you accept the settings, the necessary files will be copied to your Radia Staging Server.

To start the Radia Staging Server on UNIX

1. From the directory where you installed the Radia Staging Server, start the Radia Staging Server by running: **./edmstgsv &**. The trailing ampersand (&) runs the process in the background.

2. If you intend to log off the system you may wish to preface the command with **nohup**. Example: **nohup edmstgsv &**. **nohup** allows you to continue to execute a command after you log off.

Note

Consult your UNIX systems administrator or UNIX operating system manuals to automate starting the edmstgsv executable as a service.

Configuring the Database for Server Staging

Once the Radia Staging Server software has been installed, update the Radia Configuration Server Database to use the Radia Staging Server. As shipped from HP, the Radia Database contains a STAGER class in the POLICY domain. There are three phases for configuring the Radia Database for Server Staging:

1. Create the STAGER instance.
2. Modify the STAGER instance.
3. Assign subscribers to the STAGER instance.

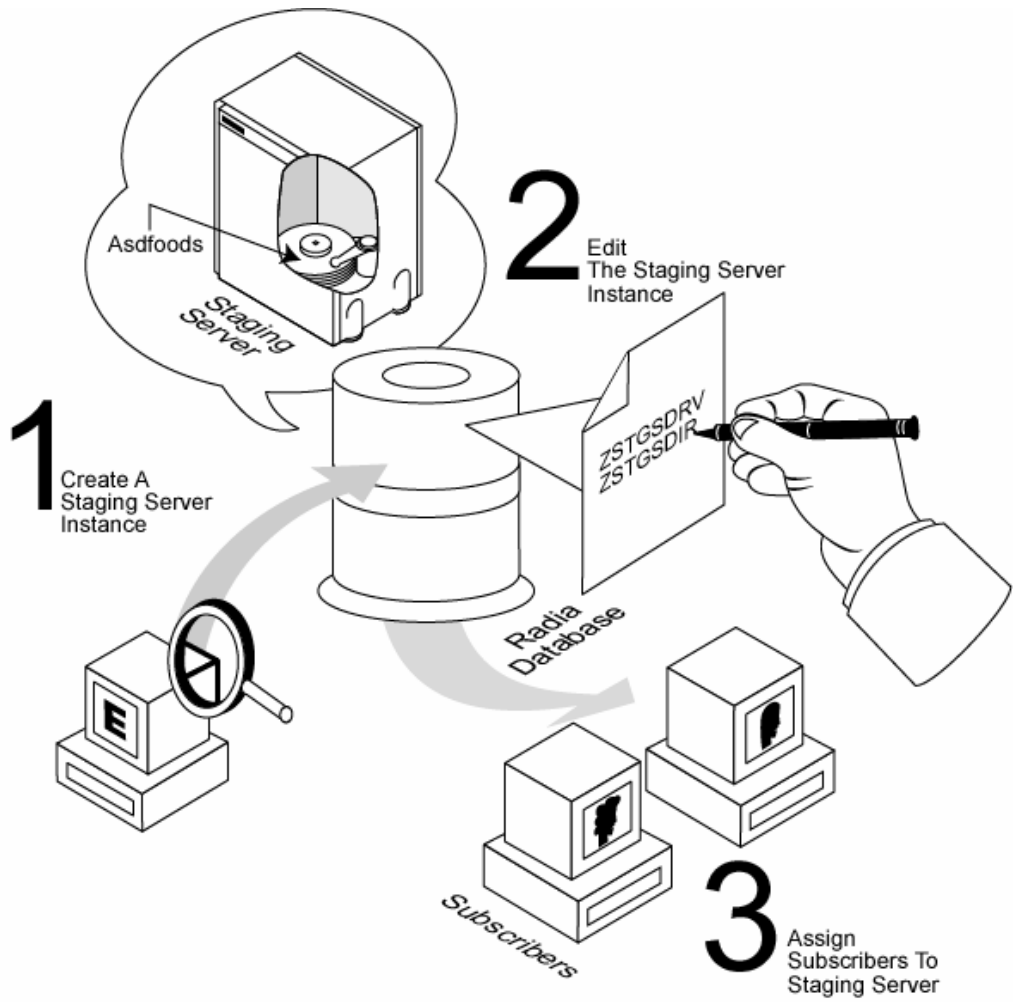


Figure 2.14 ~ Configuring the Radia Database for server staging.

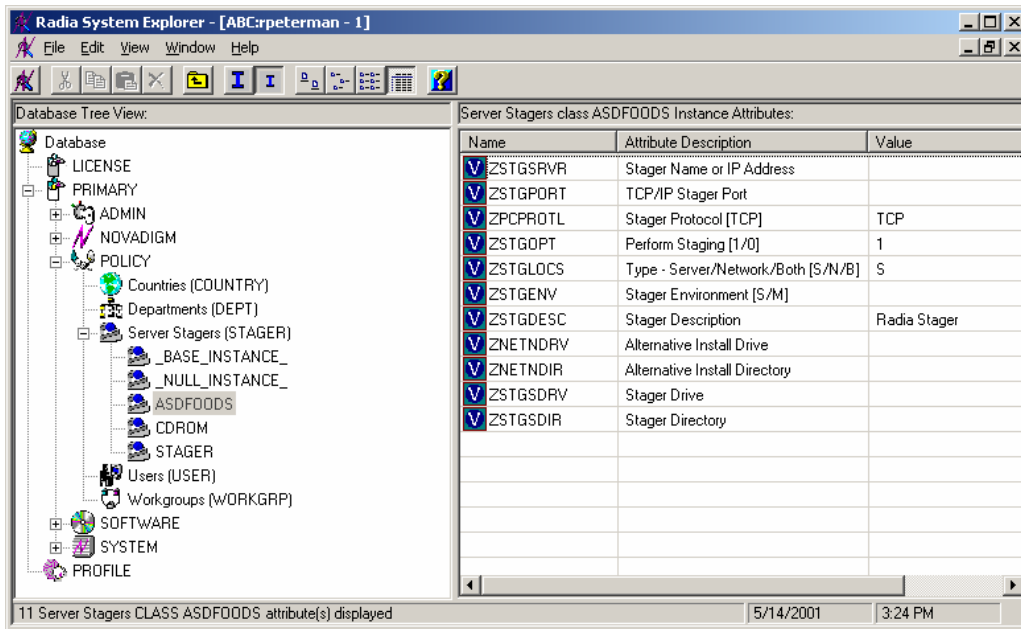


Figure 2.15 ~ Radia Staging Server instance example.

Creating a Radia Staging Server Instance

The STAGER instance defines a storage location on a Radia Staging Server. Use the Radia System Explorer to create and modify the STAGER instance. The Radia System Explorer is available for Windows operating systems.

To create a Radia Staging Server instance

1. From the **Start** menu, select **Programs, Radia Administrator Workstation, Radia System Explorer**. The **Radia System Explorer Security Information** dialog box opens.

Note

The **User ID**, as shipped from HP, 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.

2. If necessary, type a **User ID** and **Password**, and then click **OK**. The Radia System Explorer window opens.

3. Double-click **PRIMARY**.
4. Double-click **POLICY**.
5. Right-click **Server Stagers (STAGER)**. A shortcut menu opens.

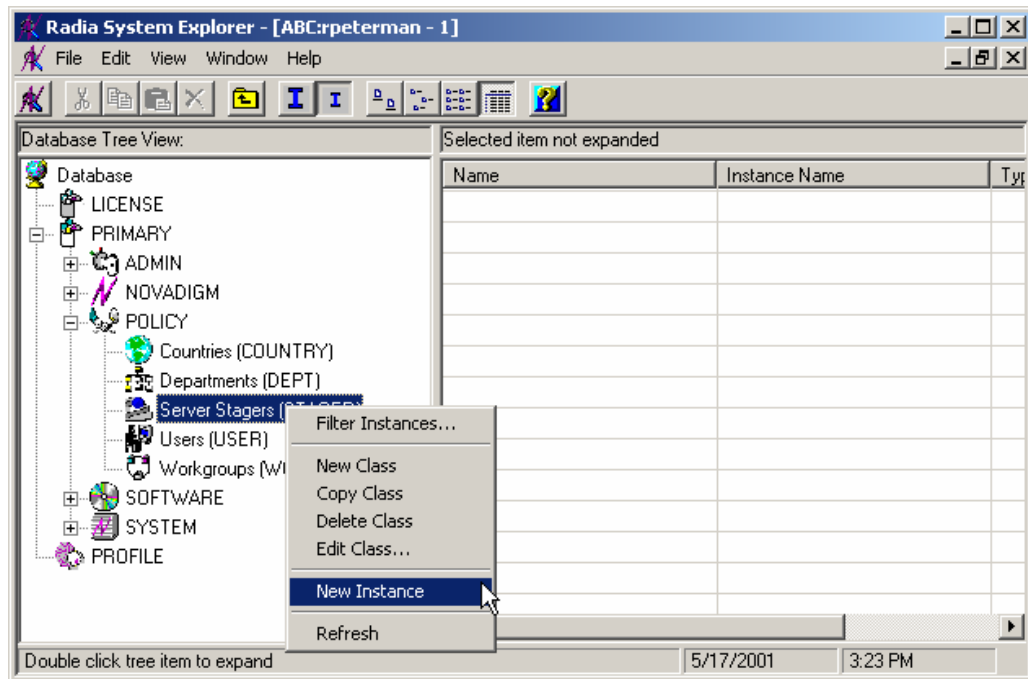


Figure 2.16 ~ New instance shortcut menu for STAGER class.

6. Select **New Instance**.
The **Create Instance** dialog box opens.

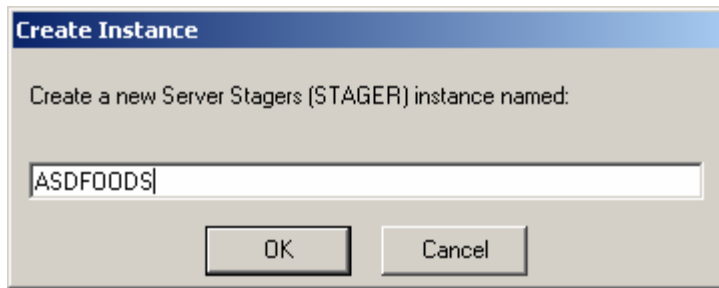


Figure 2.17 ~ Create Instance dialog box.

7. Type a name for the STAGER instance. In this example, we entered the name **ASDFOODS**.
8. Click **OK** to accept the name and to create the new STAGER instance.
9. In the tree view of the Radia System Explorer window, double-click **Server Stagers (STAGER)**.
10. Double-click on the new STAGER instance, **ASDFOODS**.

The attributes of the ASDFOODS instance are shown in the list view of the Radia System Explorer (see Figure 2.18 on page 34).

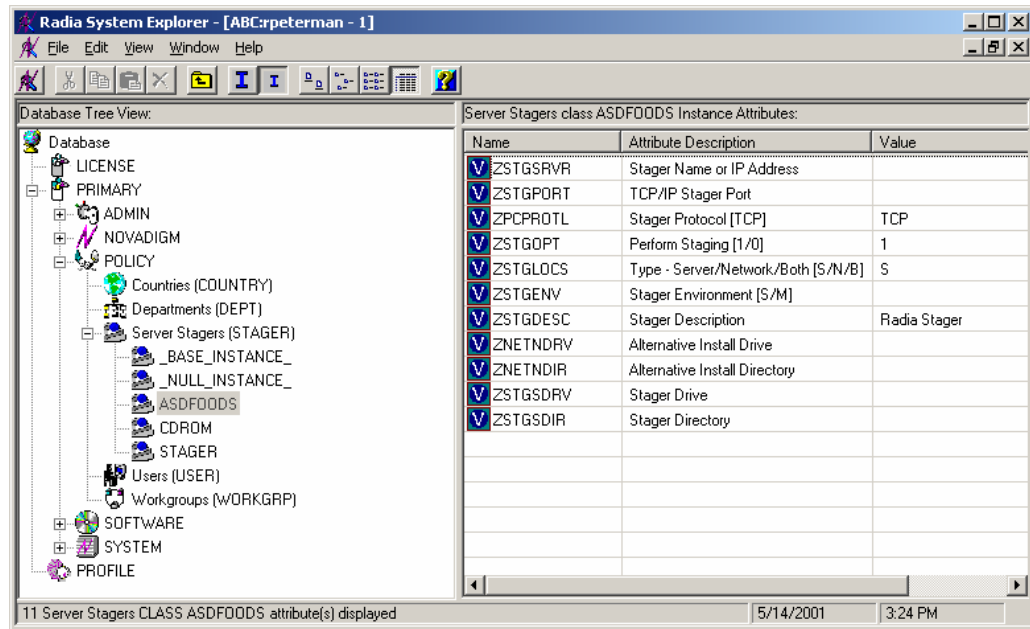


Figure 2.18 ~ Attributes of the ASDFOODS instance.

Editing the Radia Staging Server Instance

When you create the new STAGER instance, it inherits all of its values from the base instance of the STAGER class. You will now have to edit some of the variables in the STAGER instance (ASDFOODS).

At a minimum, you *must* modify the following attributes:

- **ZSTGSDRV**
specifies the drive on the Radia Staging Server where Radia will store staged data.
- **ZSTGSDIR**
specifies the path to the folder on the Radia Staging Server's ZSTGSDRV drive where the Radia Staging Server will store staged data.

If you're using TCP/IP, you must modify the following attributes:

- **ZSTGSRVR**
specifies the IP address or host name of the Radia Staging Server.
- **ZSTGPORT**
specifies the TCP/IP port through which communication will take place.

Examine the following table to see which other values you will need to configure. Have these values prepared when you are editing the STAGER instance.

Table 2.2 ~ Stager Attributes	
Attribute	Value
ZSTGSRVR (Stager Name or IP Address)	If the client connects to the Radia Staging Server via a TCP/IP connection, type the IP address or host name of the Radia Staging Server. Otherwise, type the Radia Staging Server's network name.
ZDATAURL (Radia Proxy Server URL Address)	This parameter is for use with the Radia Proxy Server only. Use the Radia Proxy Server if you would like to use http and dynamic caching. For more information, see the <i>Radia Proxy Server Guide</i> .
ZSTGPORT (TCP/IP Stager Port)	If the client connects to the Radia Staging Server via a TCP/IP connection, type the TCP/IP port through which the communication will take place. The default port is 3461 . This is a well-known port that has been registered by Novadigm for this purpose. For non-TCP/IP connections, leave blank.
ZPCPROTL (Stager Protocol)	The protocol to be used for communications between the Radia Staging Requestor and the Radia Staging Server. Select one of the following: <ul style="list-style-type: none"> • NETB – Net BIOS • TCP – TCP/IP • SPX – Novell NOS
ZSTGOPT (Perform Staging)	Specify 1 to enable staging for the client. Specify 0 to disable staging for the client.

Table 2.2 ~ Stager Attributes

Attribute	Value
ZSTGLOCS (Type)	<ul style="list-style-type: none"> • Specify S if the subscriber is to retrieve files from the Radia Staging Server via a TCP/IP session. • Specify N if the subscriber is to retrieve files from an addressable location on the client computer such as a mapped network drive or a local CD-ROM drive. • Specify B if the subscriber is to retrieve files from both. • If both (B), first the addressable location on the client computer is checked for the necessary resources. If the files are not found, then the Radia Staging Server is requested to supply them. <p>If there is no STAGER instance assigned to the subscriber, the client obtains the files from the Radia Configuration Server. If there <i>is</i> a STAGER instance assigned to the subscriber, the client attempts to obtain resources from all possible sources, in the following sequence:</p> <ol style="list-style-type: none"> 1. The location specified by ZNETNDRV and ZNETNDIR. This can be a local CD-ROM drive or a network share. The resources are unavailable from this source if the ZNETNDRV and ZNETNDIR are blank, the location specified is invalid, a CD-ROM drive is identified that has no CD-ROM loaded, or the files cannot be found on the CD-ROM. 2. The location specified by ZSTGSDRV and ZSTGSDIR. This can be a dedicated Radia Staging Server, or a Radia Staging Server co-resident with a Radia Configuration Server. The resources are unavailable from this source if the ZSTGSDRV and ZSTGSDIR are blank, or if the Radia Staging Server cannot supply them from the designated location. 3. The Radia Configuration Server.
ZSTGENV (Stager Environment)	<ul style="list-style-type: none"> • Specify S if the Radia Staging Server is on a machine separate from the Radia Configuration Server. The default value is S. • Specify M if the Radia Staging Server is co-resident with the Radia Configuration Server <p>A co-resident Radia Staging Server runs on the same computer as the Radia Configuration Server, or on a computer with a mapped drive to the Radia Configuration Server's RESOURCE directory. Co-resident Radia Staging Servers are started with the ZMGRDB attribute in its ZSTGPARM object set to Y. For more information on co-resident Radia Staging Servers and Radia Configuration Servers, see <i>Co-Resident Radia Staging Server and Radia Configuration Server</i> on page 75.</p>
ZSTGDESC (Stager Description)	Specify a text string that subscribers will identify with the Radia Staging Server.
ZNETNDRV (Alternative Install Drive)	Type a drive letter defined on the client computer followed by a colon, for example, D: . This can be a local drive, such as a CD-ROM drive, or a mapped network drive. See <i>Using a Local CD-ROM as a Staging Location</i> on page 49.

Table 2.2 ~ Stager Attributes

Attribute	Value
ZNETNDIR (Alternative Install Directory)	Specify a path to a folder on the client computer's ZNETNDRV drive where the Radia Staging Server's resources are located. The location on the server where staged data is stored is created by a concatenation of the values of the ZNETNDRV and ZNETNDIR attributes. Add a leading and trailing slash, for example, \STAGER\ . See <i>Using a Local CD-ROM as a Staging Location</i> on page 49.
ZSTGSDRV (Stager Drive)	Specify the drive on the Radia Staging Server where Radia will store staged data. Specify the drive letter followed by a colon, e.g., C: , UNIX: , SYS: . Note: The drive letter is the local drive designation on the stager.
ZSTGSDIR (Stager Directory)	Specify a path to a folder on the Radia Staging Server's ZSTGSDRV where the Radia Staging Server will store staged data. The location on the server where staged data is stored is created by a concatenation of the values of the ZSTGSDRV and ZSTGSDIR attributes. Specify a leading and trailing slash, e.g., \STAGER\ /opt/novadigm/Stager/ , \nvdm\radstage\ . If the specified folder does not exist, Radia creates it automatically when data is first copied to the Radia Staging Server.

To edit a STAGER instance

1. From the **Start** menu, select **Programs, Radia Administrator Workstation, Radia System Explorer**. The **Radia System Explorer Security Information** dialog box opens.

Note

The **User ID**, as shipped from HP, 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.

2. If necessary, type a **User ID** and **Password**, and then click **OK**. The **Radia System Explorer** window opens.
3. Double-click **PRIMARY**.
4. Double-click **POLICY**.
5. Double-click **Server Stagers (STAGER)**.
6. Double-click the stager that you want to modify, in this example, **ASDFOODS**.

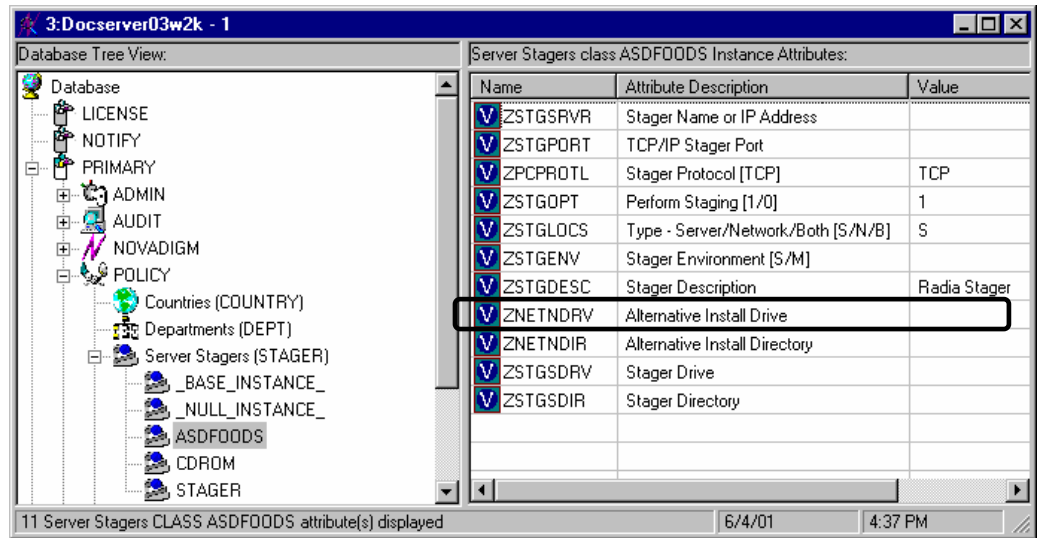


Figure 2.19 ~ STAGER instance to edit.

7. Double-click the attribute in the list view that you want to modify.

In this example, we are modifying the **ASDFOODS** instance, **ZSTGSDRV** attribute to identify the drive on the Radia Staging Server computer where we want to store staged data.

The **Editing Instance** dialog box opens.

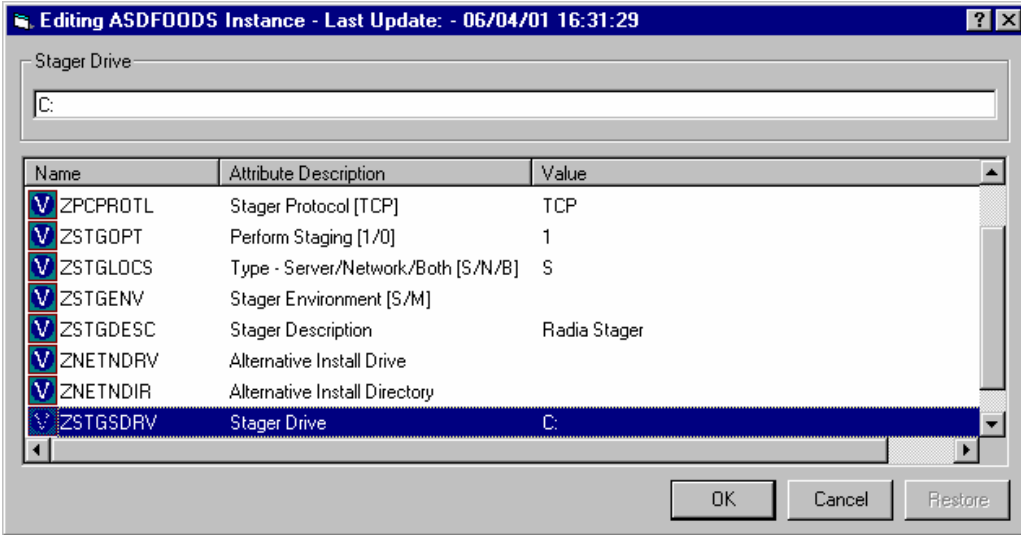


Figure 2.20 ~ Editing ASDFOODS Instance dialog box.

8. Type the new value for the attribute.
9. Select the next attribute that you want to edit, and type the new value. Repeat this step until you have edited all appropriate attributes.
10. Click **OK** to accept the values.

The **Instance Edit Confirmation** message opens.

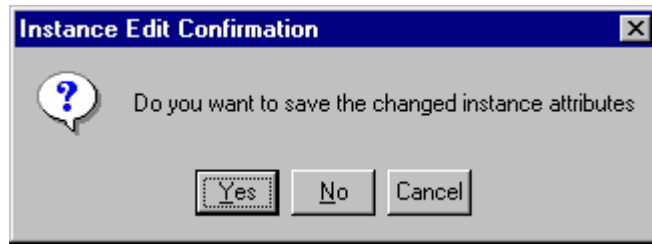


Figure 2.21 ~ The Instance Edit Confirmation message.

11. Click **Yes** to return to the Radia System Explorer.

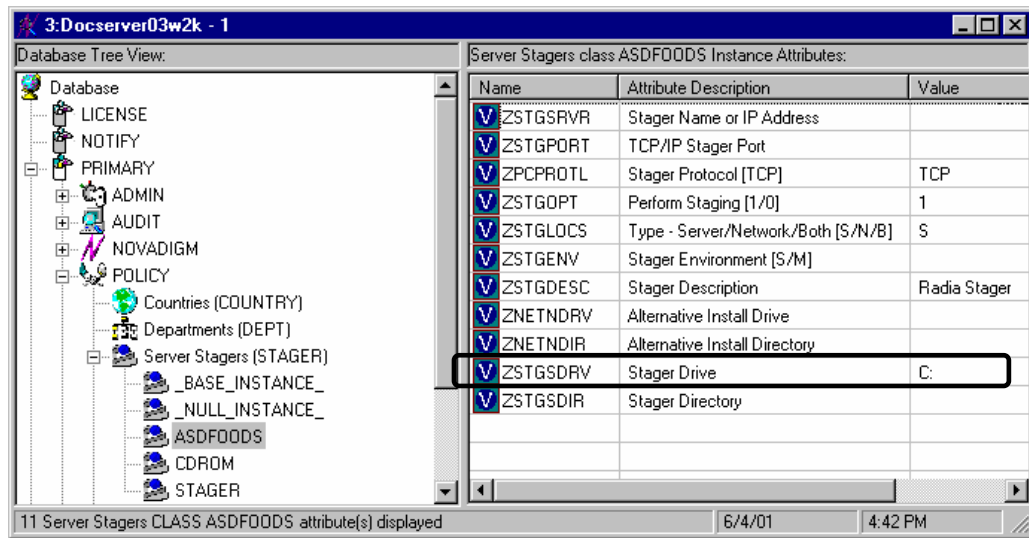


Figure 2.22 ~ The Radia System Explorer with the ZSTGSDRV attribute (Stager Drive) changed to C:.

Each Radia Staging Server in your network must be defined as its own instance in the STAGER class of the POLICY domain. If two different directories on the same computer are to serve as staged data locations, *each* must be defined in a STAGER class instance making each a separate Radia Staging Server. Do this when you need to balance the load among two or more hard drives on the same server.

Caution

If editing a Radia Staging Server for a UNIX environment, **ZSTGSDRV** must be set to **UNIX**. For NetWare servers, use the volume name.

Assigning Subscribers to the Radia Staging Server

To receive applications from the Radia Staging Server, instead of the Radia Configuration Server, assign a user or group of users to the Server Stagers (STAGER) instance. You can connect a STAGER instance to an instance of the User, Workgroup, or Department class of the POLICY domain. Since you are using a Radia Staging Server to address a group of subscribers with a common set of applications, you will usually assign either a workgroup or a department to the STAGER instance. In the following example, we connect the Default workgroup to a STAGER instance so that *all* subscribers will receive applications from the Radia Staging Server.

To connect a STAGER instance to a Workgroups (WORKGRP) instance

1. From the **Start** menu, select **Programs, Radia Administrator Workstation, Radia System Explorer**. The **Radia System Explorer Security Information** dialog box opens.

Note

The **User ID**, as shipped from HP, 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.

2. If necessary, type a **User ID** and **Password**, and then click **OK**. The Radia System Explorer window opens.
3. Double-click **PRIMARY**.
4. Double-click **POLICY**.
5. Double-click **Server Stagers (STAGER)** to see the STAGER instances.
6. Double-click **Workgroups (WORKGRP)** to see the WORKGRP instances.

Note

If you want to connect to a Department (DEPT) or Users (USER) instance, double-click on that class instead of Workgroups (WORKGRP). Substitute the instance you would like to connect to in the remaining steps of the procedure.

7. Drag the appropriate STAGER instance (ASDFOODS) to the appropriate WORKGRP instance (Default). The cursor changes into a paper clip.

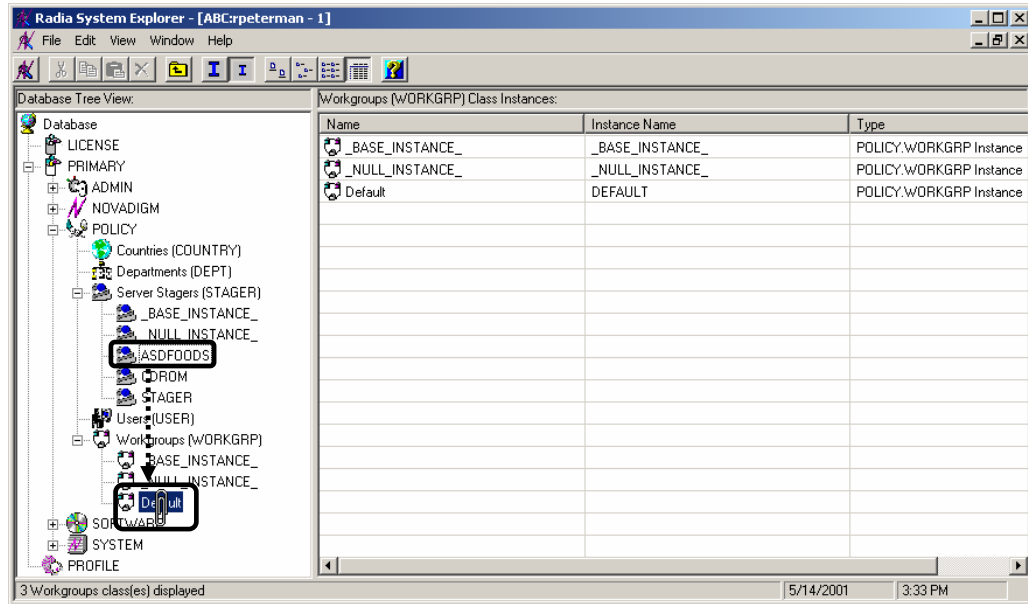


Figure 2.23 ~ Assigning a STAGER instance to a WORKGRP instance.

8. Release the mouse button. The **Select Connection Attribute** dialog box opens.

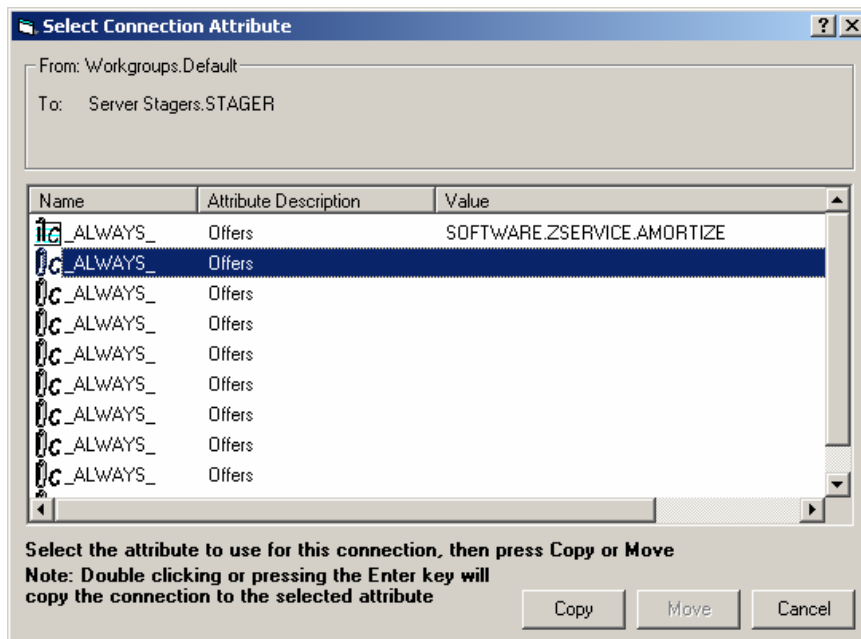


Figure 2.24 ~ Select Connection Attribute dialog box.

9. Click **Copy** to accept the connection. The **Confirm Connection** message box opens.

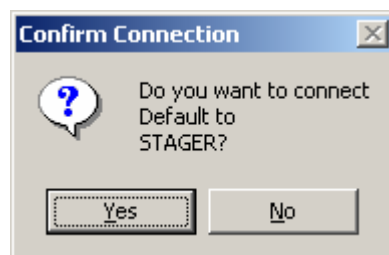


Figure 2.25 ~ Confirm Connection message box.

10. Click **Yes**.
The **Instance Connection** message box opens.



Figure 2.26 ~ The Instance Connection message box.

11. Click OK.

You're returned to the Radia System Explorer.

As shown in Figure 2.27 on page 45, in the tree view, **ASDFOODS** is a branch under **Default**, indicating that they are connected.

Summary

- Server staging is implemented using two software components: the Radia Staging Server component that runs on the server, and the Radia Staging Requestor component that runs on each client computer.
- The Radia Staging Server component must be installed separately on each server to be used as a Radia Staging Server. The Radia Staging Requestor is installed automatically when the Radia Client software is installed.
- Install the appropriate Radia Staging Server based on your platform and operating system.
- Create and modify the STAGER instance as necessary in the Radia Configuration Server Database.
- Assign users, workgroups, or departments to the Radia Staging Server.

Additional Features

At the end of this chapter, you will:

- Know how to pre-populate a Radia Staging Server.
- Be able to configure a client computer's CD-ROM as an installation location.
- Be familiar with dynamic selection of a Radia Staging Server or Radia Configuration Server.
- Know how to configure a Radia Configuration Server to also be a Radia Staging Server.
- Understand how to create an Administrative Installation Point (AIP) for a Windows Installer application.
- Know which logs to use to troubleshoot Server Staging.

There may be special circumstances involved in your Radia Staging Server implementation. This chapter explores these possible situations:

- Populating the Radia Staging Server before any clients try to install the software.
- Using the client computer's CD-ROM drive as a staging location.
- Choosing from multiple Radia Staging Servers or the Radia Configuration Server for software distribution.
- Installing the Radia Staging Server on the same computer as your Radia Configuration Server.
- Populating an AIP for a Windows Installer application.

Pre-populating the Radia Staging Server

Instead of waiting for the first client computer to connect to the Radia Configuration Server, retrieve the service files, and then copy them to the Radia Staging Server, you can pre-populate the Radia Staging Server's data directory. This eliminates excess network traffic during the copy from the client computer, and reduces the load on the client computer to complete the copy. To do this for Radia, you must use either the Radia Application Manager or the Radia Dual Mode client installation on the Radia Staging Server. Dual Mode installation includes both the Radia Application Manager and the Radia Staging Server clients.

Pre-populate the Radia Staging Server by executing the Radia Desktop Manager, RADSKMAN, with the PRELOAD parameter. Run the command line from the directory where RADSKMAN resides. On the Windows operating system RADSKMAN is located in the IDMSYS directory as indicated in your NVD.INI file. If you are using a version of the Radia Client below 2.1, look in the NVDM section of your WIN.INI file. The default location is **<system drive>\Program Files\Novadigm**. On UNIX, RADSKMAN is located in IDMSYS which is most likely **/opt/radia/idmsys**.

Below is an example of the usage of PRELOAD:

```
radskman uid=<userid>,ip=<mgr_ip>,port=<mgr_port>,preload=<data_directory>
```

The application that is assigned to the user (userid) is copied to the specified directory (data directory). A different storage location (IDMDATA) directory can be specified in order to support both native and non-native services on the same machine. Native means that the application is installed on the client computer, and non-native means that only the data files are stored on the computer.

Use Table 3.1 on page 49 to assist you in configuring the parameters for RADSKMAN and PRELOAD.

Table 3.1 ~ Parameters for PRELOAD Example

Parameter	Description
uid	Specifies the name used to identify the current session of Radia. This is an optional parameter.
ip	Radia Configuration Server IP address.
port	Radia Configuration Server port.
preload	Location of directory to copy the files to. If you do not need or want to specify a different data directory, setting preload= Y uses the IDMDATA directory specified in NVD.INI.

Note

If you use this command line without a **uid**, the mandatory applications assigned to the Default Workgroup will be populated.

For more information on RADSKMAN and its other parameters, consult the *Radia Application Manager Guide* or the HP Technical Support Web site.

Using a Local CD-ROM as a Staging Location

When installing applications from a client computer's CD-ROM, the drive letter can vary from computer to computer. Use the ZHDWCDDR attribute in the ZCONFIG object to circumvent this. The ZCONFIG object contains information about the client computer's hardware, and the ZHDWCDDR attribute contains the drive letter of the client computer's CD-ROM drive. The Radia Client reconstructs the ZCONFIG object at the beginning of each Client Connect to the Radia Configuration Server.

If you want to use a CD-ROM as a staging location, first create a staging instance that points to a physical hard drive. After the Staging Server directory has been updated with the application data, burn the contents of the Staging Server directory, preserving the directory structure, to a CD-ROM. Use that CD-ROM in the client computer. Complete the following procedure to direct the client computer to the CD-ROM as a staging location. Make sure that the ZNETDIR variable is the same name as the top level of the Staging Server Directory copied to the CD-ROM.

Editing the ZNETDRV Attribute

In this exercise, we use the Radia System Explorer to edit the template of the STAGER class. Select the Manager Resolve flag in the ZNETDRV attribute, and then change the value of ZNETDRV to **&(ZCONFIG.ZHDWCDDR)**. This directs the Radia Staging Server to use the client's CD-ROM as the alternative installation drive.

Caution

HP recommends that you back up the Radia Configuration Server Database prior to making class template changes.

To edit the ZNETDRV attribute

1. From the **Start** menu, select **Programs, Radia Administrator Workstation, Radia System Explorer**. The **Radia System Explorer Security Information** dialog box opens.

Note

The **User ID**, as shipped from HP, 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.

2. If necessary, type a **User ID** and **Password**, and then click **OK**. The **Radia System Explorer** window opens.
3. Double-click **PRIMARY**.
4. Double-click **POLICY**.
5. Right-click **Server Stagers (STAGER)**. A shortcut menu opens.

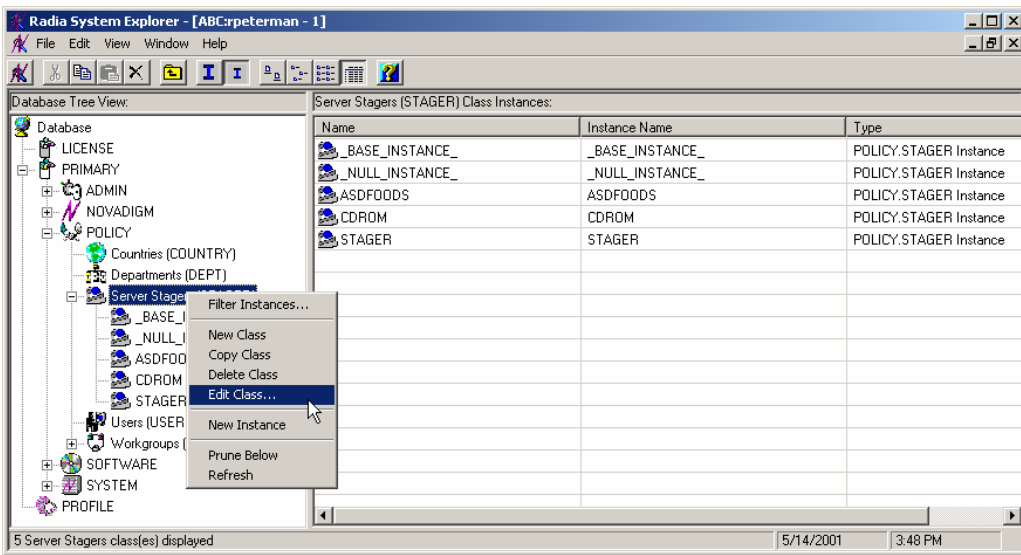


Figure 3.1 ~ STAGER class shortcut menu.

6. Select Edit Class.

The **Editing STAGER Class** dialog box opens.

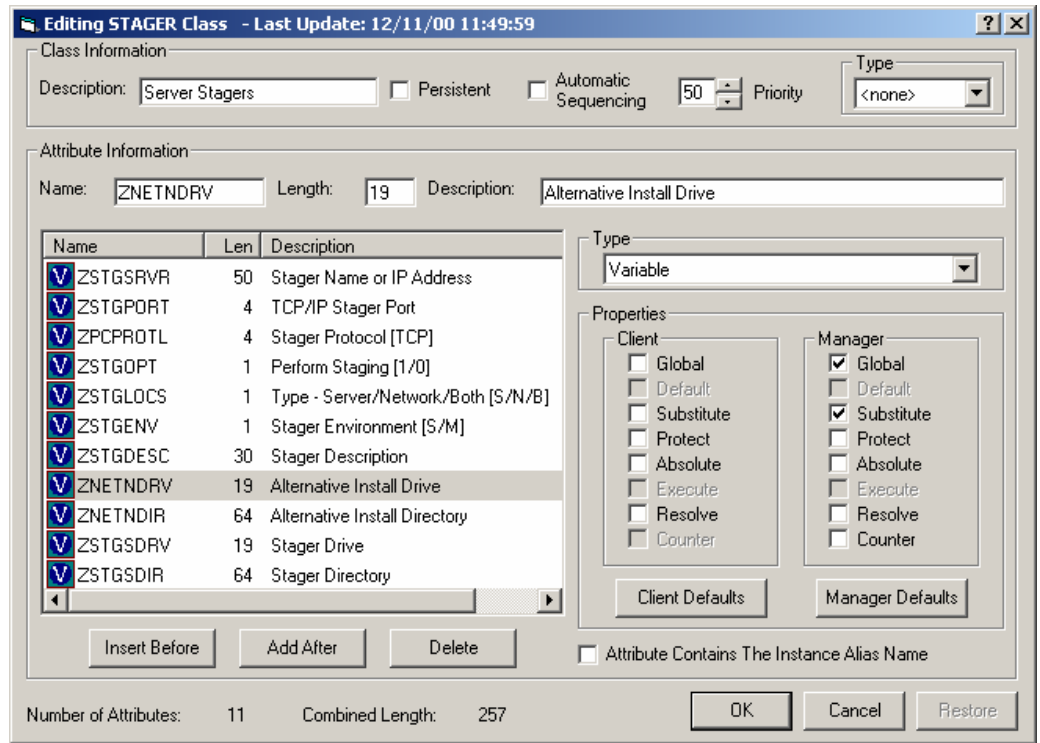


Figure 3.2 ~ Editing STAGER Class dialog box.

7. Click **ZNETNDRV** to select it.
8. In the **Properties** group box, **Manager** section, select the **Resolve** check box to enable this feature.

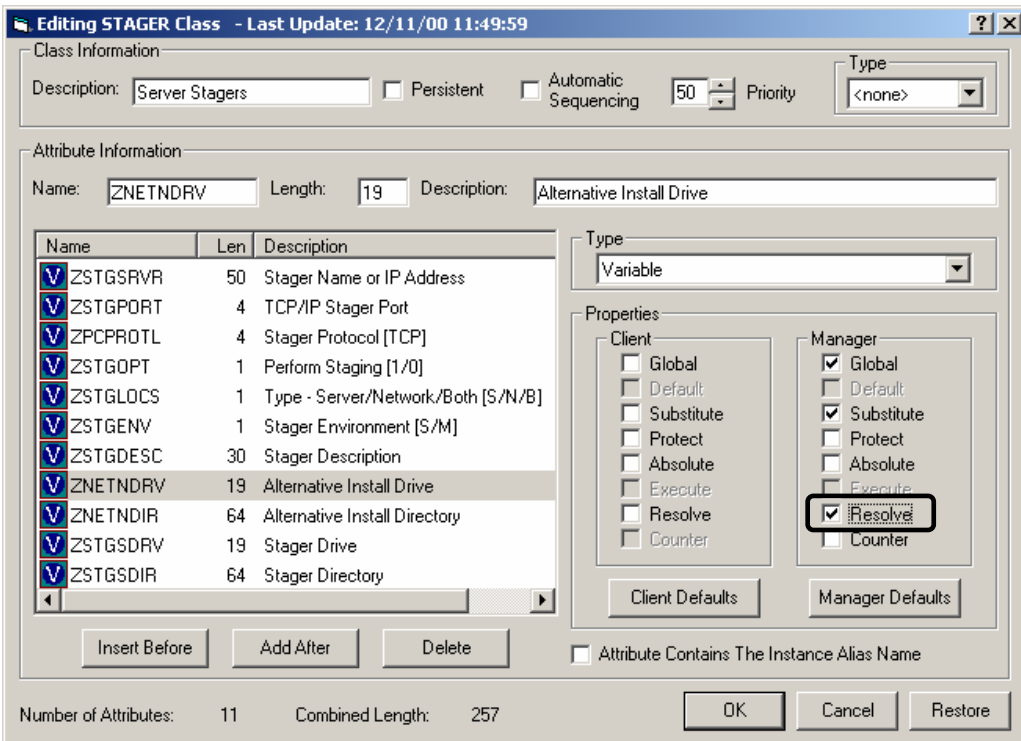


Figure 3.3 ~ Resolve property selected for the ZNETNDRV attribute.

9. Click **OK**.

The **Class Edit Confirmation** message box opens.

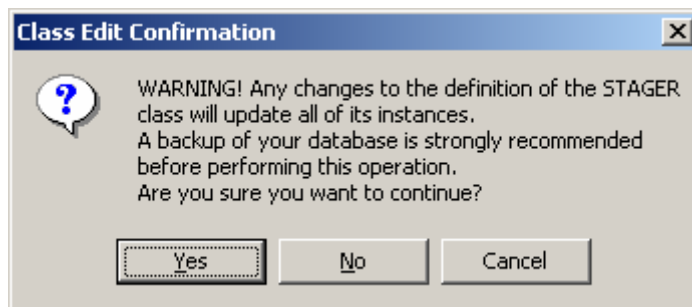


Figure 3.4 ~ Class Edit Confirmation message.

10. After reading the warning message, click **Yes** if you want to continue.
11. Use the procedure *To edit the ZNETNDRV attribute* on page 50 to change the value of ZNETNDRV to **&(ZCONFIG.ZHDWCDDR)** as shown in Figure 3.5 below. This will direct the Radia Staging Server to use the client computer's CD-ROM as the alternative installation drive.

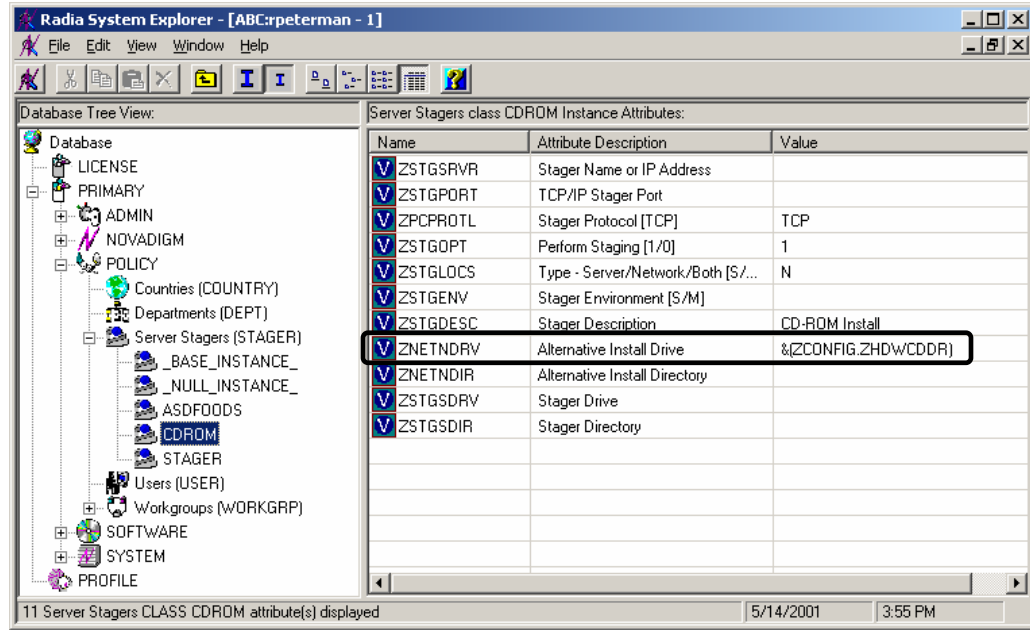


Figure 3.5 ~ ZNETNDRV set to use client computer's CD-ROM drive.

Note

If the client computer has more than one CD-ROM drive, the ZHDWCDDR attribute in ZCONFIG would contain the drive letter of the last CD-ROM drive found.

Dynamic Server Staging

If you have more than one Radia Staging Server in your network, you can create a customized REXX script to dynamically select a Radia Staging Server or connect to the Radia Configuration Server based on your enterprise's needs. A sample of a `radstgrq.rex` can be downloaded from the HP Technical Support Web site. This is a client side REXX that will run on every connect if it exists on the desktop. The `radstgrq.rex` should be applied as maintenance to your clients.

Caution

Currently, Windows Installer enabled applications will *not* honor the variables used in Dynamic Server Staging. During the initial Radia Staging Server negotiation process, the Windows Installer applications will try to contact the first stager that is attached to the user. The redirector will not try any other Radia Staging Server if the first one fails to produce the requested files or does not respond. The redirector will *always* go to the Radia Configuration Server if it cannot receive files from the Radia Staging Server. However, the redirector will keep trying to go to the original Radia Staging Server throughout the connect process. In addition, for Windows Installer applications, the redirector will not honor the `ZSTGMGR` variable and it will still request files from the Radia Configuration Server even if the variable is set to **N** and the redirector cannot contact a stager. A value of **N** denies the client access to the Radia Configuration Server even if a Radia Staging Server is unavailable.

After you have made all of the changes in this section, you should add your stager instances to either the Workgroup or Users instance. You can add more than one Stager to these instances for redundancy (your infrastructure permitting).

Note

You must have Radia Client 2.1 or higher to use this feature.

Implementing Dynamic Staging

The following instructions show you how to set up and prepare for dynamic staging.

Overview of Steps

Version 4.3 Radia Configuration Server

Note

The Radia Configuration Server is also known as the Radia Manager.

- Copy the STAGER class from the SOFTWARE domain to the POLICY domain.
- Add a ZSTGOPT attribute to the USER class.
- In the base instance of the USER class, set the value of ZSTGOPT to 1.
- Add a ZRSCCSTA attribute to the REGISTRY class in the SOFTWARE domain.
- In the base instance of the REGISTRY class, set the value of ZRSCCSTA to 999.
- Follow all the steps for the Version 4.4 Radia Configuration Server.

Version 4.4 Radia Configuration Server

- Add a ZSTGMGR attribute to the USER class.
- In the base instance of the USER class, set the value of ZSTGOPT to 1 and the value of ZSTGMGR to Y.
- Change the STAGER class from a transient/percolated class to a persistent natural class.
- Add a ZSTGPRI attribute to the STAGER class.
- In the base instance of the STAGER class, set the value of ZSTGPRI to 50.

Note

Making changes to your Radia Configuration Server Database can have undesirable results. Please only make the modifications we state and do not change any other settings. Always backup your Radia Database before you make any modifications.

Steps for Version 4.3 Radia Configuration Server

Step 1: Copy the STAGER class from the SOFTWARE domain to the POLICY domain.

To do this you will need to stop the Radia Configuration Server and run the ZEDMAMS utility to COPY_CLASS. A detailed description on how to use the ZEDMAMS command can be found in the *Radia Configuration Server Guide*.

```
ZEDMAMS VERB=COPY_CLASS, FROMDOMA=SOFTWARE, FROMCLAS=STAGER,
TODOMAIN=POLICY, REPLACE=YES
```

Step 2: Add a ZSTGOPT attribute to the USER class.

The ZSTGOPT variable switches staging on and off.

1. In the Radia System Explorer double-click the **PRIMARY** file, double-click the **POLICY** domain, and right-click the **Users (USER)** class.

A shortcut menu opens.

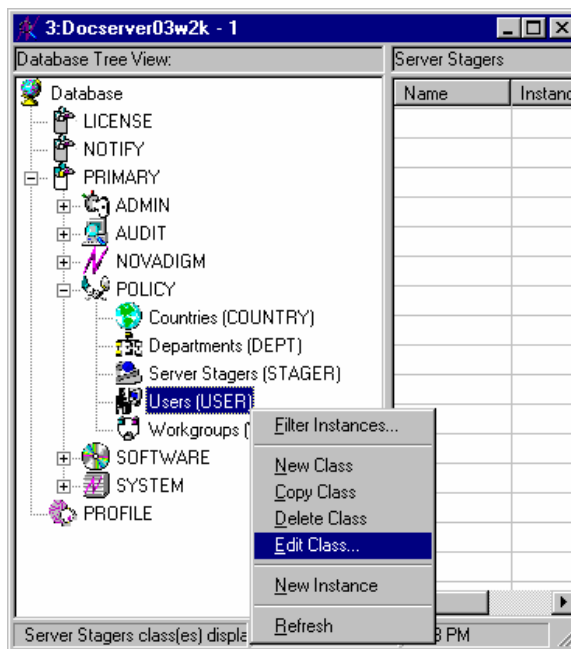


Figure 3.6 ~ The class shortcut menu in the Radia System Explorer.

2. Select **Edit Class** from the shortcut menu.
The **Editing USER Class** dialog box opens.

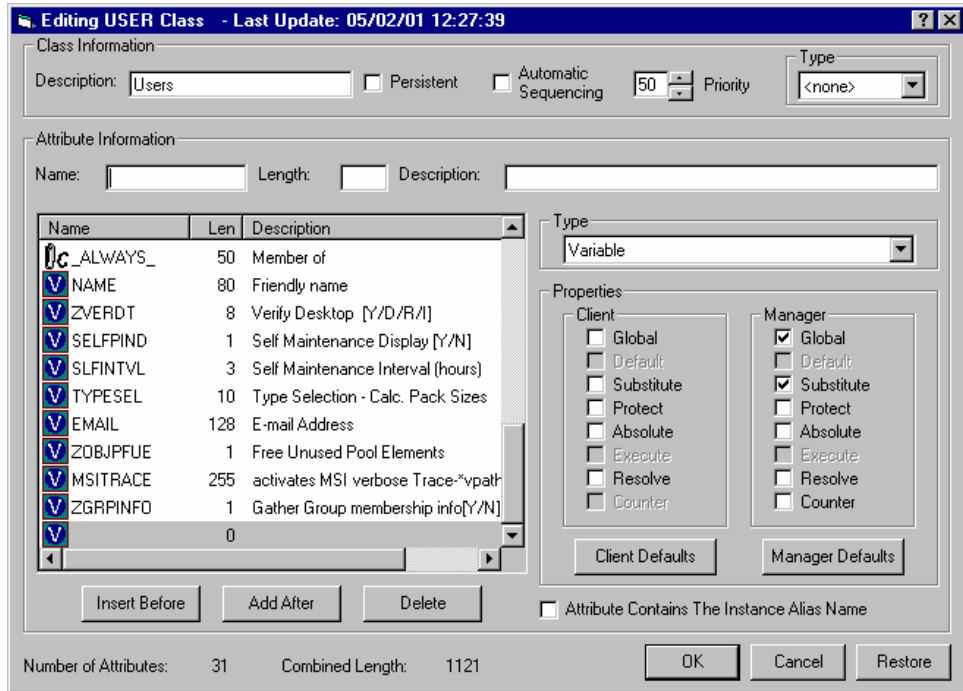


Figure 3.7 ~ Editing USER class dialog box.

3. In the scrolling list of attributes, scroll to any place where you would like to add the attribute.
4. Click **Insert Before** or **Insert After** to create a blank line and blank fields.
5. Fill in the attribute information as follows:

Name: ZSTGOPT
Length: 1
Description: Active Staging Server
 (1/0)
6. Click **OK** to close the dialog box and save your changes.

Step 3: In the base instance of the USER class, set the value of ZSTGOPT to 1 or 0 (as desired).

- A value of 1 will instruct the client to retrieve files from a stager.
 - A value of 0 will instruct the client to never retrieve files from a stager.
1. In the Radia System Explorer, double-click the **PRIMARY** file, double-click the **POLICY** domain, double-click the **Users (USER)** class, and right-click **_BASE_INSTANCE_**.

A shortcut menu opens.

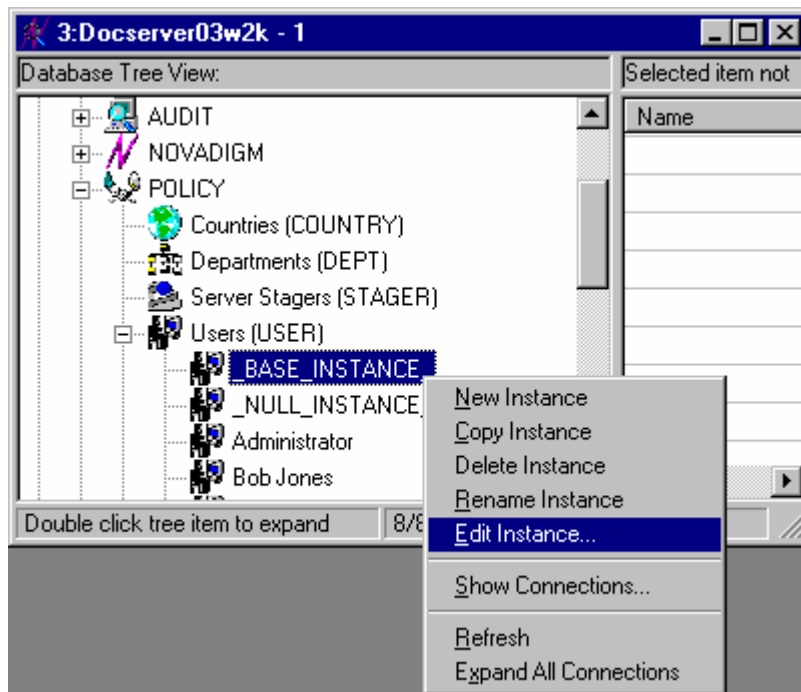


Figure 3.8 ~ The instance shortcut menu in the Radia System Explorer.

2. Select **Edit Instance** in the shortcut menu.
The **Editing Instance** dialog box opens.

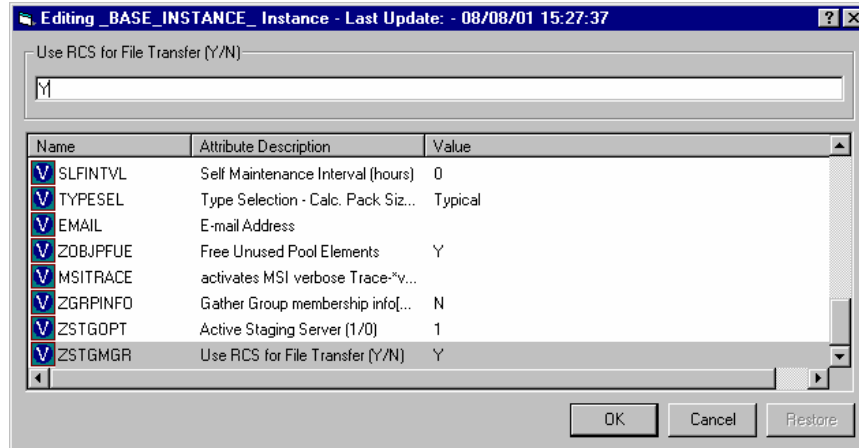


Figure 3.9 ~ Editing _BASE_INSTANCE_ Instance dialog box.

3. Scroll to and select the **ZSTGOPT** attribute and type 1 in the text field at the top of the dialog box.
4. Click **OK** to close the dialog box and save your changes.

Step 4: Add a ZRSCCSTA attribute to the REGISTRY class in the SOFTWARE domain.

1. In the Radia System Explorer, double-click the **PRIMARY** file, double-click the **software** domain, and right-click the **Registry Resources (REGISTRY)** class.
A shortcut menu opens.

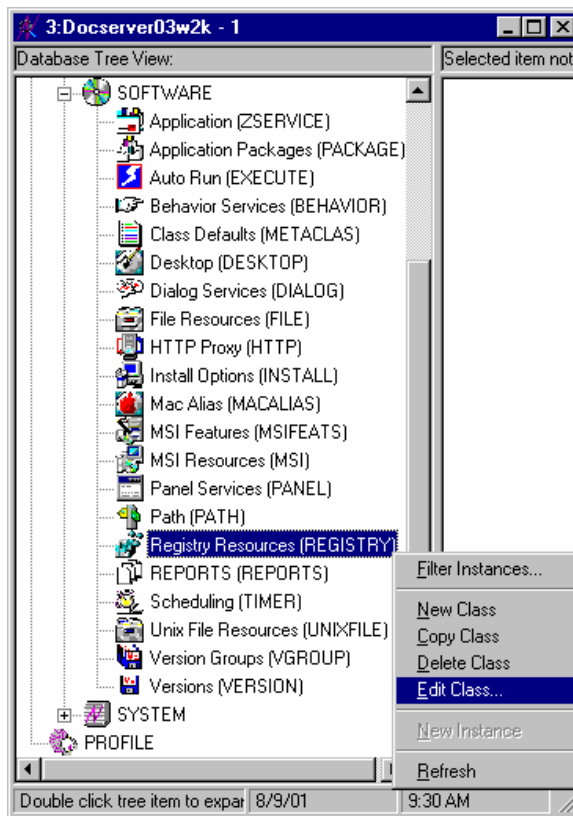


Figure 3.10 ~ The class shortcut menu in the Radia System Explorer.

2. Select **Edit Class** from the shortcut menu.
The **Editing Class** dialog box opens.

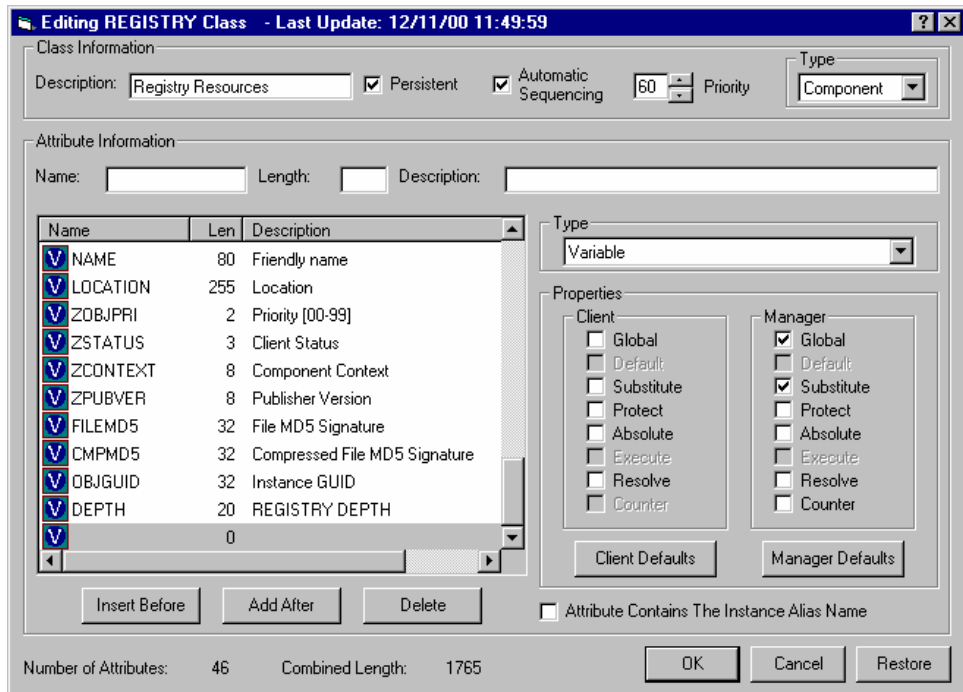


Figure 3.11 ~ The Editing REGISTRY Class dialog box.

3. In the scrolling list of attributes, scroll to any place where you would like to add the attribute. In this example, we scrolled to the end of the list.
4. Click **Insert Before** or **Insert After** to create a blank line and blank fields.
5. Fill in the attribute information as follows:
 - Name:** ZRSCCSTA
 - Length:** 3
 - Description:** Client File Status
6. Click **OK** to close the dialog box and save your changes.

Step 5: In the base instance of the REGISTRY class, set the value of ZRSCCSTA to 999.

1. In the Radia System Explorer, double-click the **PRIMARY** file, double-click the **SOFTWARE** domain, and right-click **_BASE_INSTANCE_**.
A shortcut menu opens.

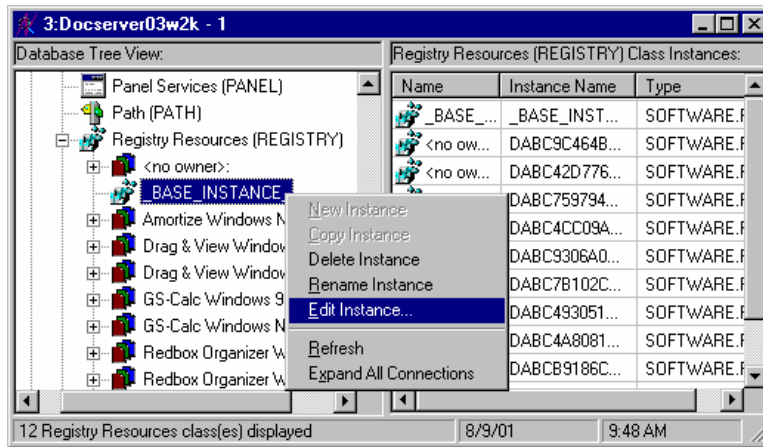


Figure 3.12 ~ The instance shortcut menu in the Radia System Explorer.

2. Select **Edit Instance** from the shortcut menu.
The **Editing Instance** dialog box opens.

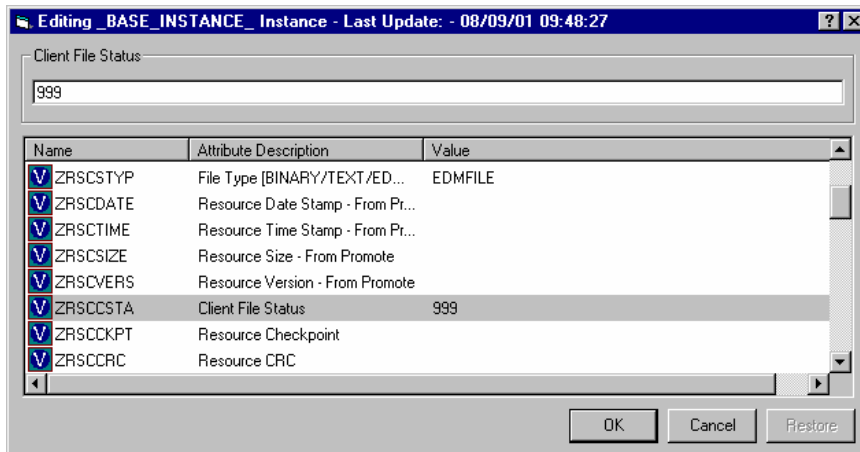


Figure 3.13 ~ The Editing `BASE_INSTANCE_` Instance dialog box.

3. Scroll to and select the `ZRSCCSTA` attribute and type 999 in the text field at the top of the dialog box.
4. Click **OK** to close the dialog box and save your changes.

Steps for Versions 4.3 and 4.4 of the Radia Configuration Server

POLICY.USER Class Modifications

Step 1: Add a ZSTGMGR attribute to the USER class.

If you set the value of ZSTGMGR to N, this will create an error condition if your clients cannot for any reason receive their files from the Radia Staging Server. This means that if you are running 10 mandatory applications and one of them cannot receive its files from the Stager (and there are no other stagers available) this will cause an error and end the connect. The same is true for optional services.

1. In the Radia System Explorer double-click the **PRIMARY** file, double-click the **POLICY** domain, and right-click the **Users (USER)** class.

A shortcut menu opens.

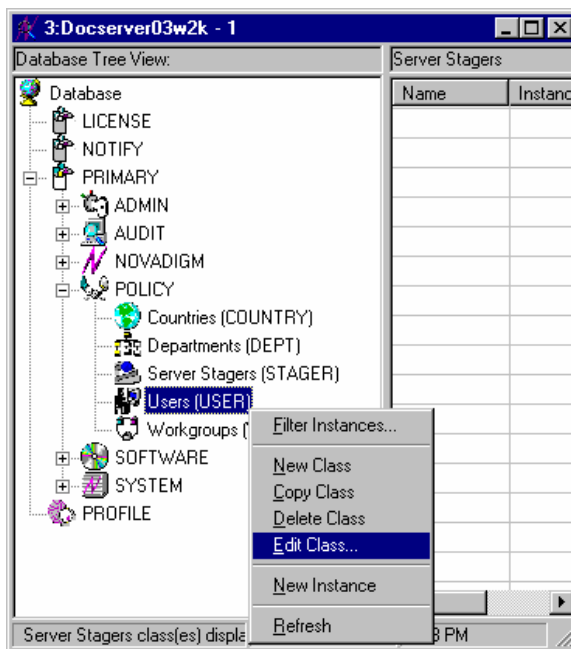


Figure 3.14 ~ The class shortcut menu in the Radia System Explorer.

2. Select **Edit Class** from the shortcut menu.
The **Editing USER Class** dialog box opens.

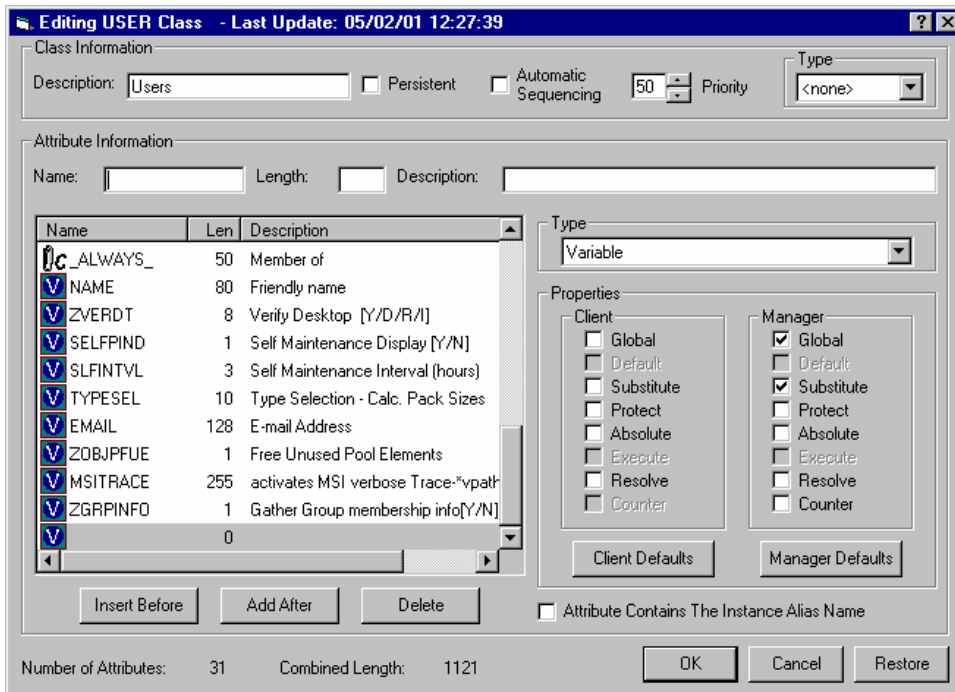


Figure 3.15 ~ The Editing USER Class dialog box.

3. In the scrolling list of attributes, scroll to any place where you would like to add the attribute. In this example, we scrolled to the end of the list.
4. Click **Insert Before** or **Insert After** to create a blank line and blank fields.
5. Fill in the fields as follows:
 - Name:** ZSTGMGR
 - Length:** 1
 - Description:** Use RCS for File Transfer

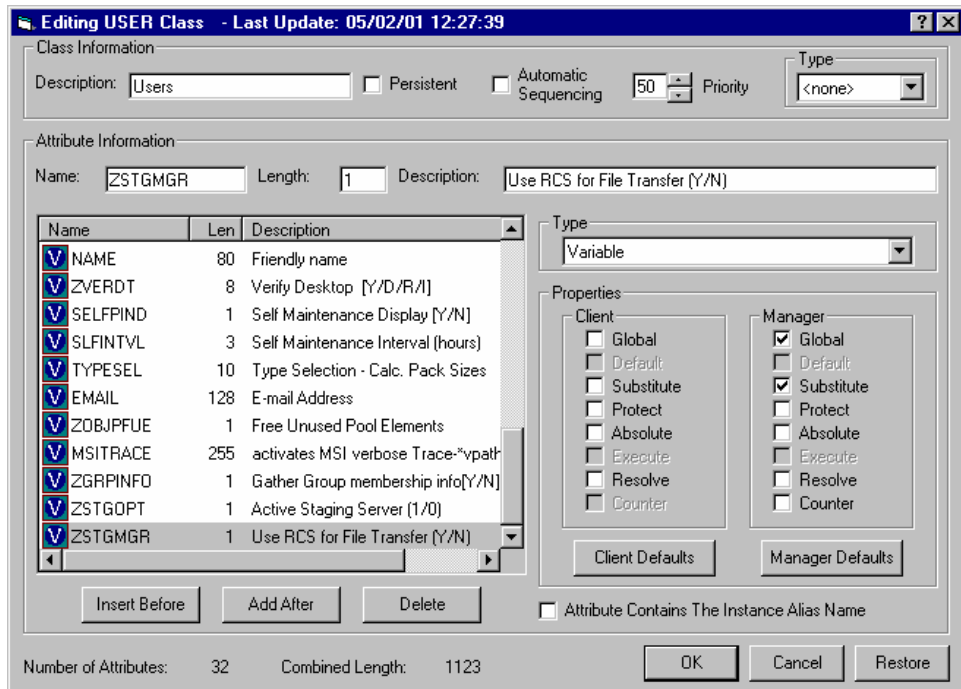


Figure 3.16 ~ Adding the ZSTGMGR attribute to the Users class.

6. Click **OK** to close the dialog box and save your changes.

Step 2: In the base instance of the USER class, set the value of ZSTGMGR to Y or N (as desired).

- A value of **Y** allows the client to go to the Radia Configuration Server if a Radia Staging Server is not available.
 - A value of **N** denies the client access to the Radia Configuration Server if a Radia Staging Server is not available.
1. In the Radia System Explorer, double-click the **PRIMARY** file, double-click the **POLICY** domain, double-click the **Users (USER)** class, and right-click **_BASE_INSTANCE_**. A shortcut menu opens.

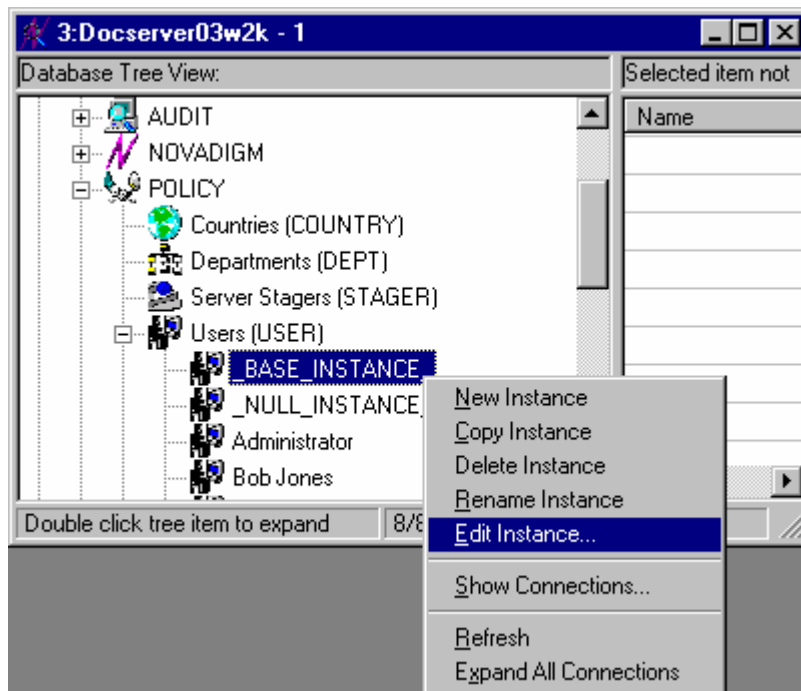


Figure 3.17 ~ The instance shortcut menu in the Radia System Explorer.

2. Select **Edit Instance** in the shortcut menu.
The **Editing Instance** dialog box opens.

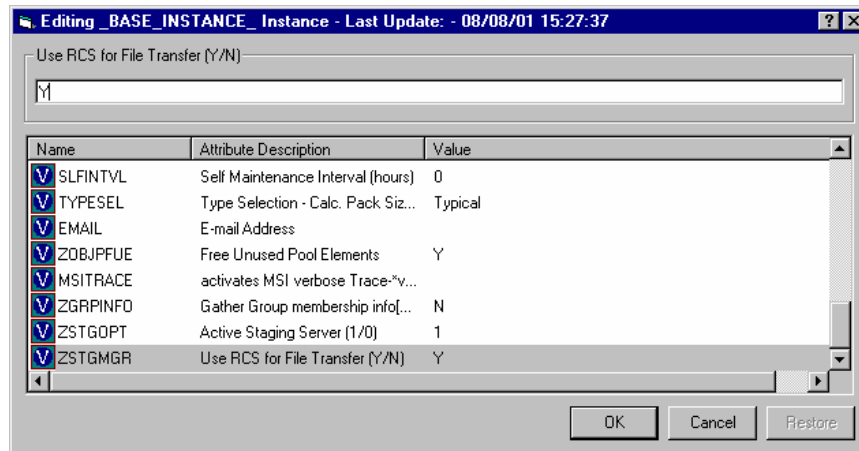


Figure 3.18 ~ The Editing _BASE_INSTANCE_ Instance dialog box.

3. Scroll to and select the **ZSTGMGR** attribute and type Y in the text field at the top of the dialog box.
4. Click **OK** to close the dialog box and save your changes.

POLICY.STAGER Class Modifications

Step 3: Change the STAGER class from a transient/percolated class to a persistent natural class.

1. In the Radia System Explorer double-click the **PRIMARY** file, double-click the **POLICY** domain, and right-click the **Server Stagers (STAGER)** class.
A shortcut menu opens.

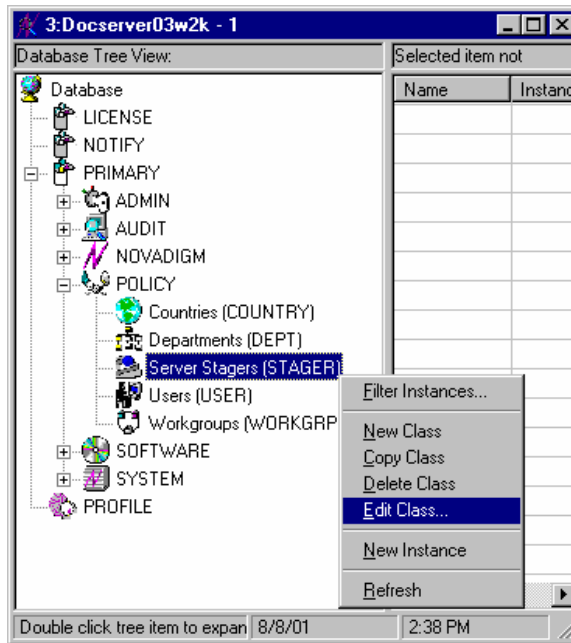


Figure 3.19 ~ The class shortcut menu in the Radia System Explorer.

2. Select **Edit Class** from the shortcut menu.
The **Editing STAGER Class** dialog box opens.

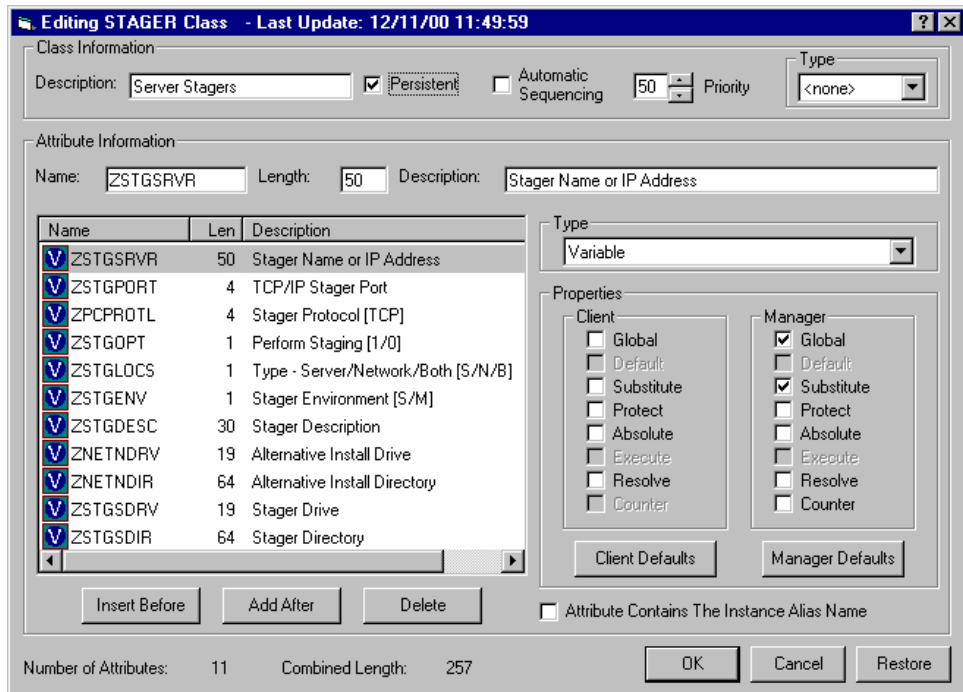


Figure 3.20 ~ The Editing STAGER Class dialog box.

3. In the **Class Information** group box, select the **Persistent** check box.
4. Click **OK** to close the dialog box and save your changes.

Step 4: Add a ZSTGPRI attribute to the STAGER class.

1. In the Radia System Explorer double-click the **PRIMARY** file, double-click the **POLICY** domain, and right-click the **Stagers (STAGER)** class.
A shortcut menu opens.

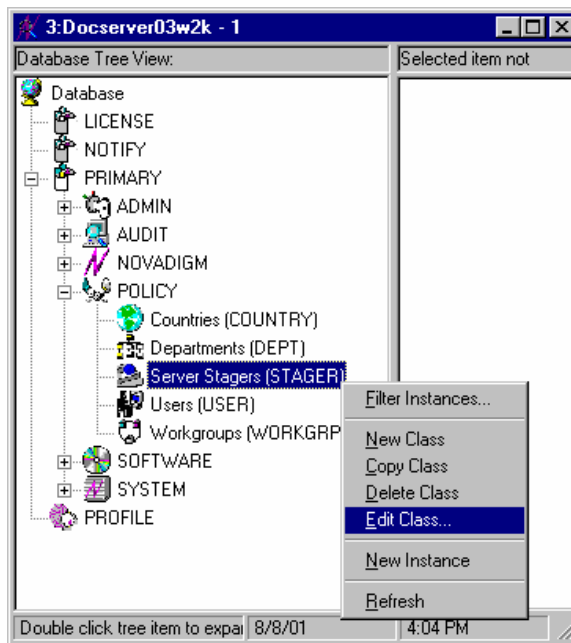


Figure 3.21 ~ The class shortcut menu in the Radia System Explorer.

2. Select **Edit Class** from the shortcut menu.
The **Editing Class** dialog box opens.

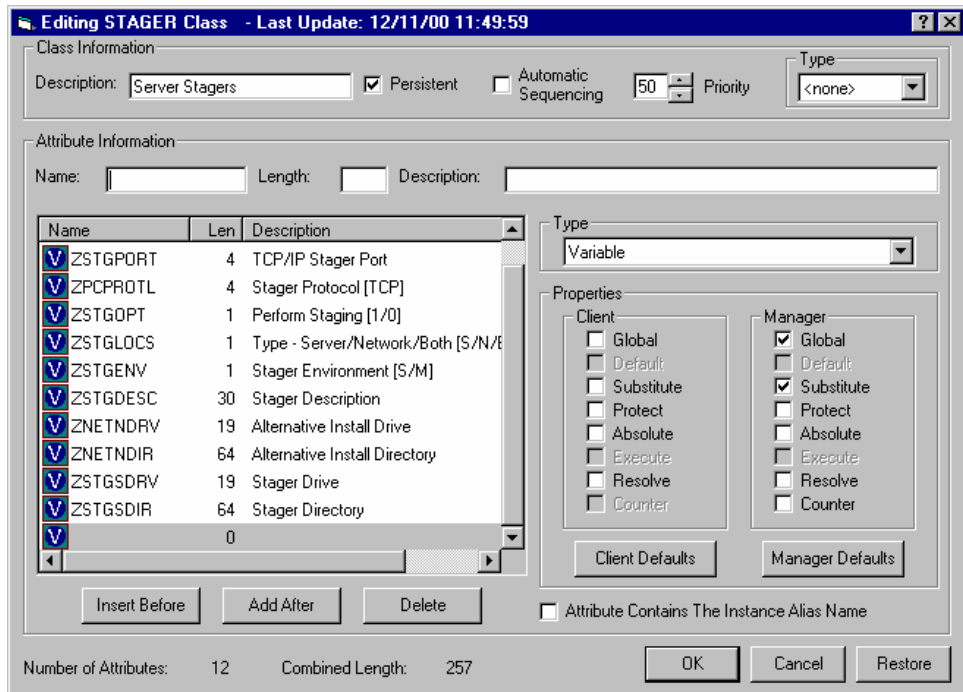


Figure 3.22 ~ The Editing STAGER Class dialog box.

3. In the scrolling list of attributes, scroll to any place where you would like to add the attribute.
4. Click **Insert Before** or **Insert After** to create a blank line and blank fields.
5. Fill in the attribute information as follows:
 - Name:** ZSTGPRI
 - Length:** 2
 - Description:** Stager Priority

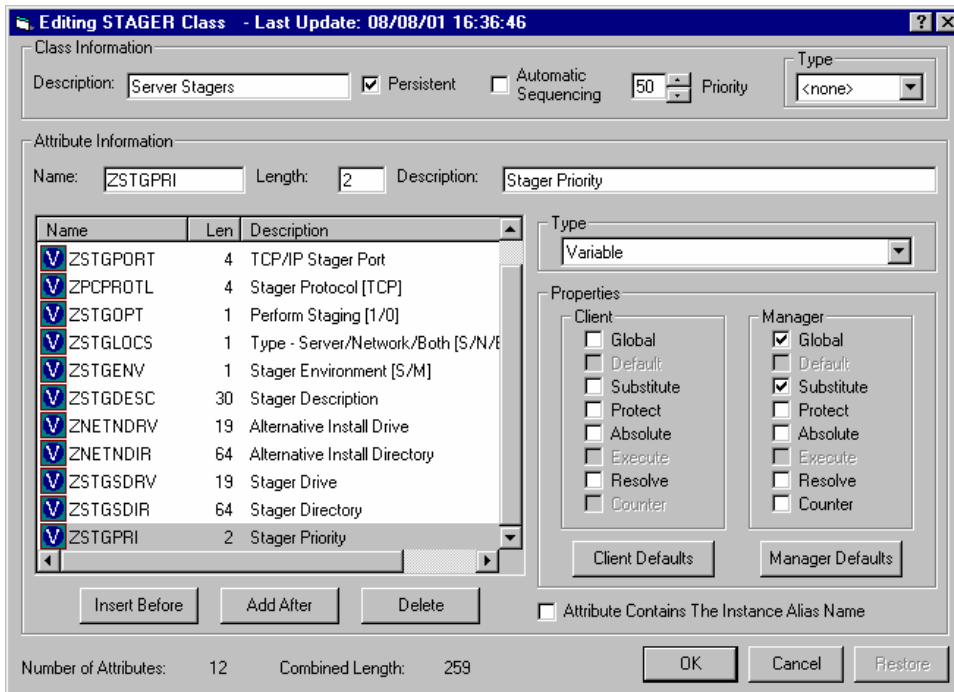


Figure 3.23 ~ Adding the ZSTGPRI attribute information.

6. Click **OK** to close the dialog box and save your changes.

Step 5: In the base instance of the STAGER class, set the value of ZSTGPRI to 50.

1. In the Radiia System Explorer, double-click the **PRIMARY** file, double-click the **POLICY** domain, double-click the **Stagers (STAGER)** class, and right-click **_BASE_INSTANCE_**. A shortcut menu opens.

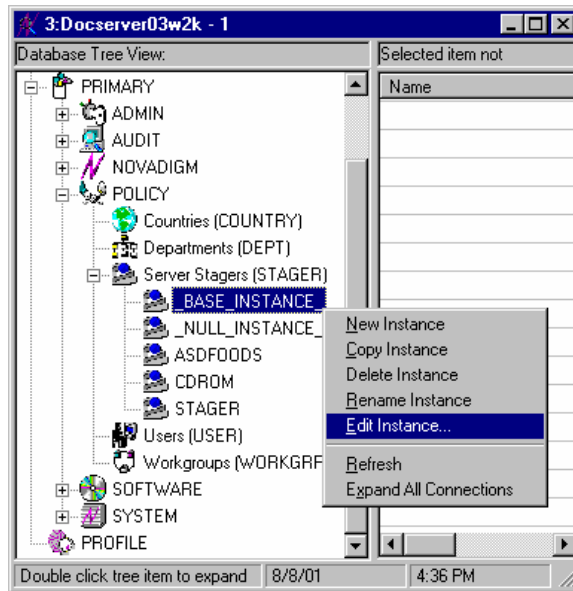


Figure 3.24 ~ The instance shortcut menu in the Radia System Explorer.

2. Select **Edit Instance** in the shortcut menu.
The **Editing Instance** dialog box opens.

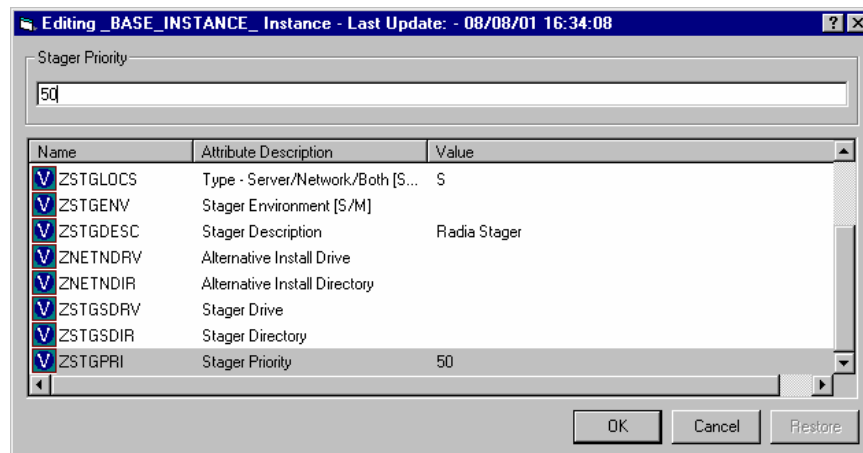


Figure 3.25 ~ The Editing _BASE_INSTANCE_ Instance dialog box.

3. Scroll to and select the **ZSTGPRI** attribute and type 50 in the text field at the top of the dialog box.
4. Click **OK** to close the dialog box and save your changes.

Co-Resident Radia Staging Server and Radia Configuration Server

A Radia Staging Server is considered co-resident if the Radia Staging Server is located on the same server as the Radia Configuration Server. This means that the Radia Staging Server can use the Radia Configuration Server Database's resource files. Therefore, there will be no need to copy files to a stager directory. The Radia Staging Server service performs the file transfer to the client instead of the Radia Configuration Server service.

To accomplish this:

- Use the Radia System Explorer to edit the STAGER instance in the Radia Database.
- Use the Radia Client Explorer to edit the computer's local Stager configuration object, ZSTGPARM.

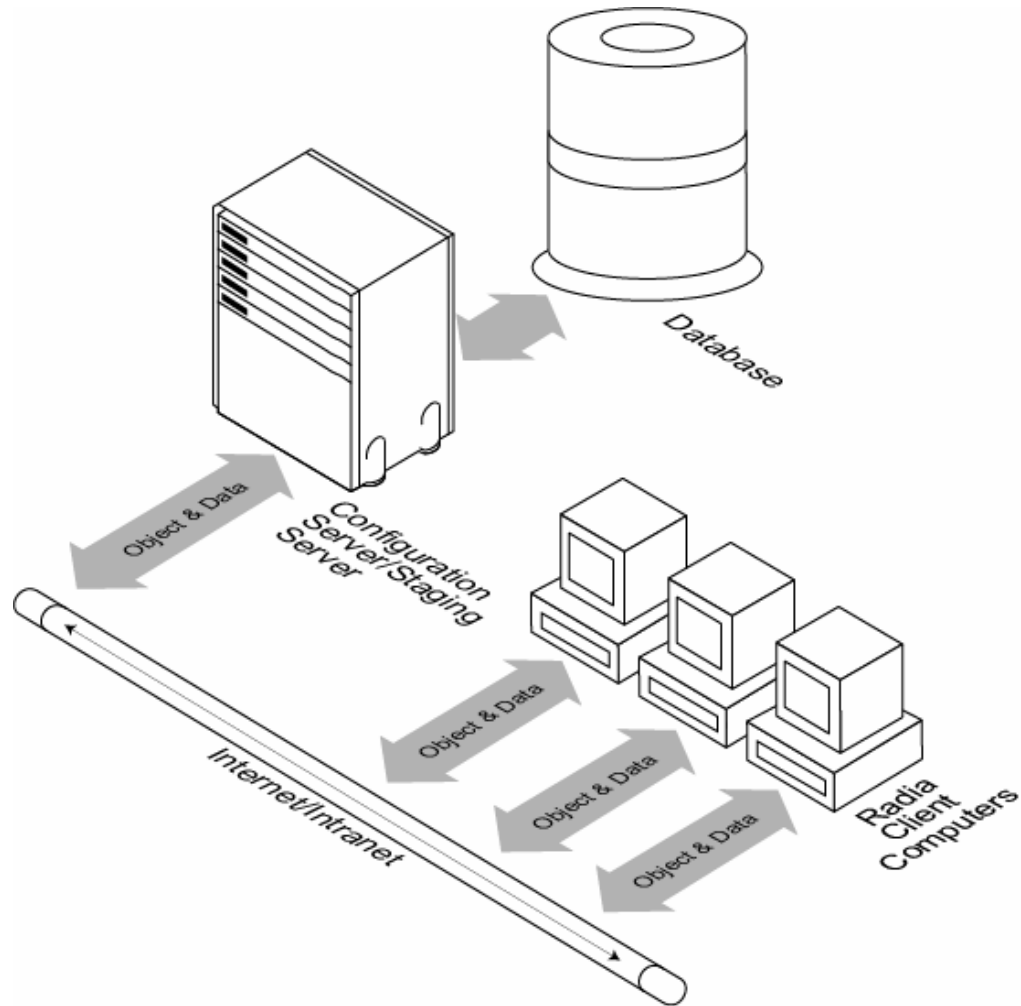


Figure 3.26 ~ Co-resident Radia Staging Server and Radia Configuration Server processing.

Modify the Stager Instance in the Database

Install the Radia Staging Server component on your Radia Configuration Server using the appropriate procedure from *Radia Server Staging Installation* on page 19.

1. Use the Radia System Explorer to create the STAGER instance for your Radia Configuration Server by using the procedure *To create a Radia Staging Server* instance on page 31.

2. Use the procedure *To edit a STAGER instance* on page 37 to change the ZSTGSDIR attribute to EDMDATA\&(ZTRANSRS.ZOBJDOMN)\&(ZTRANSRS.ZOBJCLAS). EDMDATA is a reference to the location on the Radia Configuration Server where the actual compressed data exist. EDMDATA specified in ZSTGSDIR in the *STAGER instance* is replaced with the value contained in ZEDMDATA in the *ZSTGPARM object* by the Radia Staging Server.

ZEDMDATA refers to the Radia Configuration Server Database only if you set ZSTGPARM.MGRDB to 1. If the Radia Configuration Server directory is C:\radiaCS, then the EDMDATA directory will be C:\radiaCS\db. This is the database repository for the Radia Configuration Server.

This substitution will use the ZTRANSRS object to tell the STAGER instance where to look for the compressed files on the Radia Configuration Server or the Radia Staging Server. The ZTRANSRS object holds the list of files that need to be transferred from the Radia Configuration Server. It will have as many instances as there will be files to transfer. For example, if there are 15 files to transfer there will be 15 instances in the ZTRANSRS object. The object also contains the location of the compressed files on the Radia Configuration Server.

Make any other changes needed to the Radia Configuration Server's Stager instance, such as ZSTGSDRV, ZSTGSDIR, ZSTGSRVR, and ZSTGPORT. See Table 2.2 on page 35 for more information. Connect the appropriate User, Workgroup, or Department instances to the Radia Configuration Server's STAGER instance using *To connect a STAGER instance to a Workgroups (Workgrp) instance* on page 41.

Modify the ZSTGPARM Object on the Radia Staging Server

In addition to the changes you made to the Radia Configuration Server Database, you will also need to change the ZSTGPARM object. This object is located on the Radia Staging Server, and is used to configure the Radia Staging Server locally. ZSTGPARM.EDM is located in the directory where the Radia Staging Server is installed. The default is C:\Program Files\Enterprise Desktop Manager. Use the Radia Client Explorer to make the following changes.

Editing ZSTGPARM

To edit ZSTGPARM

1. From the **Start** menu, select **Programs, Radia Administrator Workstation, Radia Client Explorer**.
2. Double-click **Enterprise Desktop Manager**.
3. Click the directory where the Radia Staging Server software is installed.

The ZSTGPARM object should appear in the list view as shown in Figure 3.27 on page 78.

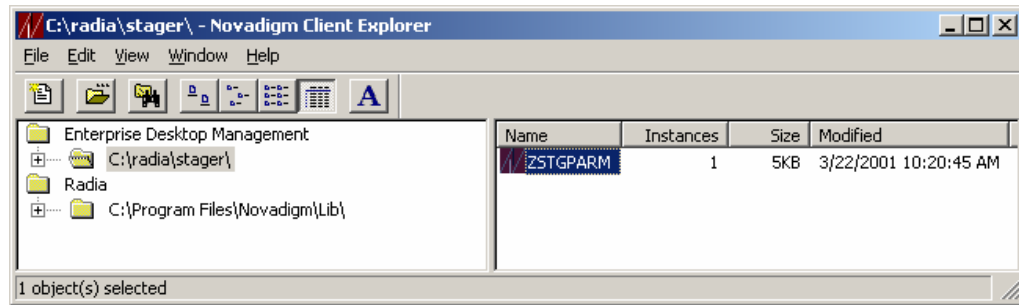


Figure 3.27 ~ Radia Client Explorer expanded to Radia Staging Server installation directory.

4. Double-click **ZSTGPARM**.
The ZSTGPARM object opens.

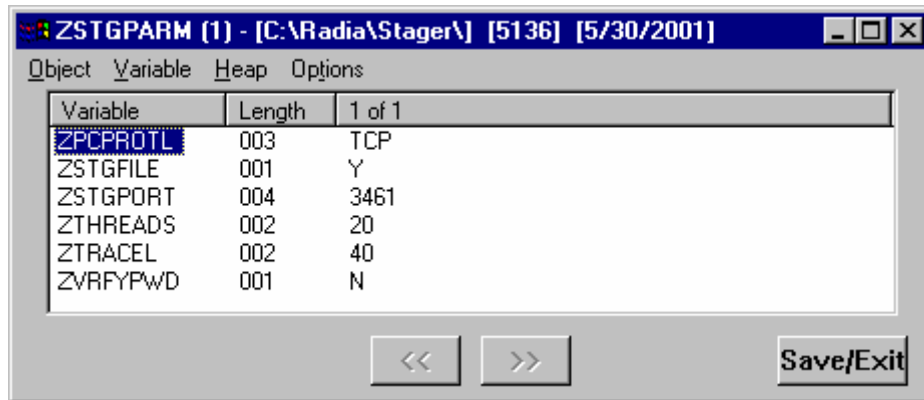


Figure 3.28 ~ ZSTGPARM object before editing.

5. From the **Variable** menu, select **Add**.

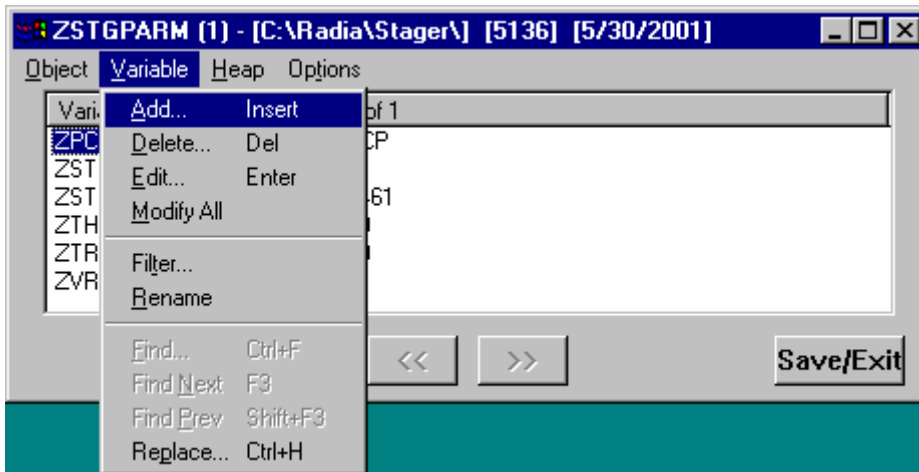


Figure 3.29 ~ The Variable menu in the Radia Client Explorer.

The **Add Variable to Object** dialog box opens.

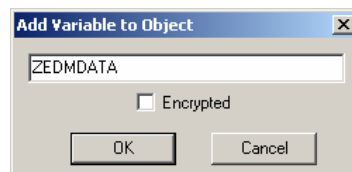


Figure 3.30 ~ Add the ZEDMDATA variable.

6. Type **ZEDMDATA**.
7. Click **OK**.

The **Change Variable** dialog box opens.

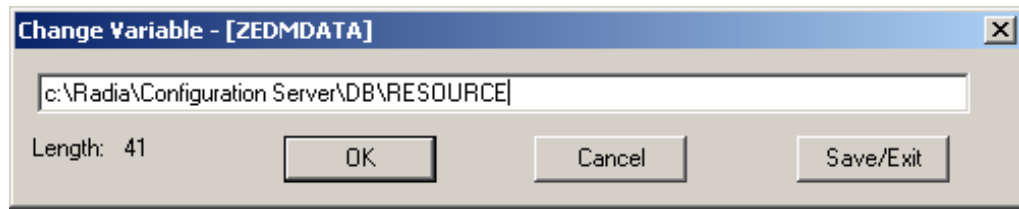


Figure 3.31 ~ Change variable for ZEDMDATA.

8. In the **Change Variable** dialog box, type the path of your RESOURCE directory on the Radia Configuration Server. The compressed package files are stored in the RESOURCE directory. If your Radia Configuration Server were located in **C:\Radia\Configuration Server**, then the resource path would be **C:\Radia\Configuration Server\DB\RESOURCE**. See Table 3.2 on page 81 for more information on the variables in ZSTGPARAM.
9. Click **OK**.
10. Add another variable called **ZMGRDB** with a value of **Y**.
11. Click **OK**.

The edited ZSTGPRAM object should now look like Figure 3.32 below.

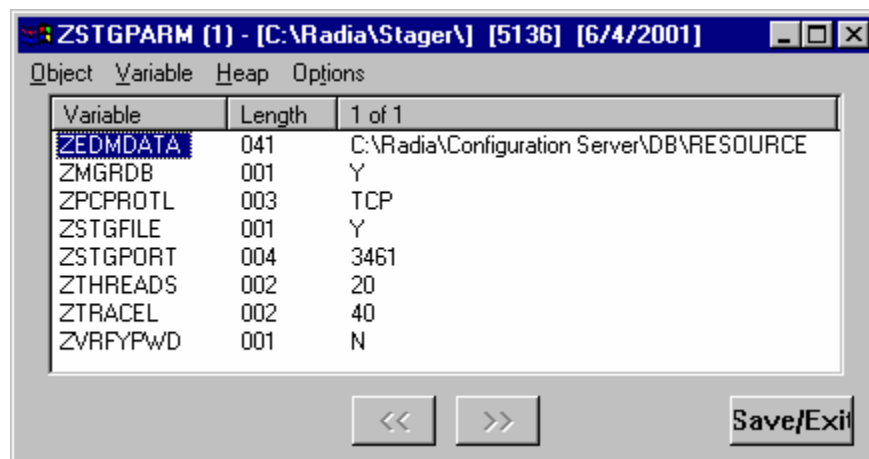


Figure 3.32 ~ Edited ZSTGPARAM object.

12. Stop and restart the **Radia Staging Server** service to make the changes take effect.

Run a test connection to the Radia Configuration Server. You should now receive files from the Radia Staging Server. There are two log files on your client named RADSTGR1.log and RADSTGR2.log. Examine these two logs to confirm that the client has received the files from the appropriate Radia Staging Server. You can also check the Radia Staging Server log, EDMSTG.SV.LOG located on the appropriate Radia Staging Server. See *Troubleshooting* on page 88 for more information on log files.

Note

You may want to set the **ZSTGFILE** variable to **N**. This will prevent client computers from sending any files back to the Radia Staging Server. Since the Radia Staging Server shares the Radia Configuration Server's RESOURCE directory, it is not necessary for the client to send any files to the Radia Staging Server.

Table 3.2 below describes the possible variables in ZSTGPARM.

Table 3.2 ~ Variables in the ZSTGPARM Object	
Variable (Default)	Description
ZPCPROTL (TCP)	The communications protocol that clients use to send requests to the Radia Staging Server.
ZSTGFILE (Y)	If ZSTGFILE=N, the client is prevented from supplying files to the Radia Staging Server. If ZSTGFILE=Y, the client is permitted to supply files to the Radia Staging Server to populate it.
ZSTGPORT (3461)	When ZPCPROTL=TCP, this is the port the Radia Staging Server listens on. The default is well-known port 3461.
ZTHREADS (20)	This is the maximum number of concurrent requests the Radia Staging Server will handle.
ZTRACEL (40)	The Radia Staging Server produces a log file. This variable contains a value (0-999) indicating the level of detail that the Radia Staging Server records in the log file. Lower numbers indicate that less detail will be recorded.
ZVRFYPWD (N)	Specify if you want to verify a stager password.
ZEDMDATA	ZEDMDATA is a pre-defined stager location, which is not necessarily on the Radia Configuration Server. Add this variable if the Radia Staging Server will reside on the same computer as the Radia Configuration Server. If ZMGRDB=N, type the drive and path to the location on the Radia Staging Server where data are staged. In this case, the Radia Staging Server serves files from a drive and path within the addressable file system of the Radia Staging Server. If ZMGRDB=Y, type the drive and path to the RESOURCE directory in the Radia Configuration Server Database. In this case, the Radia Staging Server serves files directly from the Radia Database.

Table 3.2 ~ Variables in the ZSTGPARM Object

Variable (Default)	Description
ZMGRDB	<p>Add this variable if the Radia Staging Server will reside on the same computer as the Radia Configuration Server.</p> <p>If ZMGRDB=N, the Radia Staging Server serves files from a drive and path on the Radia Staging Server. Specify the drive and path to the data storage location in the ZEDMDATA variable.</p> <p>If ZMGRDB=Y, the Radia Staging Server serves files directly from the Database. Specify the drive and path to the Database's RESOURCE directory location in the ZEDMDATA variable. Either the Radia Staging Server must be running on the same computer as the Radia Configuration Server, or the Radia Configuration Server Database must be accessible from a network share. The Radia Database must reside within the file system of the Radia Staging Server.</p>

Windows Installer Applications

If using the Radia Staging Server to install Windows Installer Applications, create an Administrative Installation Point (AIP) on your Radia Staging Server. To do this, you must have already promoted the AIP for the Windows Installer application and created a package. See the *Radia Application Manager Guide* and the *Radia Publisher Guide* for more information. Before proceeding, make sure that you have already created a STAGER instance.

Creating an AIP

To create an AIP on the Radia Staging Server

1. Create a service for the AIP, *not* the package, as specified in the *Radia Publisher Guide*. Below is an example of the Orca Database Editor's AIP package.

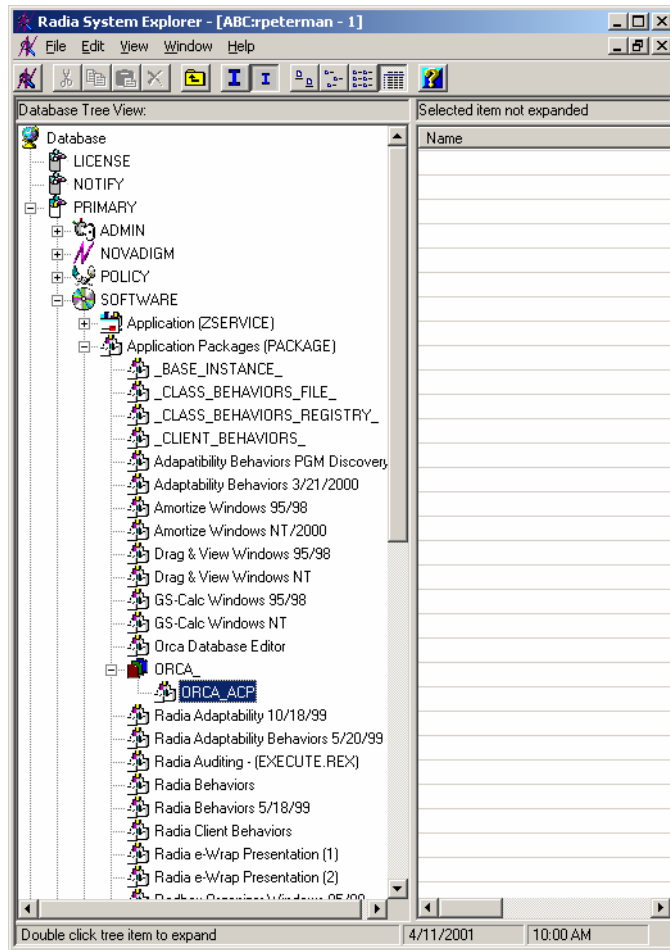


Figure 3.33 ~ AIP package for Orca Database Editor.

Caution

When creating the service for the AIP, *do not* check the **Populate Windows Installer Methods** check box, since you are not actually installing the application.

2. Create a user instance that you will use to pre-populate the Radia Staging Server. Connect the AIP service to the USER instance. Connect the STAGER instance to the same USER instance.

Note

Your user instance should have a connection to the Application (ZSERVICE) instance (in the SOFTWARE) for the AIP, and a connection to the STAGER instance.

3. If the Radia Staging Server is located on the same machine as the Radia Configuration Server, use the Radia Client Explorer to edit the STAGER instance and the ZSTGPARM.EDM object. See *Co-Resident Radia Staging Server and Radia Configuration Server* on page 75 for instructions on how to do this. In this case, you will *not* need to pre-populate the server as stated in step 4 below.
4. Use the PRELOAD parameter with RADSKMAN as specified in *Pre-populating the Radia Staging Server* on page 48 to load the AIP on the Radia Staging Server.

Preloading Windows Installer Enabled Applications

There are two packages associated with each Windows Installer enabled application, the MSI package that includes the list of MSI Features, and the Administrator Control Point (ACP) package. The (ACP) package instance contains all of the file resources that are required by a Windows Installer product. (For more information on publishing Windows Installer-Enabled applications, see the *Radia Application Manager Guide* or the *Radia Software Manager Guide*.) If you are using Radia Proxy Servers or Radia Staging Servers, you will need to deploy the ACP package to these two types of servers while installing only the MSI package on the client computer. There are three models for doing this:

- Create separate Application (ZSERVICE) instances for the MSI package and the ACP Package. Deploy the MSI Package to the client computers and the ACP Package to the Radia Staging Server and Radia Proxy Servers.
- Create separate Application (ZSERVICE) instances for the MSI and ACP packages. When creating the ACP packages, name them all with a suffix of `_ACP`. In a connection instance, type `SOFTWARE.PACKAGE.*_ACP`. This will connect all ACP packages to this one service. Deploy this service to your Radia Staging Servers and Radia Proxy servers only.

Caution

Be sure that you have adequate disk space on your Radia Proxy Servers and Radia Staging Servers before connecting *all* of the ACP packages to this service. Depending on your network condition, loading this data may take an extended period of time.

- Create one Application (ZSERVICE) instance for both the MSI and ACP packages. In the procedure below, a ZSTOP expression will be placed on the ACP package to prevent the client computers from downloading the ACP package. Radia Staging Servers and Radia Proxy Servers ignore expressions, and will install the ACP package.

To enable an ACP package for preloading only

1. Use Radia System Explorer to navigate to the ACP package that you want to preload.
2. Right-click on the ACP package and choose Edit Instance from the shortcut menu.
3. Click **ZSTOP000 Stop Resolution (000)** and type a value of **1**.

Typing a value of **1** will prevent client computers from resolving the ACP package, but will allow the Radia Staging Server or Radia Proxy Server to preload the ACP package.

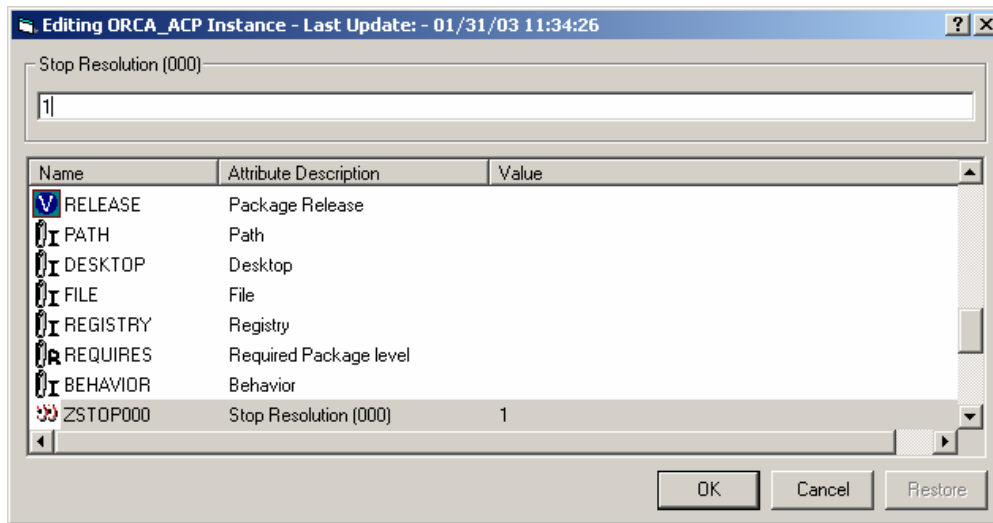


Figure 3.34 ~ Set the ZSTOP000 to 1.

4. Click **OK**.
5. Click **Yes** to confirm the change.
6. Connect the ACP package and the MSI package to the same service.

The Radia MSI Redirector Service

The Radia MSI Redirector Service is a required component for publishing and managing Windows Installer-enabled applications that use the standard RadiaMSI method. It is installed automatically on the client computer when you install the Radia Application Manager or Radia Software Manager. The Radia MSI Redirector acts as a server and a client, supplying information to Windows Installer, and requesting the required file resources from a Radia Configuration Server, Radia Proxy Server, or Radia Staging Server.

The Radia MSI Redirector Service runs in the system context on Windows NT, Windows 2000, and Windows XP computers. On Windows 95 and 98 computers, an icon to run the Redirector executable is added to the Startup group for all users, ensuring that it is running in the background after every system start or restart.

By default, the Radia MSI Redirector listens for HTTP communication requests on port 3460. When management of a Windows Installer-enabled application is invoked during the Radia Client Connect, the Radia Client calls Windows Installer with parameters that tell Windows Installer to obtain its files from *127.0.0.1:3460*, the Radia MSI Redirector on the client computer. Radia MSI Redirector can use TCP or TCPS to the Radia Configuration Server, HTTP and HTTPS to the Radia Proxy Server, and only TCP to the Radia Staging Server.

Windows Installer requests files from the Radia MSI Redirector by file name. Then, the Radia MSI Redirector fields each request and uses the application's index file (MSIACP.IDX) to retrieve the requested file's object ID in the Radia Database. The Radia MSI Redirector uses the file's object ID to request it from a Radia server. The Radia server can be a Radia Configuration Server, Radia Staging Server, Radia Proxy Server, or a location in the client computer's file system identified by drive and directory path (i.e., a mapped network drive or a local CD-ROM drive). The Radia server supplies the file to the Radia MSI Redirector, which then passes it to the Windows Installer.

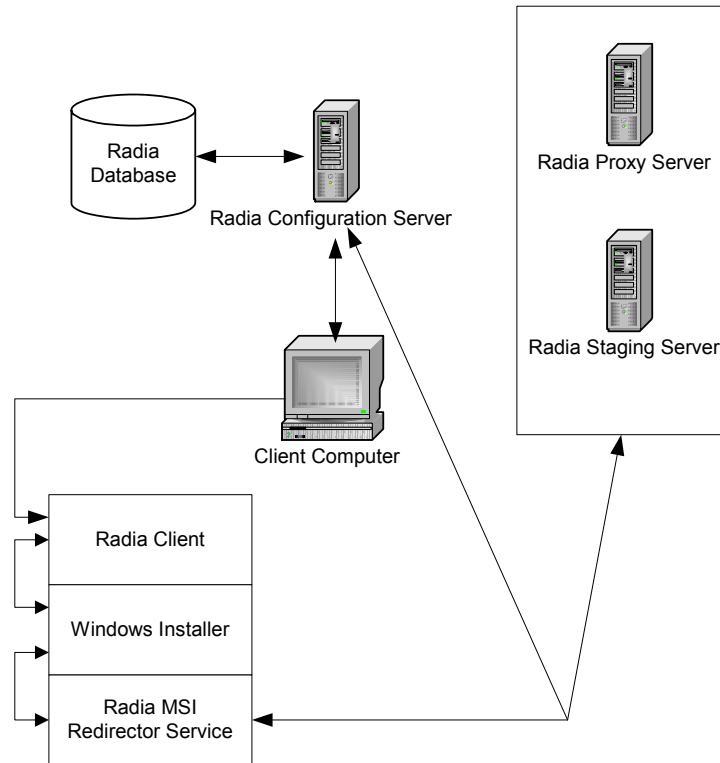


Figure 3.35 ~ The Radia MSI Redirector Service fields request from Windows Installer.

In order for the Radia MSI Redirector Service to obtain files from a location other than the Radia Configuration Server, an instance of the `POLICY.STAGER` class must be connected to the user's `POLICY.USER` class instance. The `POLICY.STAGER` instance defines the non-Radia Configuration Server locations where the Radia MSI Redirector Service can obtain the Windows Installer-enabled application's resources. If a Radia Proxy Server or Radia Staging Server is not included in the resolved model for a user, the Radia MSI Redirector will only obtain files from the Radia Configuration Server.

Troubleshooting

When the client installs subscribed application software from the Radia Staging Server, the Radia Staging Requestor displays progress messages to the subscriber as it retrieves data from the Radia Staging Server and as it writes data to the Radia Staging Server. If these messages fail to appear, or if they do not properly indicate the expected volume of data to be transmitted between the client and the Radia Staging Server, you will need to investigate why staging is not successful.

There are log files for the clients as well as the Radia Staging Server that can help you troubleshoot issues. The following is a log for the Radia Client computers.

RADSTGR1.LOG and RADSTGR2.LOG.

RADSTGR1.LOG is recorded when the client requests files from the Radia Staging Server while RADSTGR2.LOG is recorded when the client sends files to the stager (when the stager requests files from the client). These are plain text files, and they can be inspected with any text editor. By default on Radia Client Windows systems, these files are located in the **<System Drive>:\Program Files\Novadigm\Log directory**.

On the Radia Staging Server, refer to the EDMSTGSV.LOG file in the Radia Staging Server directory. EDMSTGSV.LOG records the events that have taken place since the Radia Staging Server service was last started. EDMSTGSV.LOG is a plain text file that can be inspected with any text editor.

Summary

- You can pre-populate the Radia Staging Server, set a client computer's CD-ROM drive as a staging location, locate the Radia Staging Server on a Radia Configuration Server, or dynamically choose between a number of Radia Staging Servers or the Radia Configuration Server.
- You can create an Administrative Installation Point for a Windows Installer application on a Radia Staging Server.
- Use the logs on the client and the Radia Staging Server to troubleshoot a Radia Staging Server implementation.

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.

Application Manager

See *Radia Application Manager*.

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 Radia Configuration Server and client computer. Each attribute defined in a class template has a set of Radia Configuration Server properties and a set of client properties.

client computer

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

Client Explorer

See *Radia Client Explorer*.

co-resident stager

A co-resident stager resides on the same computer as the Radia Configuration Server.

Configuration Server

See *Radia Configuration Server*.

Database

See *Radia Database*.

Dual Mode

The **dual mode** installation program installs both Radia Clients (the Radia Application Manager and Radia Software Manager).

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.

Manager

See *Radia Configuration Server*.

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 Radia Configuration Server methods run on the Radia Configuration Server computer.

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 Radia Client Explorer to view, edit, or create objects.

pre-population

Pre-population is the process of loading the application to be distributed before any clients try to install the software.

Radia Application Manager

The **Radia Application Manager** (radia_am.exe) is the Radia Client that manages mandatory services. The Radia administrator uses the Radia System Explorer to specify the services that the Radia Application Manager manages on the subscriber's computer. No user interface is available.

Radia Client Explorer

The **Radia Client Explorer** can be used to view or edit local objects, or create new objects. You can also use the Radia 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).

Radia Configuration Server

Also called *Active Component Server or Manager*.

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

Radia Database

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

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

Use the Radia System Explorer to manipulate the Radia Configuration Server Database.

Radia Software Manager

The **Radia Software Manager** (radia_sm.exe) is the Radia Client used to manage optional services. The Radia administrator uses the Radia System Explorer to specify the services that are available to the subscriber.

The subscriber installs and manages data that are available from the Radia Software Manager user interface.

Radia Staging Requestor

The **Radia Staging Requestor** resides on the client computer, and communicates with the Radia Staging Server component to retrieve data from, and supply data to, the Radia Staging Server.

Radia Staging Server

The **Radia Staging Server** is used to store and distribute data required for deploying applications on a server other than the Radia Configuration Server.

Radia System Explorer

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

RADSKMAN

RADSKMAN, a Radia executable that resides on the client, checks the status of all services to see what actions need to take place including updating, installing, and deleting applications, and is designed to process mandatory applications.

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.

REXX

Radia **REXX** is an interpreted language that provides a simple way to customize various aspects of Radia processing.

service

Also called a software application, application, or software.

A **service** is a group of related packages.

Software Manager

See *Radia Software Manager*.

STAGER instance

The **STAGER** instance in the Radia Database contains information necessary for the client to connect to the Radia Staging Server.

Staging Requestor

See *Radia Staging Requestor*.

Staging Server

See *Radia Staging Server*.

subscriber

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

System Explorer

See *Radia System Explorer*.

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.

ZCONFIG

The **ZCONFIG** object contains information about the client computer's hardware.

ZHWCDDR

ZHWCDDR is an attribute in the **ZCONFIG** object, and it contains the drive letter of the client computer's CD-ROM drive.

ZSTGPARM

The **ZSTGPARM** object is located on the Radia Staging Server, and is used to configure the Radia Staging Server locally.

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