

# HP OpenView OS Manager Using Radia

for HP Ignite, Solaris JumpStart, SuSE AutoYaST, and Red Hat Linux Kickstart

Software Version: 2.1

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## User's Guide



Document Release Date: April 2006

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## Documentation Updates

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

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Table 1 indicates changes made to this document since the last released edition.

**Table 1 Document Changes**

Chapter	Changes
All	The OS Manager for UNIX now supports SuSE YaST.
Chapter 2	Page 21, Installing the OS Manager Server for UNIX, includes additional information about Solaris and Linux installations
Chapter 2	Page 40, Using Ignite Images, Ignite imaging is now supported
Chapter 2	Page 42, Configuring DHCP for use with ROM, includes additional Solaris configuration information
Chapter 2	Page 47, Configuring SuSE AutoYaST, new section that discusses support for SuSE YaST
Chapter 3	Page 60, Publishing Configuration Information, added steps to the publishing process

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- Submit and track progress on support cases
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- Review information about available services
- Enter discussions with other software customers
- Research and register for software training

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To find more information about access levels, go to:

**[http://www.hp.com/managementsoftware/access\\_level](http://www.hp.com/managementsoftware/access_level)**

To register for an HP Passport ID, go to:

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



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# 1 Introduction

At the end of this chapter, you will:

- Know what the OS Manager for UNIX is.
- Be familiar with the system requirements.
- Understand the product architecture for the OS Manager for UNIX.

# About the OS Manager

The OS Manager supports HP Ignite, Red Hat Linux Kickstart, SuSE AutoYaST and Solaris JumpStart, providing you with a simple, automated way to install operating systems on your UNIX-related hardware. Using this product, you can build your operating system without having to script configuration files.

## Benefits of the OS Manager:

- You can generate the configuration files for deployment in real-time, based on policy.
- You can automate and repeat the process, which reduces the resources needed to prepare, deploy, and debug operating system deployment.
- Fully integrated component of the Radia Management Suite, which reduces the learning curve for your administrators.
- Improved speed and reliability of OS deployment with automated policy-based management.
- Increased service levels by maintaining operating systems in the right configuration through desired-state automation.
- Reduced IT costs by simplifying and streamlining the OS management process across multiple platforms.

## Prerequisites

The OS Manager for UNIX supports:

- HP-UX versions as determined by HP Ignite
- Solaris versions as determined by Solaris JumpStart
- Red Hat Linux versions as determined by Red Hat Linux Kickstart
- SuSE versions as determined by SuSE AutoYaST

## Terminology

You should be familiar with the following terms that pertain to OS management.

#### configuration file

A text file used to define the details of the UNIX installation and its configuration. Definitions in this file include the target machine's network settings (IP address, hostname, DNS settings), the disk layout and partitioning, and system software and drivers to be installed.

#### service OS

A simple standard operating system installation that is deployed to the target machine during the boot process to collect information.

#### software lists

A group of software packages, to be assigned to an operating system image, that share the same installation settings.

#### target machine

A machine on which you want to install a new operating system.

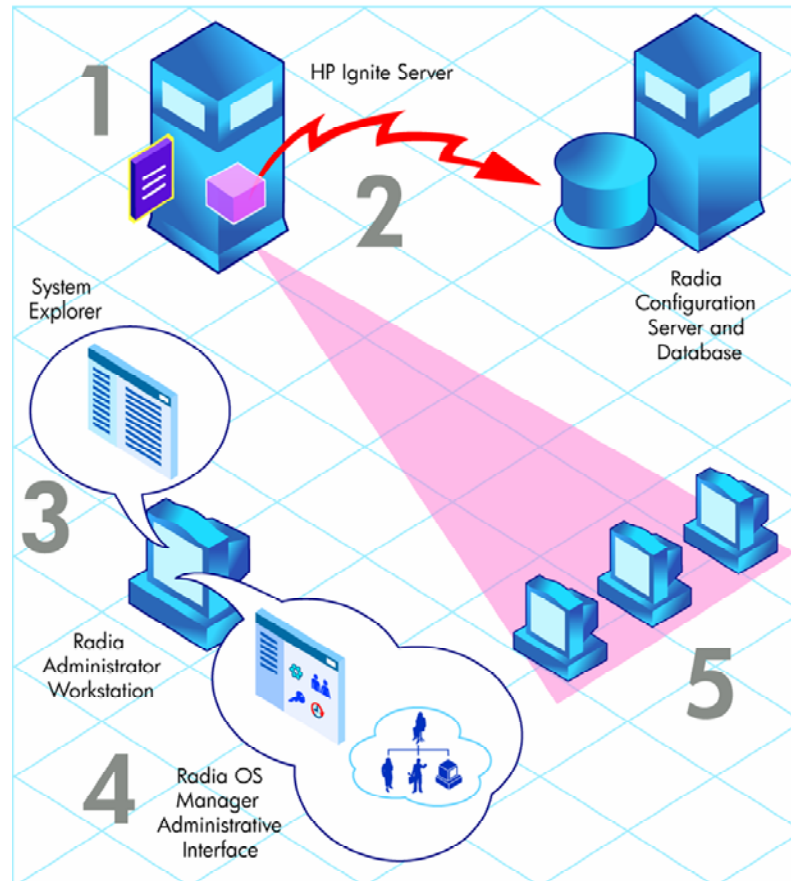
#### template file

A text file containing a blueprint for a section of a UNIX configuration file. The template is used as a guideline for putting configuration data into the correct structure when the Ignite configuration file is being created.

## Using the OS Manager for UNIX

Below is a simple, high-level description of how you will use the OS Manager to configure your UNIX operating system deployment to your target machines.

**Figure 1 OS Manager for UNIX (HP Ignite example scenario)**



- 1 Define the OS configuration files as you have in the past.
- 2 Use the ROMS UNIX Configuration File Publisher to generate package instances for your configuration files in the Radia Database.
- 3 Use the System Explorer to view the newly created instances and to prepare software lists as needed.
- 4 Use the OS Manager Administrative Interface to define policy in preparation for deployment to your target machines.
- 5 Follow the usual procedures for deployment to your target machines, and when finished, use the OS Manager Administrative Interface to review the results.

# About the Product Architecture

As you can see in the topic above, several components are involved in preparing and then deploying operating systems to your target machines. This section describes these components as well as the servers necessary for deploying your operating systems to target machines. The architecture can be divided into two areas; preparation and deployment.

## About the Preparation Architecture

The preparation architecture consists of several tools used to prepare your configuration files, publish them to the Radia Database, prepare them for distribution, and define policy.

### ROMS UNIX Configuration File Publisher

Use the ROMS UNIX Configuration File Publisher to publish a package to the Radia Database that contains information pulled from the original UNIX client configuration file.

### System Explorer

Use the System Explorer to perform administrative tasks.

### OS Manager Administrative Tasks

The OS Manager Server interfaces with the Management Portal to provide a graphical user interface for performing OS administrative tasks.

For general information on how to use the Management Portal, see the *Management Portal Guide*. For information about the ROM-specific tasks, see the *OS Manager Guide for Windows*.

## About the Deployment Architecture

The OS Manager deployment architecture involves a set of servers designed to manage and deploy operating systems to a set of target machines based on pre-defined criteria. During deployment, the following server components are used:

- **HP-UX Ignite, Linux Kickstart, SuSE AutoYaST, Solaris JumpStart server**
  - **OS Manager Server for UNIX**  
The OS Manager Server for UNIX sends requests for desired state information on behalf of the target machines to the Configuration Server.
  - **Configuration Server**  
The Configuration Server manages the policy information and configuration files for OS Manager. Refer to the *Configuration Server Guide* on the HP OpenView support web site for more information. The Radia Database must be updated, as described in this document, to accommodate OS Manager.
  - **Management Portal**  
The Management Portal stores the information about the devices in your environment in a single location that can be shared by all of the components.
- ▶ The Management Portal is a component of the Radia Integration Server, but it must be run under its own dedicated Radia Integration Server. We suggest that you install the Management Portal on a different machine than the one that houses OS Manager Server for UNIX.

## About the Target Machines

Operating systems are deployed to a set of target machines based on a set of criteria. These target machines should include:

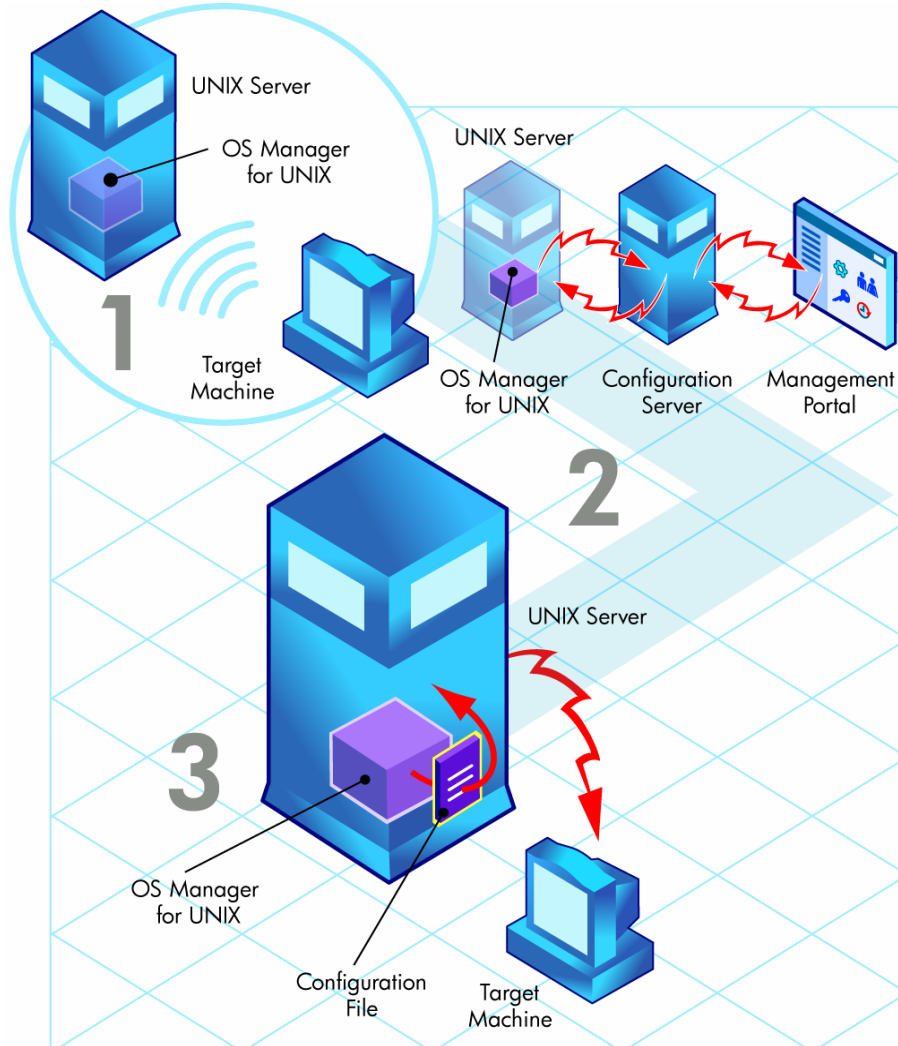
- Hardware requirements as required for HP-UX Ignite, Red Hat Kickstart, SuSE AutoYaST, or Solaris JumpStart



## Flow of an Operating System Installation

An operating system installation consists of the three primary steps shown in Figure 2 below.

**Figure 2** Operating system installation process flow



- 1 A network boot is initiated on the target machine.

The UNIX server (Ignite, Kickstart, AutoYaST, or JumpStart) sends pre-installation scripts to the client. These scripts comprise standard functionality to collect basic system and hardware information, as well as a custom Radia boot control script.

- 2 The Radia boot control script initiates contact with the OS Manager Server for UNIX via http and requests generation of the appropriate configuration file.
  - The OS Manager Server for UNIX then connects to a Configuration Server to resolve policy on behalf of the requesting target machine, also sending the system and hardware information collected by the UNIX server.
  - The Configuration Server resolves the policy for the target machine based on different parts of the target's system and hardware information (based on collected information from the Management Portal) resulting in a set of persistent objects which, as a whole, define all information necessary to generate a (Ignite, Kickstart, AutoYaST or Jumpstart) configuration file.
- 3 The script reboots the target machine and the configuration file created by the ROMS server is used.

---

## 2 Preparing the UNIX Environment

At the end of this chapter, you will:

- Be able to prepare your environment so you can use the OS Manager for UNIX.

# Requirements

## Before Installing the OS Manager for UNIX

Before incorporating Radia into your environment, be sure to test your specific native operating system installation configuration (Ignite, Kickstart, AutoYaST, or JumpStart) by creating a configuration file and deploying an operating system into your environment. This will allow you to ensure your configuration and procedures for operating system installation are working properly before you introduce the OS Manager for UNIX into your environment.

Refer to the specific operating system administration guide for more information about installing and configuring Ignite, Kickstart, AutoYaST, or JumpStart, respectively.

- ▶ Make sure your Ignite server is set up to use `instl_bootd` on port 67/68. See *Configure Ignite Server* to run `instl_bootd` instead of `bootpd` on page 39 for details.

## Server Requirements

- An Ignite, Kickstart, AutoYaST or JumpStart server configured for use with the OS Manager for UNIX.
- OS Manager Server for UNIX.
- Version 4.5.4 SP 5 or higher of the Configuration Server for Windows.

- ▶ To check the version of your Configuration Server, go to the `bin` directory and open `version.nvd`.

- Version 4.1 or higher of the Radia Database.

- ▶ To check the version of your Radia Database, use the System Explorer to view the `PRIMARY.SYSTEM.DBVER` class. The `DBVER` attribute specifies the current version of your database. Refer to the *Database Reference Manual*.

- Updates to the Radia Database:
  - Updates as per the *OS Manager Guide for Windows*.

- Import included with the product media which adds the OSIGNITE, OSKICK, OSYAST, or OSJUMP domains.
- Modification to the SYSTEM.ZMETHOD as described in this document.
- Management Portal 2.1 for Windows.
- Administrator Workstation.
- OS Manager UNIX Configuration File Publisher.

## Target Machine Requirements

- Target machines must meet any hardware requirements as per Ignite, Kickstart, AutoYaST, or JumpStart.

## Installing the OS Manager Server for UNIX

When you install the OS Manager Server for UNIX, the necessary interface for the Management Portal is installed

## Mounting the CD for HP-UX Environments

The OS Manager Server CD-ROM must be mounted using `pfs_mount` on HP-UX platforms because the CD-ROM is created using the Rock Ridge format. The HP-UX standard mount procedure is incompatible with the Rock Ridge file system type, so HP has made available the Portable File System (PFS) package that allows their workstations to recognize this format. Specific instructions follow.

To mount the CD-ROM (HP-UX only)

- 1 Log in as root, and start the daemons, `pfs_mountd` and `pfsd`. For example:

```
nohup /usr/sbin/pfs_mountd &
nohup /usr/sbin/pfsd &
```

- 2 Insert the CD-ROM and mount it by typing:

```
/usr/sbin/pfs_mount /dev/cdrom /mnt/cdrom
```

(Where `/dev/cdrom` is your physical CD-ROM device and `/mnt/cdrom` is your mount point)

To unmount the CD-ROM (HP-UX only)

- To un-mount, type:  
`/usr/sbin/pfs_umount /mnt/cdrom`



For more information, consult your local UNIX systems administrator and UNIX man pages.

## Installing the OS Manager Server for UNIX



The OS Manager Server for UNIX must be installed as root.

To install the OS Manager Server

- 1 If running, stop the Radia Integration Server service.
- 2 From the OS Manager CD-ROM, go to `/os_manager_server/<platform>`.
- 3 Type `./install`.

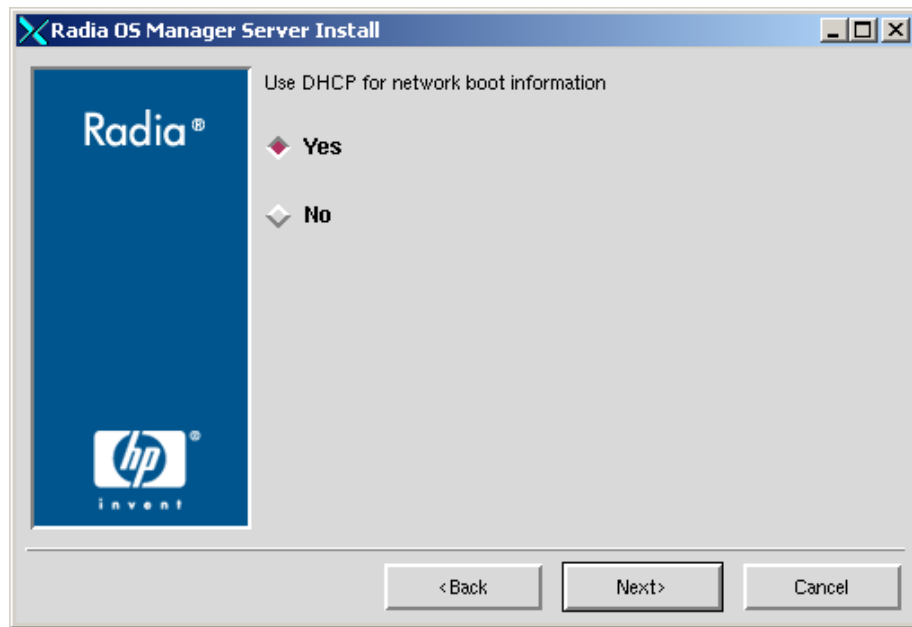
The Welcome to OS Manager Server Setup window opens.

- 4 Click **Next**.

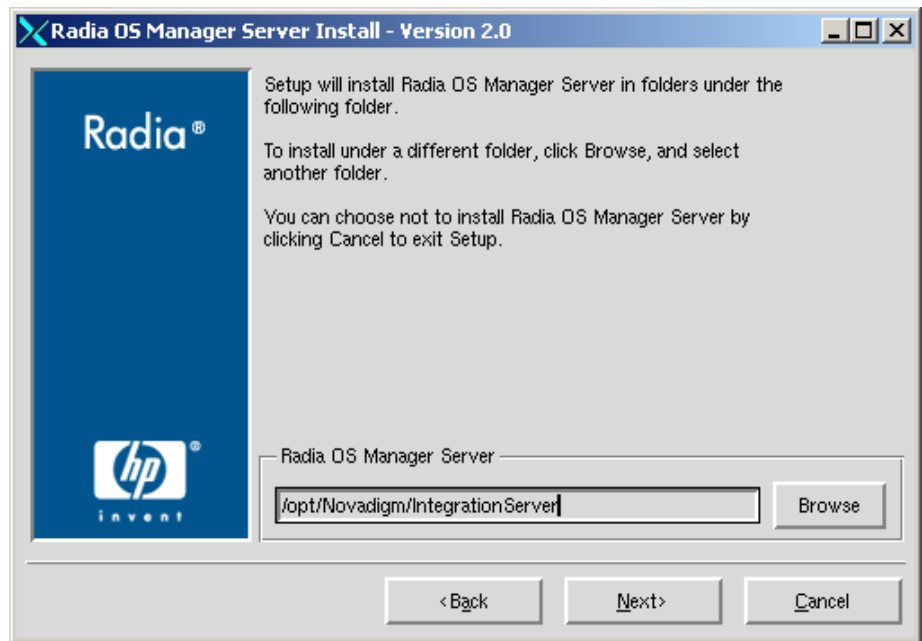
The HP End-User License Agreement window opens.

- 5 Review the HP Software License Terms and click **Accept**.

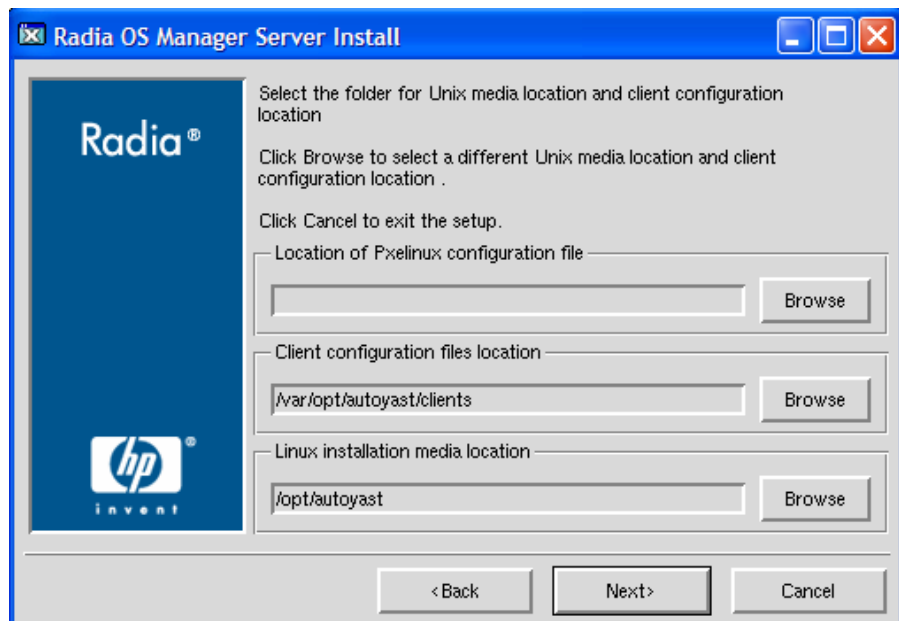
If you are installing to a Solaris machine, the following additional window will open.



- 6 If you'd like to use DHCP for network boot information, select **Yes**.  
(Solaris only).
- 7 Click **Next** to continue.  
The installation location window opens.



- 8 Select the folder where you want to install the OS Manager Server.
- 9 Click **Next**.

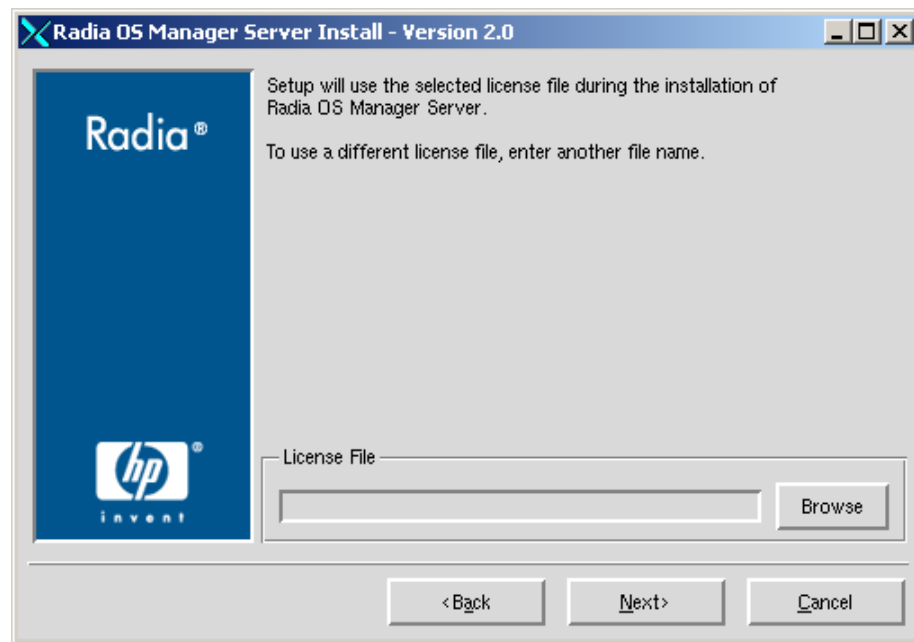




- 10 Enter the location for the Client Configuration files and installation media and click **Next**.

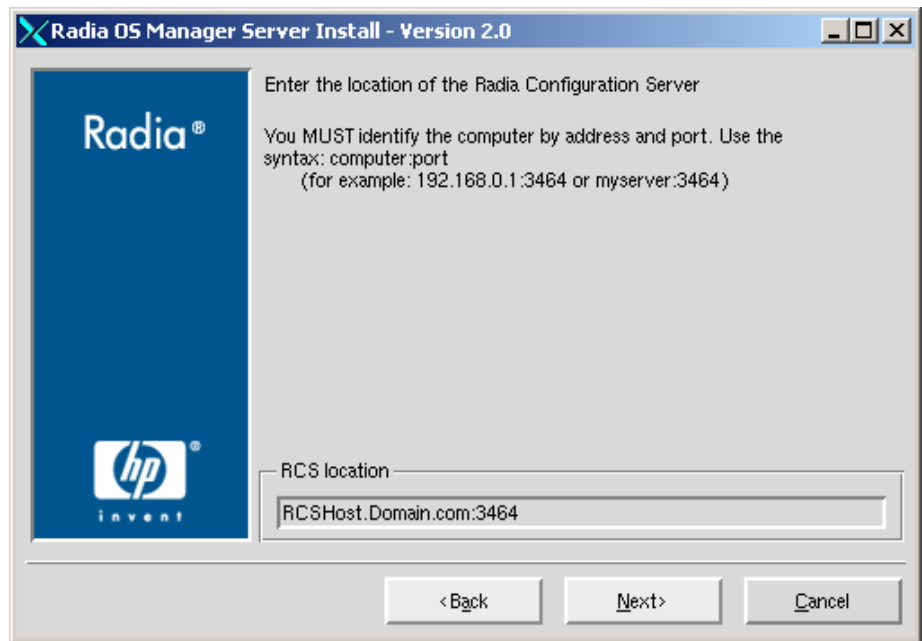
- The Location of Pxelinux configuration file text box is present only when installing to a Linux machine.
- The client configuration files location must be NFS shared before starting the OS Manager for UNIX.

The License File window opens.



- 11 Enter the location of your license file (`license.nvd`) or click **Browse** to navigate to your license file.
- 12 Click **Next**.

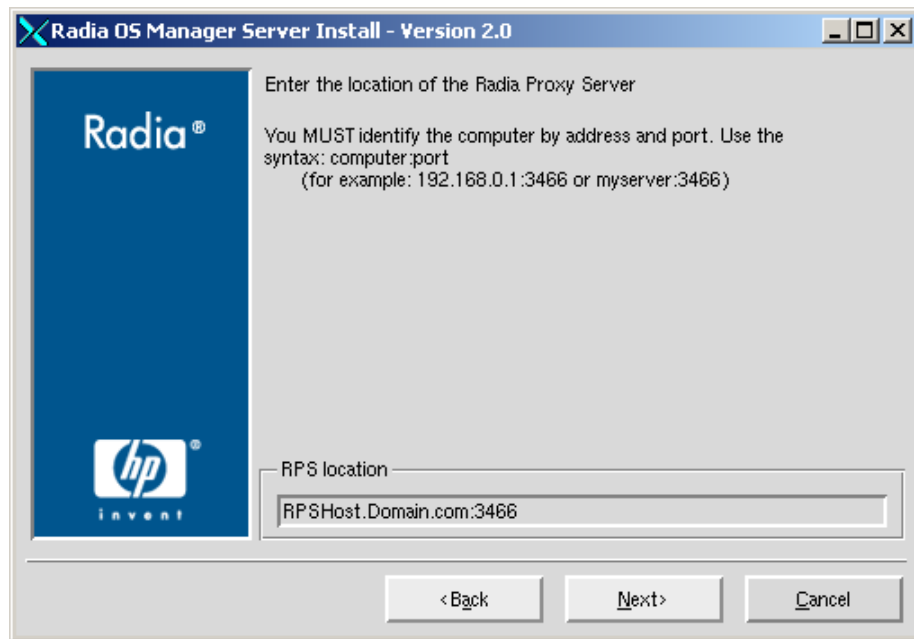
The RCS Location window opens.



13 Specify the address and port for the Configuration Server.

14 Click **Next**.

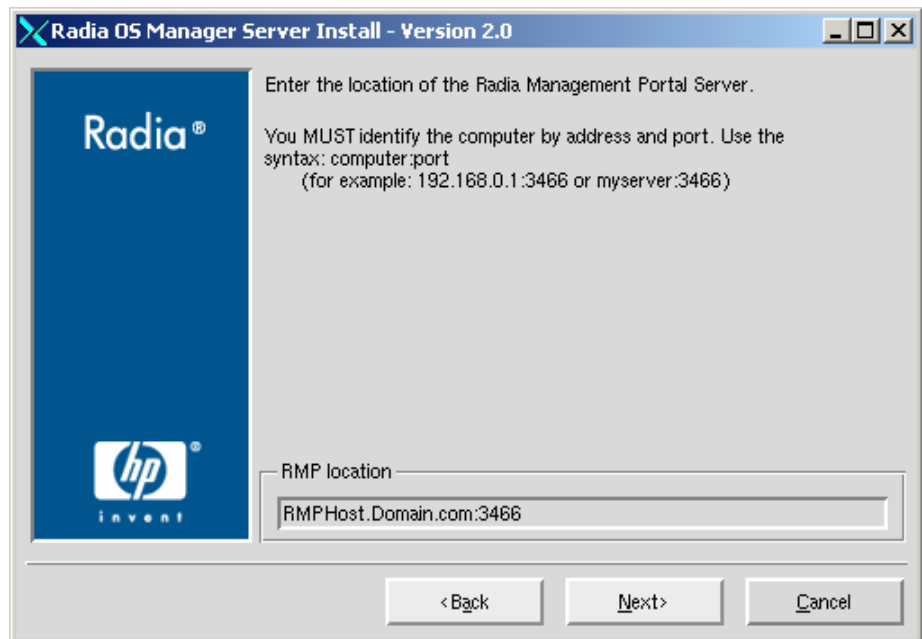
The RPS Server Location window opens.



15 Specify the address and port for the Proxy Server.

16 Click **Next**.

The RMP Server Location window opens.

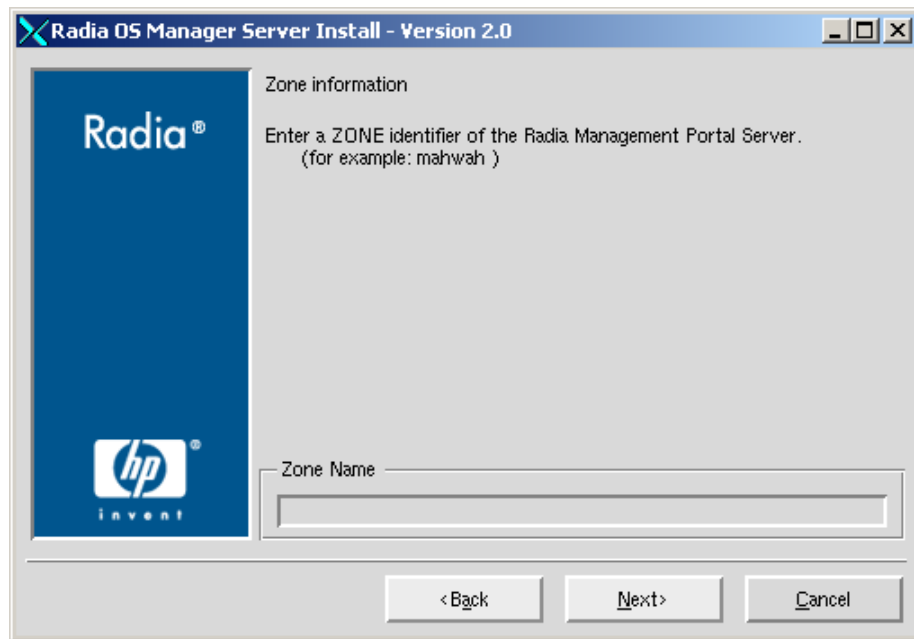


- 17 Specify the address and port number for the Management Portal. You may include the company name and domain, but it is not required.

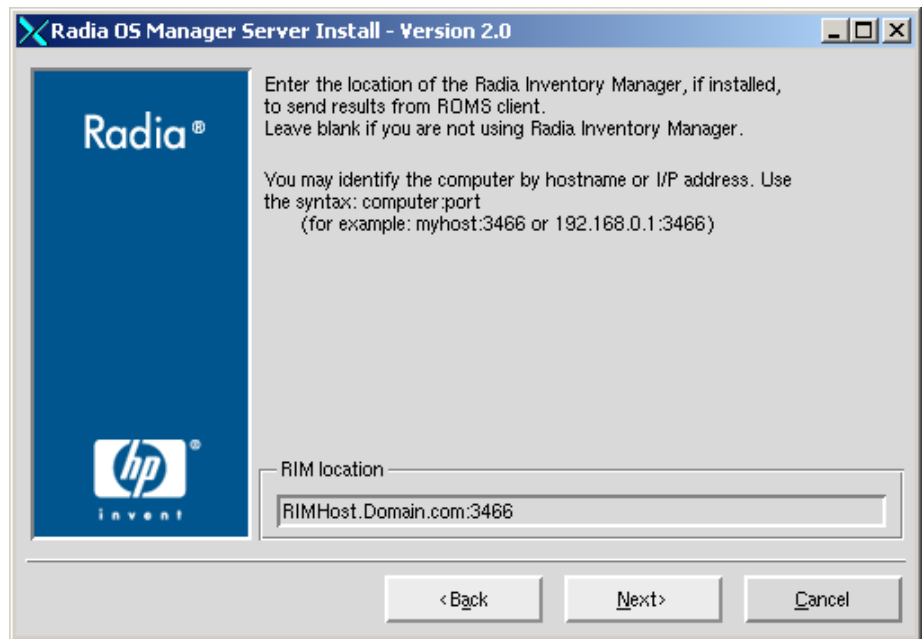
This server should be on a separate machine.

- 18 Click **Next**.

The Zone Information window opens.



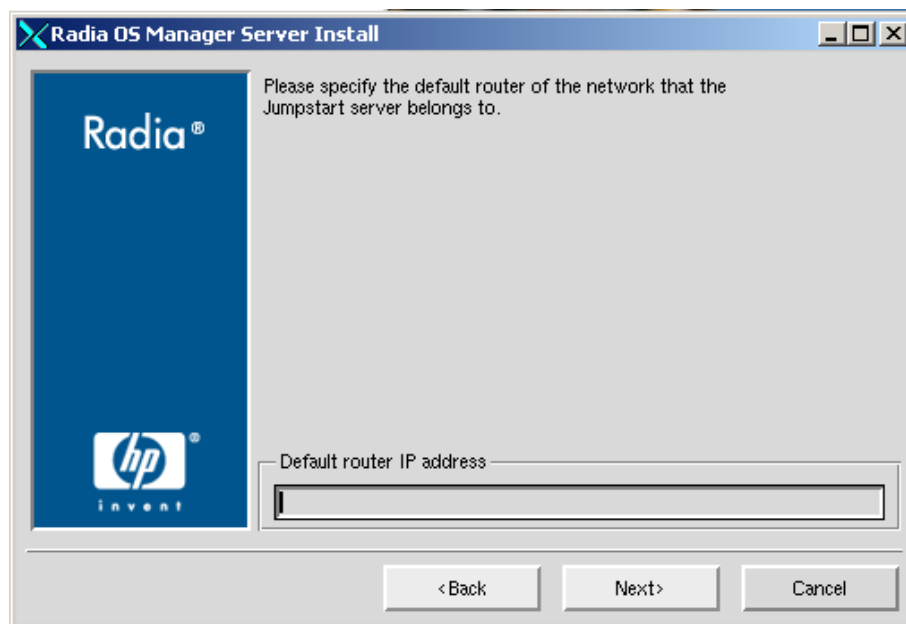
- 19 Type the name of the Management Portal Zone. Enter a Zone Name up to 64 characters long. Use only letters (a-z and A-Z), numbers (0-9) and the space character. Do not use special characters, such as commas or periods. Refer to the *Management Portal Guide* for information about zones.
- 20 Click **Next**.  
The RIM Server Location window opens.



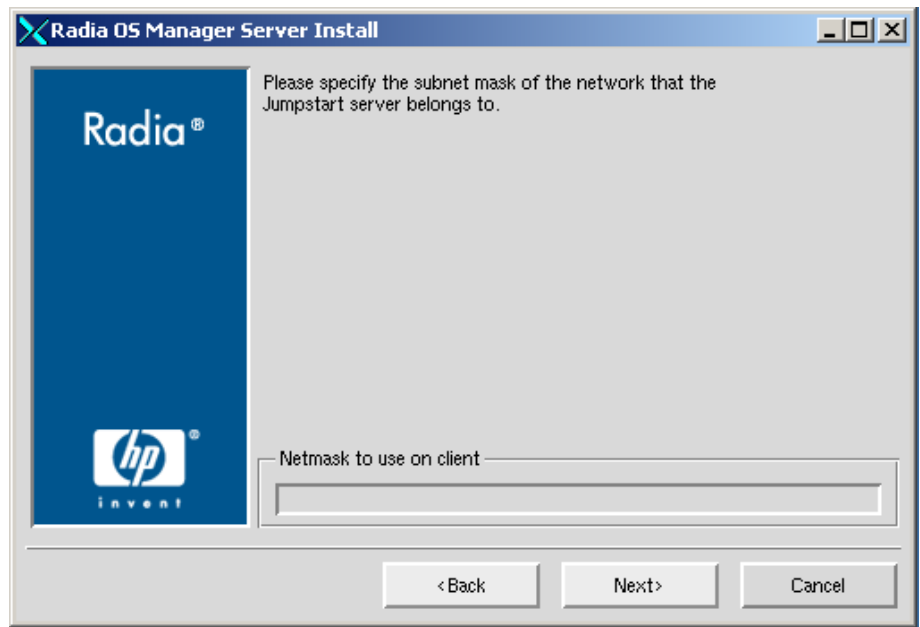
21 Specify the address and port for the Inventory Manager Server.

22 Click **Next**.

If you are installing to a Solaris machine and selected **No** when asked to use DHCP for network boot information, the following additional two windows will open.



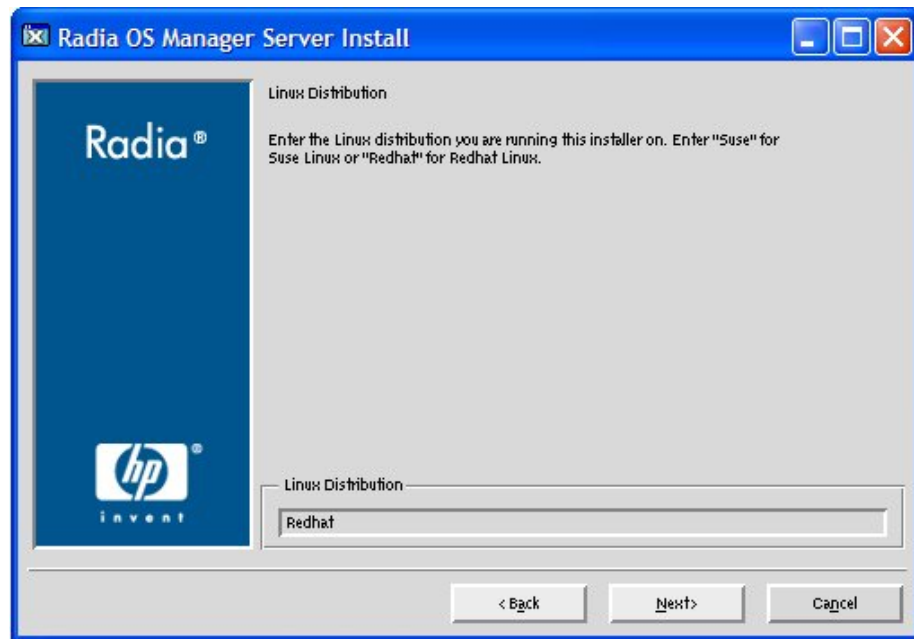
- 23 Enter the default router for the Jumpstart server (Solaris installation only).
- 24 Click **Next**.



- 25 Enter the subnet mask information for the Jumpstart server (Solaris installation only).

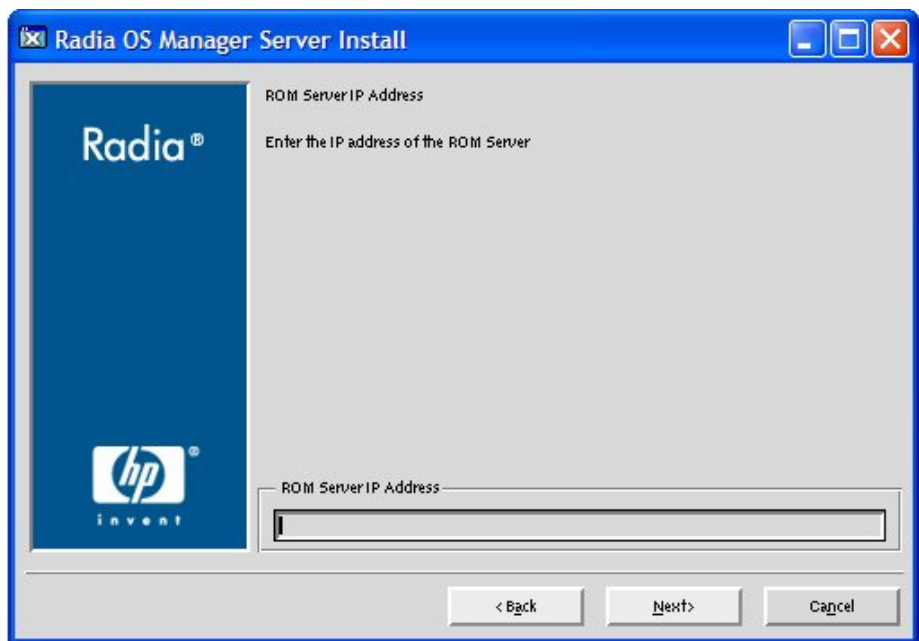
If you are installing to a Linux machine, the following additional window will open.





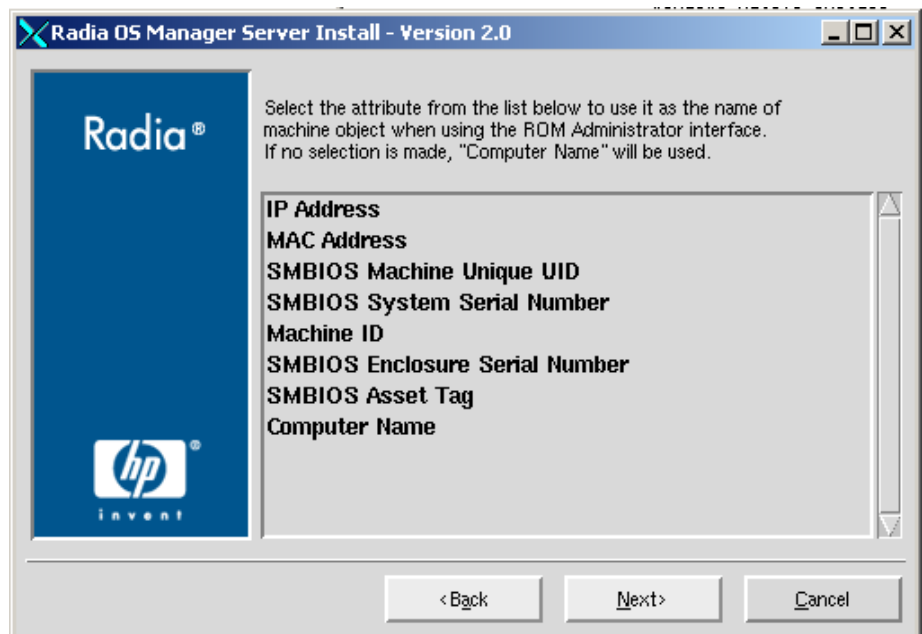
- 26 Enter the Linux distribution type (Redhat or SuSE). (Linux installation only).
- 27 Click **Next**.

The ROM Server IP address window opens.



28 Enter the IP address for your ROM server and click **Next**.

The Machine Object Name attribute select window opens.



- 29 Select the attribute from the list to use as the name of the machine object when using the ROM Administrator Interface. Computer Name is the default.
- 30 Click **Next**.  
The Summary window opens.
- 31 Click **Install** to begin the installation.
- 32 Click **Finish** when the installation is complete.

## Updating the Management Portal

Make sure the Management Portal is updated with the latest ROMS administrator.

### Update romad.tkd

- From the OS Manager for UNIX CD-ROM, `/os_administrator` directory, copy `romad.tkd` to your Management Portal's `/IntegrationServer/modules` directory.
- Stop and restart your Management Portal service.

## Installing the ROMS UNIX Configuration File Publisher

The OS Manager UNIX Configuration File Publisher installation media is located in the `/unix_configuration_file_publisher/` directory of the OS Manager for UNIX CD-ROM. Install the Publisher to your HP-UX Ignite, Red Hat Kickstart, SuSE AutoYaST or Solaris JumpStart server machine.

To install the Ignite Publisher

- 1 From the OS Manager CD-ROM, go to  
`../unix_configuration_file_publisher/<platform>/.`

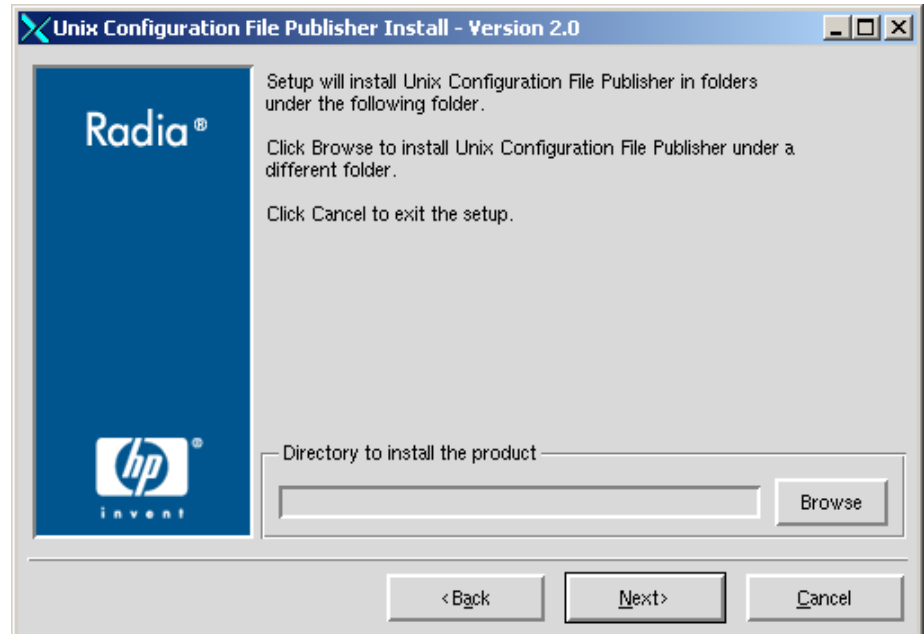
- 2 Type **./install**. The installation begins.

Click **Next**.

The Hp End User License Agreement Window opens.

- 3 Review the HP Software License Terms and click **Accept**.

The Installation Directory Location Window opens.



- 4 Select the folder where you want to install the OS Manager Server and click **Next**.

The Summary window opens.

- 5 Click **Install** to begin the installation process.

- 6 When the installation is complete, click **Finish**.

The Publisher is installed to the directory you specified.

To run the Publisher, change to the directory to where you installed the media and type **./publisher**.

# Preparing Client Installation Media

Radia client installation media must be prepared and placed on your server for distribution to your target machines.

Use the UNIX Client Remote Installation setup option to create the installation package then run `pkg_client.sh` installed with your OS Manager, to complete the client tar file.

The UNIX Radia client installation is available on the HP OpenView Management Applications CD.

## Running the Remote Installation Setup

Run the 4.1 Client installation and select a Remote Installation with the following parameters:

- At a minimum, select to install the Application Manager (4.1) and OS Manager clients.
- The temporary package location can be any accessible directory.
- Make sure the configuration package is named `remote.cfg`.

## Running `pkg_client.sh`

When you've completed the client installation remote setup, run `pkg_client.sh`, installed by default in the `IntegrationServer/pkg` directory.

When prompted, enter the following information:

- Directory location where your remote installation package is stored (the temporary package location specified during the remote installation setup as mentioned in the section above, Running the Remote Installation Setup).
- Directory location where you would like to create the client tar file (`radia.tar`). Default value is `CLIENTPATH` from `roms.cfg`.



The OS Manager requires the tar file be located in `CLIENTPATH`, but it can be created anywhere first, then moved to the `CLIENTPATH` location.

# Post-Install Tasks: Configuring the UNIX Server

After the OS Manager for UNIX and the UNIX Configuration File Publisher are installed, some additional files must be manually created and copied onto your UNIX server. In addition, server-specific files must be configured to support the OS Manager for UNIX.

The following sections include platform-specific instructions. Continue with the appropriate sections for modifying files on your UNIX server.

- For Ignite, continue with the section Configuring HP-UX Ignite, on page 38.
- For JumpStart, continue with section Configuring Solaris JumpStart on page 40.
- For Kickstart, continue with section Configuring Red Hat Kickstart on page 46.
- For AutoYaST, continue with section Configuring SuSE AutoYaST on page 47.

## Configuring HP-UX Ignite

The following sections describe how to configure your Ignite server for use with the OS Manager for UNIX.

### Modifying the INDEX File

During the install, an INDEX file was copied to the `/var/opt/ignite` directory. If you intend to use multiple releases of an operating system, you will need to modify this file to include the appropriate information.

To modify the INDEX file

- 1 Use a text editor and edit the INDEX file located in the `/var/opt/ignite` directory.
- 2 Add a line to reference `radia_cfg` in the release-specific directory (for example `/var/opt/ignite/data/Rel_B.11.11`) within each INDEX file section necessary. An example reference line follows:  
`"/var/opt/ignite/radia_cfg"`

- 3 Save and close the file.

## Setting HP-UX Ignite for Non-Interactive Installations

Make sure your Ignite server is setup to perform a non-interactive Ignite installation. This includes adjusting the boot kernel of the Ignite server to switch off the interactive user interface in order to install the client automatically when booting from the network. Refer to your Ignite documentation for details.

### To set Ignite for a non-interactive installation

- 1 Adjust the boot kernel `/opt/ignite/boot/INSTALLFS` of the Ignite server. Read the current configuration and save this to a defaults file:

```
/opt/ignite/bin/instl_adm -d >/var/opt/ignite/defaults
```

- 2 Add the following lines to the defaults file:

```
run_ui=false
control_from_server=false
env_vars+="INST_ALLOW_WARNINGS=1"
```

The interactive user interface is switched off and clients will be installed automatically from the network.

- 3 Check the syntax of the boot image:

```
/usr/bin/cd /opt/ignite/boot
/opt/ignite/bin/instl_adm -T -f /var/opt/ignite/defaults
```

- 4 If the syntax is correct, change the boot image `INSTALLFS`:

```
/opt/ignite/bin/instl_adm -f /var/opt/ignite/defaults
```

## Configure Ignite Server to run `instl_bootd` instead of `bootpd`

Refer to your *Ignite-UX Administration Guide* for additional details (*Ignite-UX B.4.3.x* or *Later PA-RISC/Itanium-Based Server Setup*).

### To configure Ignite server to run `instl_bootd`

- 1 Within the `/etc/inetd.conf` file, comment out the following line to ensure `bootpd` is disabled on ports 67/68:

```
bootps dgram udp wait root /usr//lib/bootpd bootpd
```

- 2 Add the following line to `/etc/inetd.conf` to enable `instl_bootd` on port 67/68:

```
bootps dgram udp wait root /opt/ignite/sbin/instl_bootd \
instl_bootd
```

- 3 Restart the `inetd` daemon.

## Using Ignite Images

If you are using an Ignite image for your operating system installation, modify the INDEX file as mentioned in the section above, by adding the `radia_cfg` reference to the correct image INDEX entry. An example of an updated image entry of an INDEX file follows:

```
cfg "HP-UX B.11.11 Image" {
    description "Imaged B.11.11 Release Image"
    "/opt/ignite/data/Rel_B.11.11/config"
    "/opt/ignite/data/Rel_B.11.11/hw_patches_cfg"
    "/var/opt/ignite/archives/Rel_B.11.11/b_11_11_image_cfg"
    "/var/opt/ignite/radia_cfg"
    "/var/opt/ignite/config.local"
}
```



If the Ignite image to be used already includes the Radia Client installed, then you do not need to add the line to reference `radia_cfg` in the INDEX file.

## Configuring Solaris JumpStart

The following sections describe how to configure your JumpStart server for use with the OS Manager for UNIX if you are not using DHCP.

If you are using DHCP, go to section [Configuring DHCP for use with ROM](#) on page 42.

Before you begin configuring your server, be sure to have the following information available:

- `<IP>` (JumpStart Server IP address)



- `<root_dir>` (JumpStart root directory)
- `<version>` (Solaris version to be installed)
- `<platform group>` (Run `uname -m` on the client)
- `<roms_path>` (Path specified by `roms.cfg` `JUMPSTART_CLIENTPATH` parameter)
- client's IP address and hostname

## Modifying JumpStart Files

### Task 1 Edit the ethers and hosts files

- Edit both the `/etc/ethers` and `/etc/hosts` files and add the client's IP address and hostname.

### Task 2 Add Client Configuration Information

- Log in as `root` and change directory to:  
`<root_dir>/Solaris_<version>/Tools`
- Run `add_install_client` to add client configuration information to the JumpStart Server.

For example, type:

```
add_install_client -c <IP>:<roms_path> -p <IP>:<roms_path>
<client hostname> <platform group>
```

This will update the `/etc/bootparams` file (see your JumpStart documentation for additional details).



Task 1 and Task 2 above are required for each client before they can boot from JumpStart.

### Task 3 Edit the bootparams file



The use of OS Manager for UNIX requires only one entry in `bootparams`, the default entry. After running `add_install_client` for one or more clients, Task 3 must always be performed.

- Edit the file `/etc/bootparams` and make sure it has only one line entry:

```
*  root=<IP>:<root_dir>/Solaris_<version>/Tools/Boot
install= <IP>:<root_dir> bootype=:in sysid_config=
<IP>:<roms_path> install_config=<IP>:<roms_path>
rootopts=:rsize=32768
```

For example, where:

- <IP> (JumpStart Server IP address) = 192.119.229.8
- <root\_dir> (JumpStart root directory) = /opt/jumpstart\_9
- <version> (Solaris version to be installed) = 9
- <roms\_path> (Path specified by roms.cfg  
JUMPSTART\_CLIENTPATH parameter) =  
/var/opt/jumpstart/clients

The /etc/bootparams would look like:

- root=192.119.229.8:/opt/jumpstart\_9/Solaris\_9/Tools/Boot \
install=192.119.229.8:/opt/jumpstart\_9 bootype=:in \
sysid\_config=192.119.229.8:/var/opt/jumpstart/clients \
install\_config=192.119.229.8:/var/opt/jumpstart/clients \
rootopts=:rsize=32768

## Configuring DHCP for use with ROMS

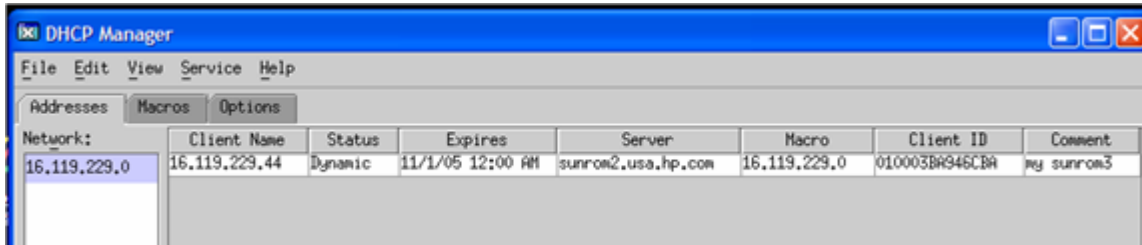


The following section should be used only if you are using DHCP with ROMS. If you are not using DHCP with ROMS, refer to the instructions above.

ROMS supports utilizing the DHCP service running on the same server to provide network boot information to client computers. This functionality is an alternative to using RARP / BOOTP (/etc/ethers and /etc/hosts) to provide this information.

An entry must exist in the DHCP service for each machine to be used with ROMS. The **client name** in the entry must be the IP address of the client. This is required so that ROMS can update the client's network boot information. The following figure displays the entry for a client machine.

**Figure 3 DHCP client entry**



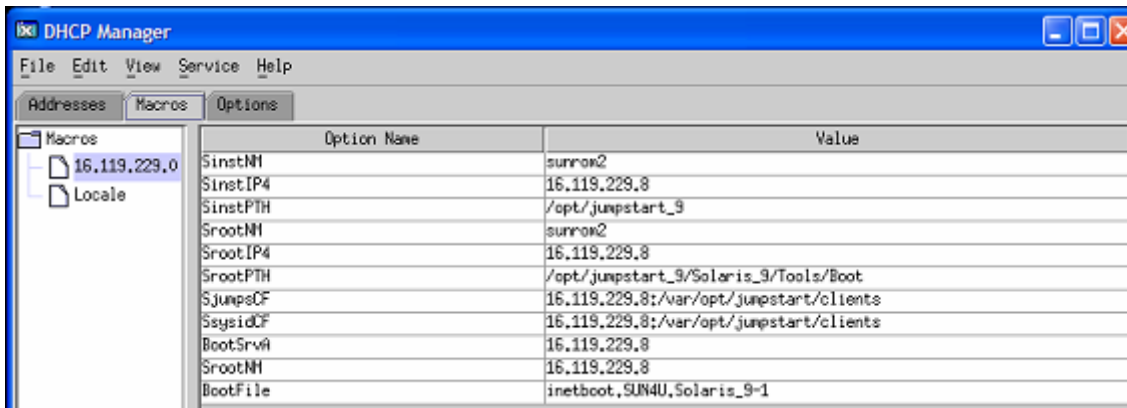
The screenshot shows the DHCP Manager application window. The 'Addresses' tab is selected, and a table lists DHCP client entries. The first entry is highlighted.

Network:	Client Name	Status	Expires	Server	Macro	Client ID	Comment
16.119.229.0	16.119.229.44	Dynamic	11/1/05 12:00 AM	sunrom2.usa.hp.com	16.119.229.0	010003BA946CBA	my sunrom3

The DHCP server must be configured with a macro (one per network) that is used to provide the default network boot information to all supported clients. The macro's name must be the name of the associated network. As shown in the figure above, the client has a macro associated named 16.119.229.0. The naming constraint is to allow ROMS the ability to maintain the macro assignments.

The following figure displays the contents of an example macro.

**Figure 4 Contents of a sample DHCP macro**



The screenshot shows the DHCP Manager application window with the 'Macros' tab selected. A tree view on the left shows the macro '16.119.229.0' under the '16.119.229.0' network. The main pane displays a table of options and their values for this macro.

Option Name	Value
SinstNH	sunrom2
SinstIP4	16.119.229.8
SinstPTH	/opt/jumpstart_9
SrootNH	sunrom2
SrootIP4	16.119.229.8
SrootPTH	/opt/jumpstart_9/Solaris_9/Tools/Boot
SjumpsCF	16.119.229.8:/var/opt/jumpstart/clients
SsysidCF	16.119.229.8:/var/opt/jumpstart/clients
BootSrvA	16.119.229.8
SrootNH	16.119.229.8
BootFile	inetboot,SUN4U,Solaris_9-1

This macro can be created either through the Solaris GUI DHCP Manager tool, or the **dhtadm** command line tool. There is also a sample ROMS script included on the ROMS CD (**roms\_dhcp**) which can be used to create this macro. Following is a description of the options as relating to ROMS:

- SinstNM: Node name of the DHCP Server, which is also our ROMS Server.
- SinstIP4: IP address of the DHCP Server, which is also our ROMS Server.
- SinstPTH: The parent directory to MEDIAPATH.
- SrootNM: Node name of the server providing the network boot kernel, which is also our ROMS Server.
- SrootIP: IP address of the server providing the network boot kernel, which is also our ROMS Server.
- SrootPTH: The server directory containing the root file system for the network boot kernel. This directory exists under MEDIAPATH and is created as part of the Jumpstart installation.
- SjumpsCF: ROMS MEDIAPATH
- SsysidCF: ROMS\_Server\_IP:CLIENTPATH
- BootSrvA: ROMS Server IP address, also acting as our boot server
- SrootNM: ROM Server IP address or node name
- BootFile: The network boot kernel name, found in /tftpboot

As mentioned, the **roms\_dhcp** command can be used to create this macro. The command syntax is:

To enable:

```
roms_dhcp -e
                [-i ROMS_ip_address]
                [-n roms_server_name]
                [-m media_path]
                [-c client_path]
                [-b boot_file]
                [-s subnet]
```

The command will prompt for any missing (i, n, m, c, b or s) parameters, providing default values as possible.

```
roms_dhcp -d [-s subnet]
```

The following example would create the macro as displayed in the figure above:

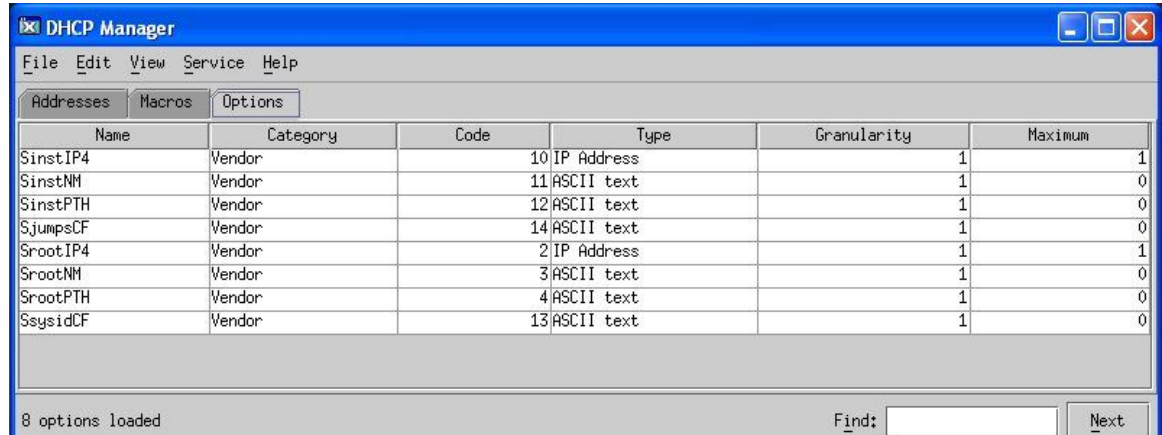
```
roms_dhcp -e \  
-i 16.119.229.8 \  
-n sunrom2 \  
-m /opt/jumpstart_9/Solaris_9 \  
-c /var/opt/jumpstart/clients \  
-b inetboot.SUN4U.Solaris_9-1 \  
-s 16.119.229.0
```

ROMS support for using JumpStart with Solaris DHCP requires the following DHCP Options (Extensions) be present in the Solaris DHCP Server:

- SinstIP4
- SinstNM
- SinstPTH
- SjumpCF
- SrootIP4
- SrootNM
- SrootPTH
- SsysidCF

These options can be added to the DHCP Server either by the Solaris DHCP Manager GUI interface or by using the dhtadm(1) command line tool. The following figure shows an instance of the GUI tool displaying these options:

**Figure 5 DHCP Manager Options tab with required options added**



The screenshot shows the DHCP Manager application window with the 'Options' tab selected. The window has a menu bar (File, Edit, View, Service, Help) and three tabs (Addresses, Macros, Options). The main area contains a table with the following data:

Name	Category	Code	Type	Granularity	Maximum
SinstIP4	Vendor	10	IP Address	1	1
SinstNM	Vendor	11	ASCII text	1	0
SinstPTH	Vendor	12	ASCII text	1	0
SjumpsCF	Vendor	14	ASCII text	1	0
SrootIP4	Vendor	2	IP Address	1	1
SrootNM	Vendor	3	ASCII text	1	0
SrootPTH	Vendor	4	ASCII text	1	0
SsysidCF	Vendor	13	ASCII text	1	0

At the bottom of the window, it says '8 options loaded' and there is a 'Find:' text box with a 'Next' button.

The *Solaris DHCP Administration Guide* provides detailed information on configuring Solaris DHCP Servers.

As part of the Operating System installation process, ROMS will create a client specific macro for each client, assign the new macro to the client in DHCP in place of the default macro and reassign the default macro once the installation completes.

## Configuring Red Hat Kickstart

### Modifying Kickstart Files

#### Modifying `/etc/hosts`

The `/etc/hosts` file on the Kickstart server must have an entry for itself with the full host name. For example:

```
12.345.678 28 BL20-3.usa.hp.com BL20-3
```

This is required for the OS Manager to self-configure the ROMS Kickstart module with its own IP address.

## Modifying the Default PXE Configuration File

The default PXE configuration file must be modified to point to the Kickstart server and Kickstart configuration file specified by keyword `ks`.

Modify the PXE default configuration file to use `CLIENTPATH/ks-default` as the Kickstart configuration file.



`CLIENTPATH` should be NFS shared before ROMS is started.

# Configuring SuSE AutoYaST

## Modifying AutoYaST Files

### Modifying `/etc/hosts`

The `/etc/hosts` file on the AutoYaST server must have an entry for itself with the full host name. For example:

```
12.345.678 28 BL20-3.usa.hp.com BL20-3
```

This is required for the OS Manager to self-configure the ROMS AutoYaST module with its own IP address.

## Modifying the Default PXE Configuration File

The default PXE configuration file must be modified to point to the AutoYaST server and AutoYaST configuration file specified by keyword `ks`.

Modify the PXE default configuration file to use `CLIENTPATH/ay-default.xml` as the AutoYaST configuration file.



`CLIENTPATH` should be NFS shared before ROMS is started.

# Configuring the Configuration Server and Radia Database

Before updating the Radia Database, be sure to install version 4.5.4 SP 5 or higher of the Configuration Server. Refer to the *Configuration Server Guide* for installation instructions.

Next, perform the following steps to add OS Manager for UNIX support to the Radia Database.

## To configure the Configuration Server

- 1 Stop the Configuration Server service.
- 2 Modify the edmprof [MGR\_ROM] section to include your Management Portal information by updating the following parameters:
  - DSML\_HOST  
add the IP address for your Management Portal.
  - DSML\_PORT  
add the port number of your Management Portal.
  - DISPLAYNAME  
enter the display name for your Management Portal.
- 3 If necessary, close the System Explorer.
- 4 Make sure the Configuration Server service is not running.



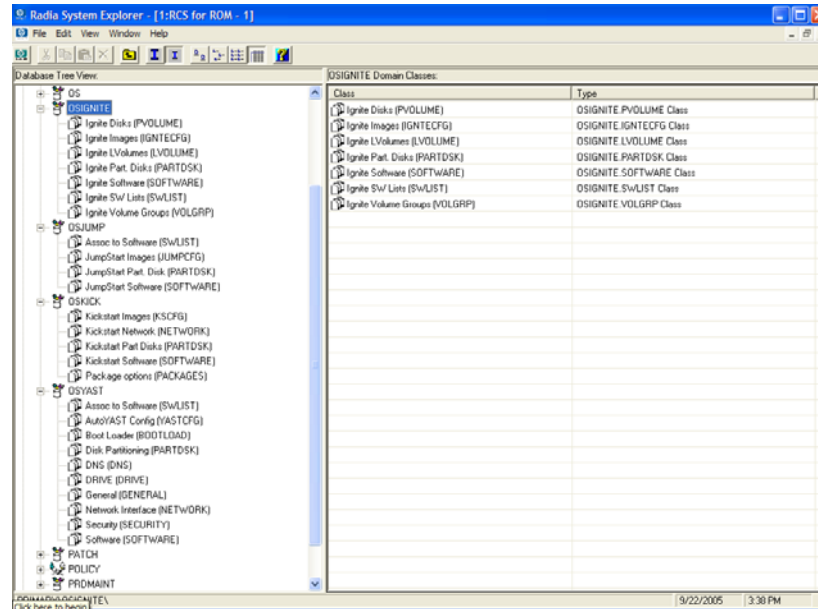
We recommend backing up your Radia Database before importing new classes.

- 5 From the OS Manager for UNIX CD, copy the contents of /database\_decks/<platform> to the Configuration Server's bin directory (where <platform> is your operating system)
- 6 Run the platform-specific import command from the bin directory:
  - for Ignite: `importi.cmd`
  - for Kickstart: `importks.cmd`
  - for JumpStart: `importjs.cmd`
  - for AutoYaST: `importay.cmd`



A return code of 0 indicates there were no errors reported during the import and the updates are applied to the database. Review the import command log file in the bin directory to see the results of the import.

- 7 Restart the Configuration Server service.
- 8 Use the System Explorer to view the new domain (PRIMARY.OSIGNITE, PRIMARY.OSKICK, PRIMARY.OSYAST, or PRIMARY.OSJUMP) and classes, as shown in the figure below.



## ROMS Domains

The new domains contain information populated by ROMS. Within each domain, there is a configuration class that contains the general parameters for each OS image. These are:

- OSIGNITE
  - Ignite Images (IGNITECFG)
- OSJUMP
  - Jumpstart Images (JUMPCFG)
- OSKICK
  - Kickstart Images (KSCFG)

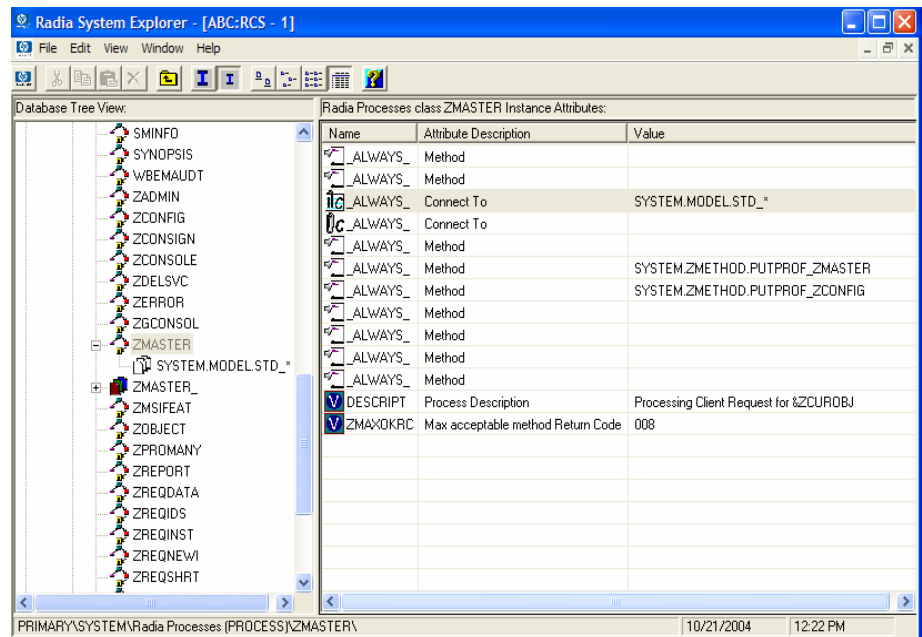
- OSYAST
  - AutoYaST Cofig (YASTCFG)

## Updating PRIMARY.SYSTEM.ZPROCESS.ZMASTER

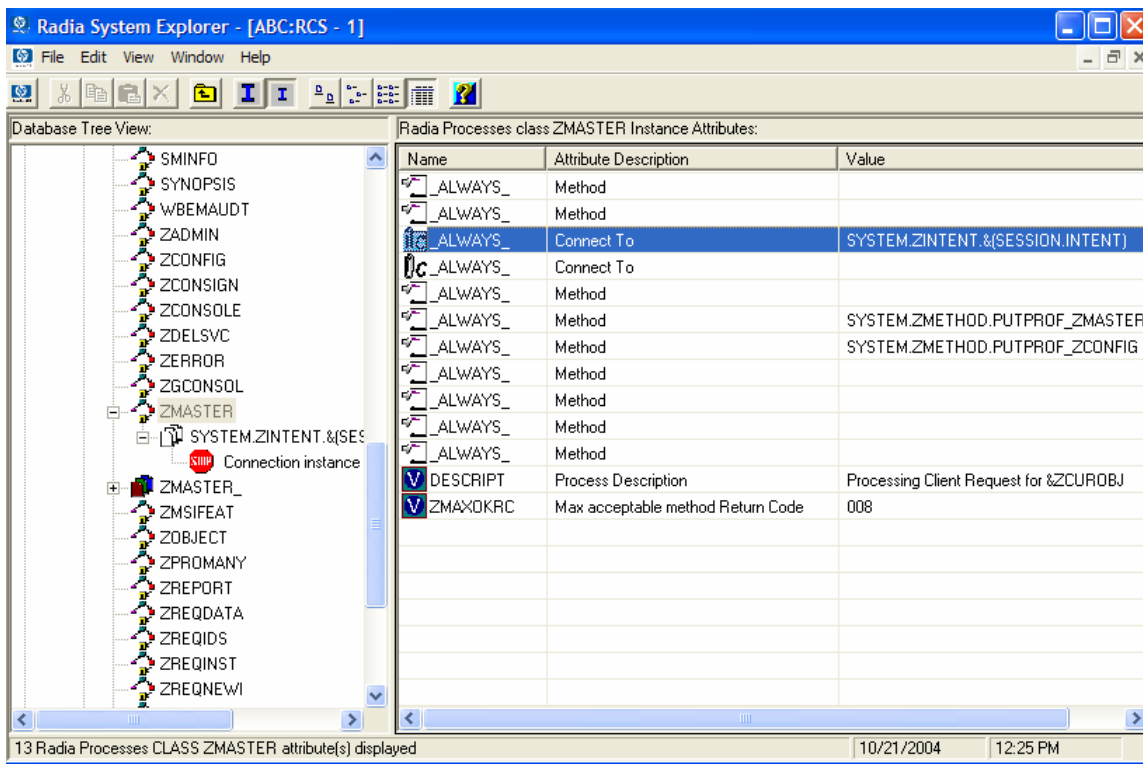
In order to prevent overwriting any existing connections, you must manually update PRIMARY.SYSTEM.ZPROCESS.ZMASTER.

To manually update PRIMARY.SYSTEM.ZPROCESS.ZMASTER

- 1 Use the System Explorer to go to PRIMARY.SYSTEM.PROCESS.ZMASTER and find the connection to PRIMARY.POLICY.USER.&(ZMASTER.ZUSERID) or SYSTEM.MODEL.STD\_\* .



- 2 Replace the connection to PRIMARY.POLICY.USER.&(ZMASTER.ZUSERID) or SYSTEM.MODEL.STD\_\* with the following:  
SYSTEM.ZINTENT.&(SESSION.INTENT)



## Configuring the ROMS Administration Tasks within the Management Portal



The Management Portal version 2.1 must be installed on a Windows machine.

### Adding a Directory Service

If there is not a Configuration Server directory service associated with your Management Portal Zone, then before you can use the OS Manager Administrative tasks, you must add a Configuration Server directory service to your Management Portal Zone. You only have to do this once for your Zone. For detailed information about zones and directory services, see the *Management Portal Guide*.

### To add the directory service

- 1 Open your web browser and go to the Management Portal (<http://<ipaddressORhostname>:3466>).
- 2 Login as the Portal Administrator (by default, the user id is admin and the password is secret).
- 3 In the default workspace, click the appropriate Zone.
- 4 In the workspace, go to Configuration and then click **Directory Services**.
- 5 From the Model Administration task group, click **Add Directory Service**.
- 6 From the Type list, select **ds-rcs**.



### Add Directory Service

Directory Service Properties	
Common Name	primary
Display Name	RCS Database
Description	
Startup	auto manual disabled
Type	ds-ldap ds-mk ds-rcs
URL	rcs://localhost:3464/RAD_MAST
Password	
DS Prefix	cn=config,cn=home,cn=radia
Path	
Timeout	0

Submit Cancel

- 7 In the URL text box, change the value of localhost to the IP address of the Configuration Server that you want to use for ROM administration.
- 8 Click **Submit**.
- 9 Log out of the Management Portal.

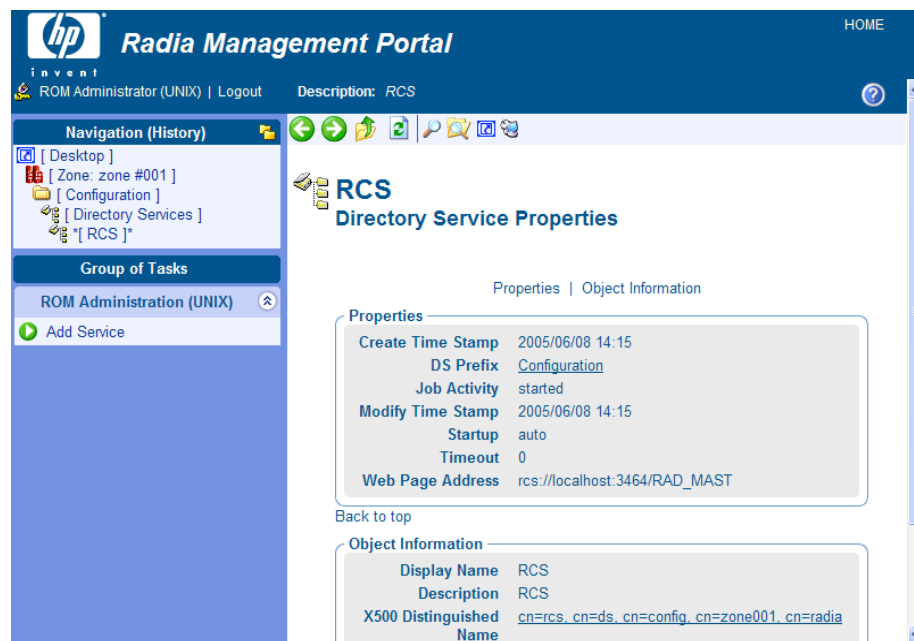
## Specifying the Configuration Server for ROM Administration Tasks

After creating a directory service for the Configuration Server, you must specify it as the Configuration Server to be used for ROM administration tasks. You only need to do this once after you have defined the Configuration Server directory service.

To specify the Configuration Server to be used for ROM administration tasks

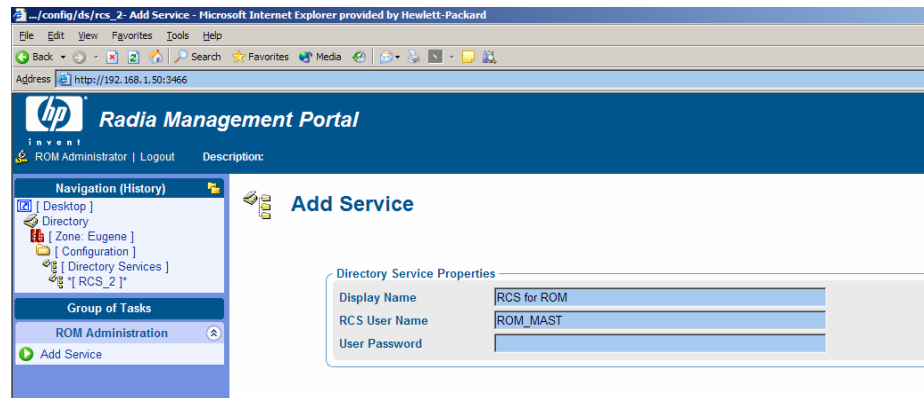
- 1 Open your web browser and go to the Management Portal (**`http://<ipaddressORhostname>:3466`**).
- 2 Login as the OS Manager Administrator (by default, the user ID is romadminu and the password is "secret").
- 3 In the workspace, click **Zone**.
- 4 In the workspace, go to Configuration and then click **Directory Services**.
- 5 Click the Configuration Server Database that you want to use.

The Directory Service Properties window opens.



- 6 In the ROM Administration task group, click **Add Service**.

The Add Service window opens.



- 7 If necessary, type the user name and password for the Radia Database.

The default user is ROM\_MAST; a User Name that allows you to log into the Radia Database as a ROM Administrator. This Name provides access to the classes relevant to the OS Manager.

- 8 Click **Submit**.

The Radia Database classes appear in the workspace.

## Assigning ROM Views to New Users

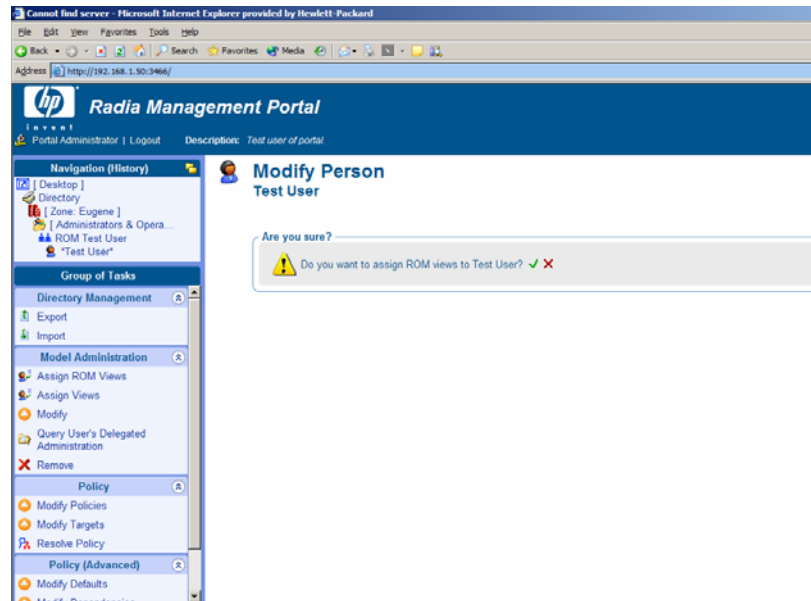
- You will need to assign additional ROM Views only if you will be creating additional RMP user accounts other than ROMADMINU.


When adding a new user to ROM, you need to limit what the user can see by assigning the user ROM Views. To create new users refer to the *Management Portal Guide*. Once the ROM Views are assigned, the appropriate classes for the OS Manager will appear when the user logs in and connects to the Configuration Server.

- 1 Open your web browser and go to the Management Portal (**http://<ipaddressORhostname>:3466**).
- 2 Login as the Portal Administrator (by default, the user ID is admin and the password is secret).
- 3 Click **Zone**.


- 4 Click **Administrators and Operators**.
- 5 Click on the ROM User that you want to assign ROM Views.
- 6 In the Group of Tasks, click **Assign Rom Views**.

The Modify Person window opens.



- 7 Click  to confirm that you want to assign ROM Views to this user.

OR

Click  to indicate that you do not want assign ROM Views to this user.

The Properties window opens, showing the modification is complete.

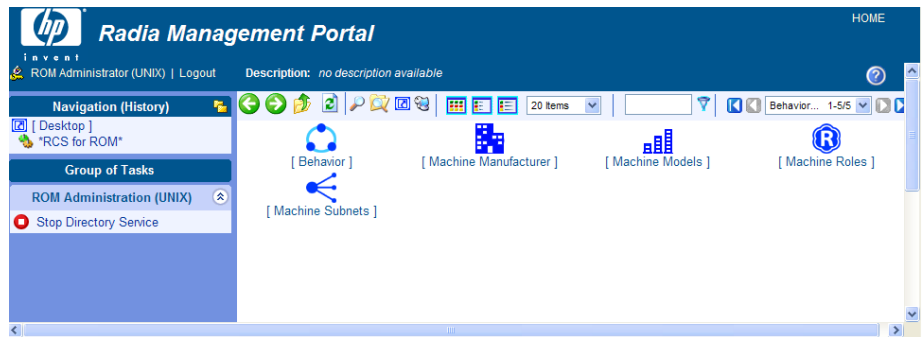
## Additional Configuration Information

### Configuring the Default Behaviors Instance

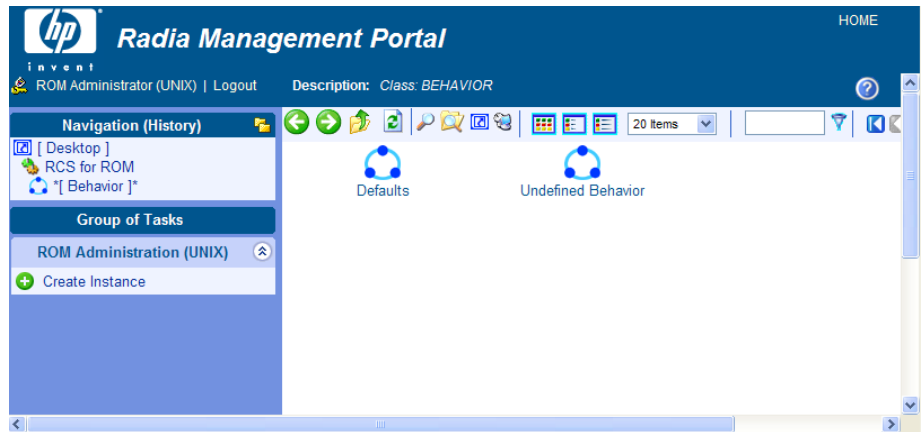
You must modify the default Run Once parameter string in the Default Behavior instance to specify the IP address for your Configuration Server. If you do not modify this parameter, your target machine will not be able to successfully run a Radia OS Connect.

To configure the default Behaviors instance

- 1 If necessary, log on to the Management Portal as the OS Manager Server administrator.
- 2 In the workspace, click RCS for ROM. The following page opens.



- 3 Click **Behavior**.  
The Behavior window opens.



- 4 Click **Defaults**.
- 5 In the ROM Administration task group, click **Modify**. The Modify Defaults page opens.



## Modify Defaults

Basic | Advanced

### Warning



you are modifying a system instance

### \* Default Values

#### Properties

Select ROLE *	<input type="text" value="_LOCAL_"/>
Select OS *	<input type="text" value="_LOCAL_"/>
OS Overwrite Prompt *	<input type="text" value="_NEVER_"/>
Timeout for User Response (seconds) *	<input type="text" value="-1"/>
Download: # bytes/sec (opt K/M/G) *	<input type="text"/>
RunOnce Parameter String *	<input type="text" value="ip=16.119.236.64,cat=prompt,ulogon=n,context=M,ask=r"/>
Action on existing OS upon Machine Discovery *	<input type="text" value="_LOCAL_"/>

Modify

Cancel



OS Overwrite Prompt is the only variable used by UNIX. The other values will be ignored.

6 Change the OS Overwrite Prompt value to `_NEVER_`.

7 Click **Modify** to save the changes.

Now, the OS Manager Server is ready to use the Management Portal.

## Modifying Network Port Configurations

In some network environments (such as those containing Cisco), you may need to modify the network port configuration. For the Cisco switch, use the following:

```
set port channel off
set spantree port fast enable
```

For all other vendors, consult their documentation.



---

## 3 Preparing the Configuration Files

At the end of this chapter, you will:

- Be able to publish your configuration files to the Radia Database.
- Be able to configure your OS Manager for UNIX services for deployment.

This chapter covers how to prepare and publish existing configuration files in the OS Manager environment.

Use the ROMS UNIX Configuration File Publisher to publish a package to the Radia Database containing object information that has been pulled from the original Ignite, Kickstart, AutoYaST, or JumpStart configuration file.

## Using the ROMS UNIX Configuration File Publisher

### Publishing Configuration Information

The Publisher creates object information from an existing Ignite, KickStart, AutoYaST, or JumpStart configuration file then publishes that file to the Radia Database.

To publish configuration files to the Radia Database

- 1 Change your directory to where you installed the ROMS UNIX Configuration File Publisher.
- 2 Run the Publisher by typing **./publisher**.
- 3 Enter the parameters at each prompt, then press **Enter**.
  - Enter the CONFIG FILE NAME:  
(Enter your pre-existing configuration file name).
  - Enter the RCS INSTANCE NAME:  
(Enter the desired instance name for the Radia Database).
  - Enter the RCS INSTANCE FRIENDLY NAME:  
(Enter a friendly name for the database instance).
  - Enter the IP ADDRESS OF RCS SERVER:  
(Enter your Configuration Server IP address).
  - Enter the DESIRED DEBUG LEVEL:  
(Enter the debug level. **0** for no debugging, **1** for regular debugging or **2** for debugging output with no action taken)
  - Enter the configuration type machine type  
[IGNITE|JUMPSTART|KS|SUSE]:  
(Enter the type of configuration file to be published)

If you are publishing a Kickstart or AutoYaST configuration file, you will be presented with the following additional steps:

- Enter the Initial Root Directory:
- Enter the Initial Boot Kernel:

Initial Root Directory is the initial root file system that the user installed in the `tftpboot/pxe` directory structure when he or she setup the Kickstart or AutoYaST environment, for example, `/tftpboot/initrd-suse10.img`. This is the root file system used by the network boot kernel. Typically, this file is copied from the distribution boot CD named `initrd` in the `/boot/loader` directory of the media.

Initial Boot Kernel is the network boot kernel that the user installed in the `tftpboot/pxe` directory structure when they setup the Kickstart or AutoYaST environment, for example, `/tftpboot/vmlinuz-suse10`. Typically, this file is copied from the distribution boot CD named `linux` in the `/boot/loader` directory of the media.

If you are publishing an AutoYaST configuration file, you will be presented with the following additional step:

- Enter the Installation Media Path:

Installation Media Path is the full path name of the directory on the server where the user installed the distribution files, from the CDs or DVD (done as part of the AutoYaST infrastructure setup).

After you enter the last parameter and press **Enter**, the Publisher sends the objects to your Radia Database.

The result is an instance in your Radia Database in `OS.ZSERVICE`. The instance will be displayed using the name you assigned as `RCS FRIENDLY NAME`.

## Update the JUMPCFG Class Instance



























After a JumpStart image is published into the Radia Database, update the `OSJUMP.JUMPCFG` class instance attributes.

Modify the following attributes in the `JUMPCFG` class with the correct values:

- ROOTPW
- ROUTER
- TIMEZONE
- LOCALE
- TERMINAL
- NTPSVR
- SUBMASK

You can modify any of the other JUMPCFG instance attributes, or leave them as is and use the default value.

**Figure 6 JUMPCFG class instance attributes**

JumpStart Images class _BASE_INSTANCE_ Instance Attributes:		
Name	Attribute Description	Value
 ARCHIVE	Archive Information	
 BOOTDEV	Boot Device (ctd)	
 DABLDHCP	Disable DHCP?	&(MACHINE.DABLDHCP)
 DISKS	Links to Disk Partitions	PARTDSK.&(ZOBJNAME)_*
 HOSTNAME	Host Name	&(MACHINE.COMPNAME)
 IPADDR	IP Address	&(MACHINE.IPADDR)
 IPV6	Uses IPv6	
 LOCALE	System Locale	
 NSADDR	Name Service Address	
 NSDOMAIN	Name Service Domain	
 NSOPTS	Name Space Options	
 NSTYPE	Name Service Type	
 NTPSVR	Time Server	
 REGION	Regional Locale	N_America
 ROOTDEV	Root Device (ctd)	
 ROOTPW	Root Password	
 ROUTER	Router Address	
 SECADMIN	Security Admin Server	
 SECKDC	Security Key Distribution Center	
 SECREALM	Security Realm	
 SECTYPE	Security Type	
 SOFTWARE	Links to Software	SWLIST.&(ZOBJNAME)_*
 SUBMASK	Subnet Mask	&(MACHINE.SUBMASK)
 SYSTYPE	System Type (standalone/server)	standalone
 TERMINAL	Console Terminal Type	
 TIMEZONE	TimeZone	



A missing root password and router address will result in an interactive JumpStart installation. Passwords are encrypted—refer to your Solaris documentation for details.

## Setting Policy and Deploying Images

Use the OS Manager administrative tasks in the Management Portal to set policy and deploy images. Refer to the *OS Manager Guide for Windows* for extended information.

Policy can be assigned on different attributes, including role, manufacturer, model and subnet.

### Devices

There are two ways a device can be added into the Management Portal:

- 1 You can manually add a device or,
- 2 The device is created automatically by the OS Manager once the device is discovered for the first time.

### Manually Adding a Device

To add a device manually

- 1 Open your web browser and go to the Management Portal (**`http://<ipaddressORhostname>:3466`**).
- 2 Login as the OS Manager Administrator (by default, the user ID is romadminu and the password is secret).
- 3 Click **Zone**, then click **Groups**.
- 4 Select the group to which you would like to add a device.



- 5 From the Group of Tasks list, select **Add Device**. The Add Device window opens.



## Add Device

Add Device

MAC Address

Computer Name

IP Address

Subnet

Current Subnet Mask

Submit

Cancel

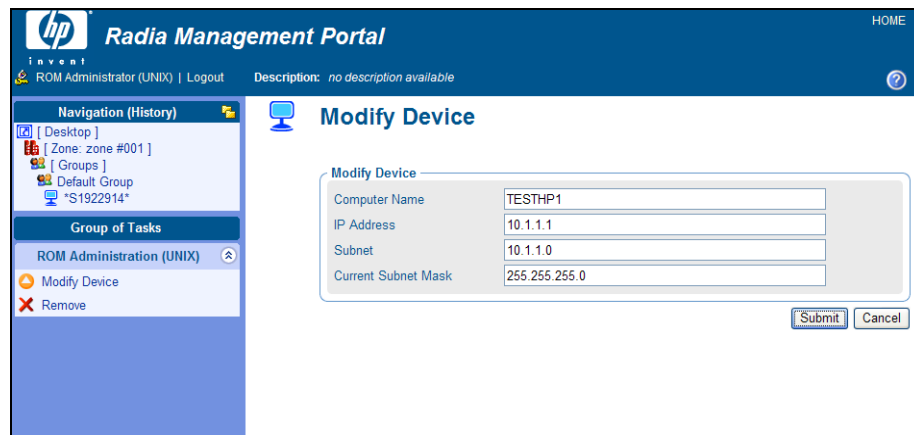
- 6 Enter your device information and click **Submit**.  
The device is added to the Management Portal.

## Modifying a Device

To modify a device

- 1 Select the device to be modified within the Management Portal and click **Modify Device**. The Modify Device page opens.





- 2 Modify the values for the device and click **Submit**.

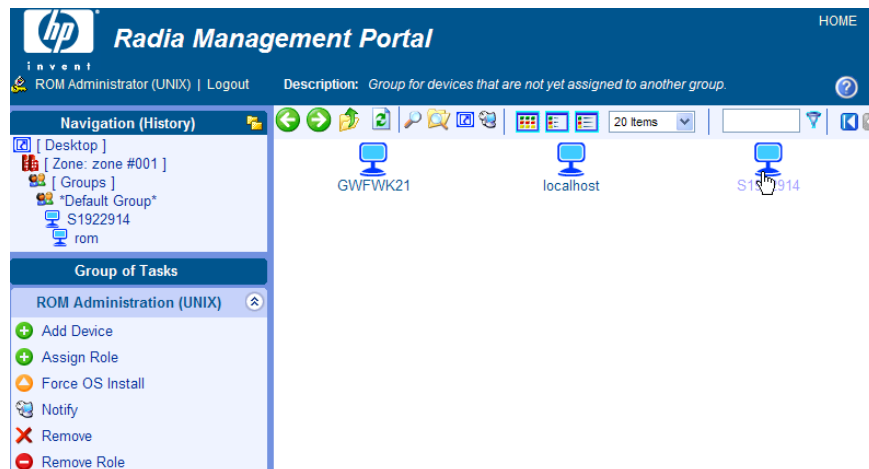
## Connecting an OS to a Device, Subnet, Model, or Manufacturer



If you not sure of the subnet, model or manufacturer, select the device and click View within the Resultant Policy section next to the Subnet, Model or Manufacturer.

## Connecting an Operating System to a Device

To connect an operating system to a device

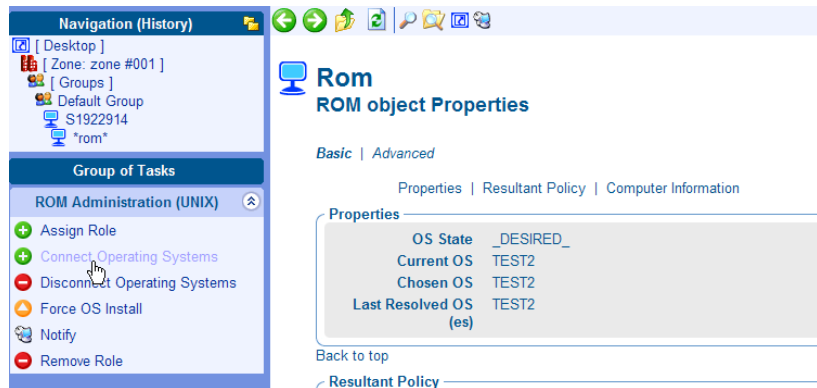


- 1 Within the device group, select the device.

The following page opens:



- 2 Click the device ROM object. The ROM Object Properties page opens.



- 3 In the ROM Administration (UNIX) task list, click **Connect Operating Systems**. The Connect Operating Systems Install page opens



## Connect Operating Systems Install

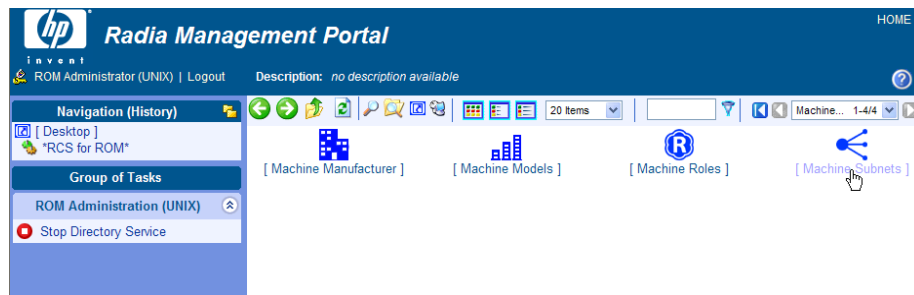
1 **Select** — 2 Summary

- 4 From the Available list, select the operating system to install and click the arrows pointing to the right to add it to the Selected box.
- 5 Click **Next**→**Submit**.

### Connecting an Operating System to a Subnet, Model, or Manufacturer

To connect an operating system to a subnet, model or manufacturer

- 1 Within the workspace, click **RCS for ROM**.



- 2 Depending on which object you would like to connect an operating system, click **Machine Subnets**, **Machine Manufacturers**, or **Machine Models**.
- 3 Select the correct subnet, manufacturer or model to which you would like to connect an operating system.
- 4 In the ROM Administration (UNIX) tasks, click **Connect Operating Systems**.
- 5 Select the operating system from the Available box and use the arrows to move it to the Selected box.
- 6 Click **Next** then click **Commit**.

## Configuring a Role

First create a Role and then connect an operating system to that Role.

To create a Role

- 1 Within the workspace, click **RCS for ROM**.
- 2 Click **Machine Roles**.
- 3 In the ROM Administration (UNIX) tasks, click **Create Instance**.

The screenshot shows the Radia Management Portal interface. The top navigation bar includes the HP logo, the text 'Radia Management Portal', and a 'HOME' link. Below the navigation bar, the user is logged in as 'ROM Administrator (UNIX)' with a 'Logout' link. The main content area is titled 'Create' and features a 'New Machine Roles' form. The form has two required fields: 'Instance\*' and 'Friendly name\*'. The 'Instance\*' field contains the text 'WEBSERVER'. The 'Friendly name\*' field contains the text 'Web Server for HP-UX'. At the bottom right of the form are 'Create' and 'Cancel' buttons. On the left side of the portal, there is a 'Navigation (History)' panel with links to '[ Desktop ]', 'RCS for ROM', and '[ Machine Roles ]'. Below this is a 'Group of Tasks' panel with a link to 'ROM Administration (UNIX)' and a 'Create Instance' button.

- 4 Enter an Instance name, for example **WEBSERVER**.
- 5 Enter a Friendly name, for example **Web Server for HP-UX**.
- 6 Click **Create**. The Role properties are displayed.



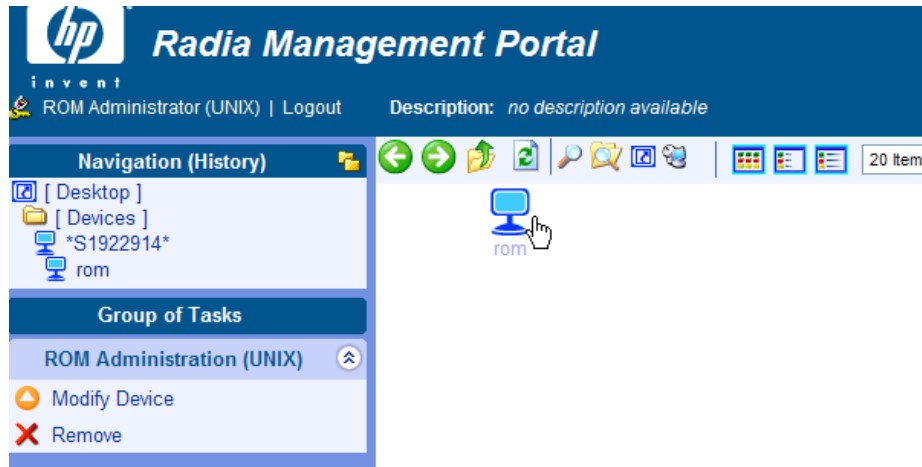
- 7 In the ROM Administration (UNIX) tasks, click **Connect Operating Systems**.
- 8 Select the operating system from the Available box and use the arrows to move it to the Selected box.
- 9 Click **Next**, then click **Commit**.

## Assigning a Role

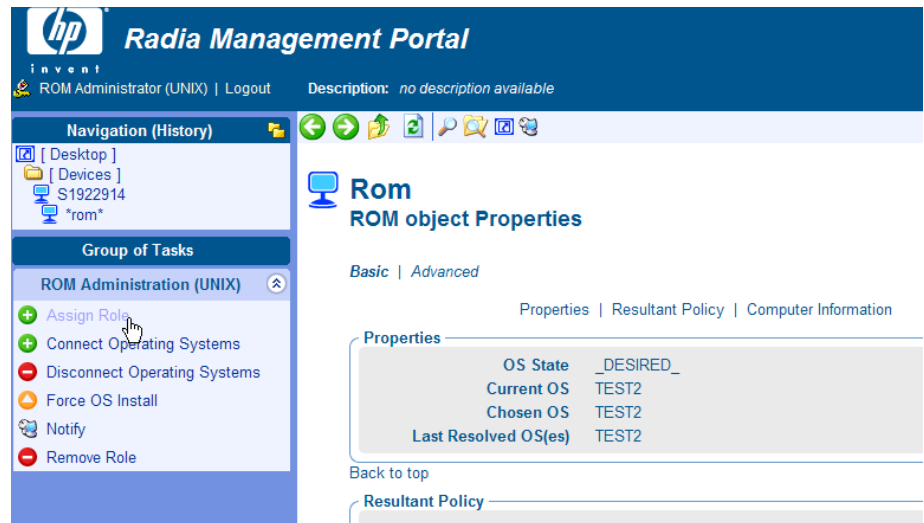
Assign a Role to a device within the device ROM object properties workspace.

To assign a Role

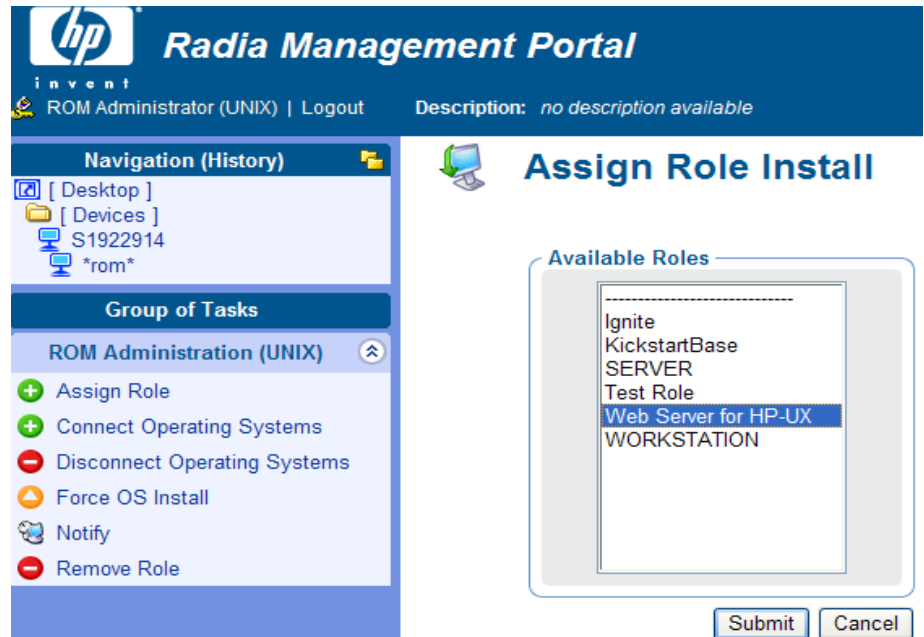
- 1 Browse to the device to which you would like to assign a Role.



- 2 Click the ROM object for that device.



- 3 In the ROM Administration (UNIX) tasks, click **Assign Role**.



- 4 Select the Role to assign and click **Submit**.

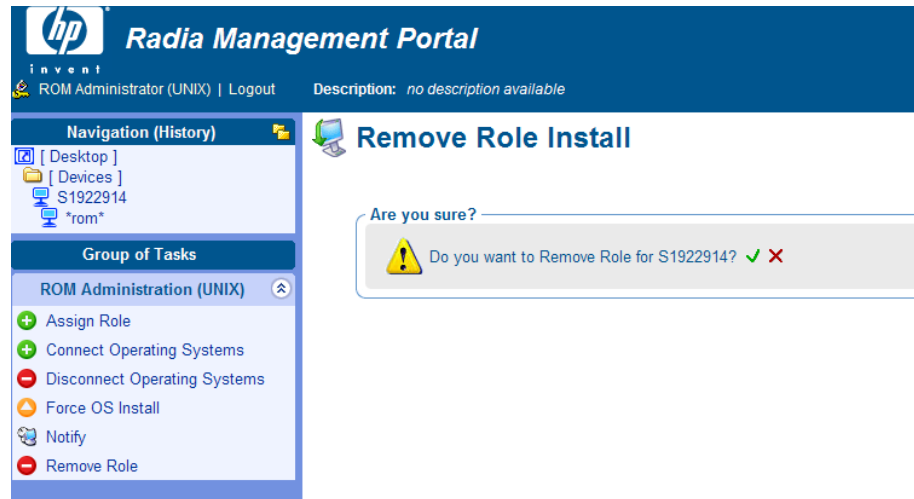
The Role is displayed within the Resultant Policy section of the device ROM object properties window.

## Changing Policy

If you need to reinstall an operating system with a different configuration you can remove the existing Role and assign a new one.

To change policy for a device

- 1 Browse to the device for which you would like to change policy.
- 2 In the ROM Administration (UNIX) tasks, click **Remove Role**.



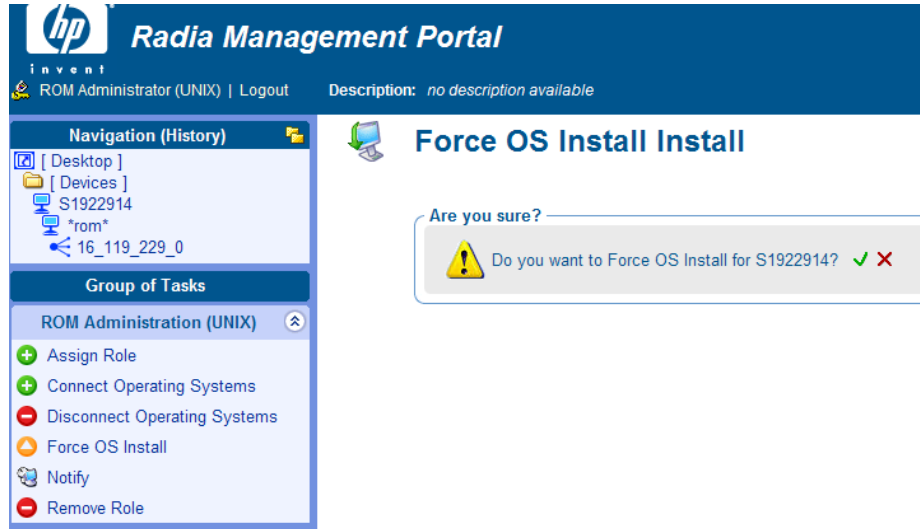
- 3 Click the check mark to confirm the Role removal.
- 4 Confirm that the Role was removed by viewing the Resultant Policy section, Role value is set to `_NONE_`.
- 5 Now, assign new role to the device. Refer to the section above, Assigning a Role for instructions on assigning a Role.

## Repairing a Device

If you need to repair a device operating system installation, use the Force Os install option within the e ROM Administration (UNIX) tasks.

To repair a device

- 1 Browse to the device you would like to repair.
- 2 Click the ROM object for that device.
- 3 In the ROM Administration (UNIX) tasks, click **Force OS Install**. The Force OS Install window is displayed.



- 4 Click the check mark to force the operating system install installation for the device.

The operating system is reinstalled on the device.

## Reviewing OS Status

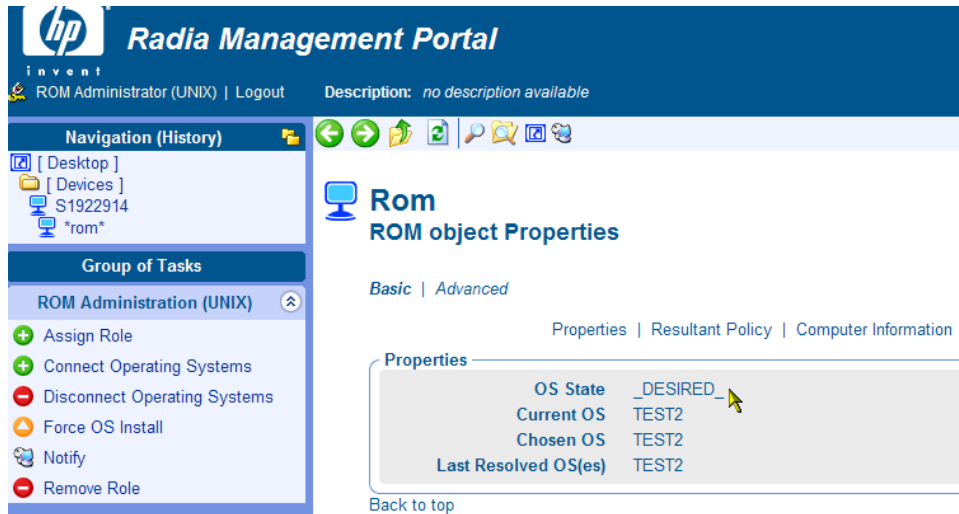
View the status of the device operating system within the device ROM object properties, Properties section. The OS State variable displays one of three possible values:

- **\_U\_**  
OS Manager is not currently managing this device.
- **\_DESIRED\_**  
Operating system is installed and Radia OS client has connected to the Radia OS infrastructure.



- **INSTALLED**  
Operating system has been installed but the device still requires additional configuration, possibly including a reboot and an OS Manager client installation.

**Figure 7 ROM Object properties, OS State value**



## Reviewing Results

After completing the configuration tasks in each section above, the configuration files are ready. Follow the usual HP-UX Ignite, Red Hat Kickstart, SuSE AutoYaST, or Solaris JumpStart procedures for deployment to your target devices, and when finished, use the ROM administrative tasks in the Management Portal to review the results.



## 4 Linux Imaging

At the end of this chapter, you will:

- Understand how to use the OS Manager to manage Linux operating system images.

### Creating Linux OS Images

Use the Image Preparation Wizard to prepare a gold image on the reference machine. The reference machine must have the Radia client installed, as well as the operating system, applications, and other Radia-managed content. The Wizard collects inventory information associated with the image. The image is sent to the OS Manager `\upload` directory and you can use the Publisher on your administrator machine to promote the image to the Radia Database.



Images should be sent to a OS Manager Server in a non-production lab environment to prevent performance issues.

### Supported Linux Operating Systems

- Red Hat Linux 2.1, 3, 4 (AS, ES, WS)

### Preparing the Reference Machine

Remember, a reference machine is the machine that you will use to create an image of the appropriate operating system. The image created on the reference machine will eventually be deployed to target machines.

Before using the Image Preparation Wizard to create the gold image, do the following:

**Task 1** Install the desired Red Hat Linux OS on the reference machine.



Make sure that the installation is done on a single partition. Multiple partitions are not supported.

**Task 4** (Recommended) Install the Application Manager Client (must be the ROM-aware Linux version).

Be sure to update the rc scripts to run the notify and schedule daemons when the Linux OS boots. The installation of these services is not automated on a UNIX workstation within the context of the installation. The starting of services on UNIX workstations is operating system dependent. For information about installing Radia daemons as system services at boot time, please see your local UNIX system administrator or refer to your UNIX operating system's manual.

**Task 2** Reboot the machine.

## Using the Radia Image Preparation Wizard

Use the Radia Image Preparation Wizard to prepare a gold image. The Image Preparation Wizard will perform the following tasks:

- 1 Checks whether there is enough free disk space on the machine. If there is not enough space, the Image Preparation Wizard displays a message and terminates.
- 2 Creates an object that contains information (including hardware and BIOS capabilities) about the reference machine.
- 3 Restarts the reference machine into Linux (booted from the OS Manager CD-ROM). The Linux-based portion of the Image Preparation Wizard runs to collect the image and its associated files.
- 4 Creates and copies the following files to

*SystemDrive:\Novadigm\IntegrationServer\UPLOAD* on the Proxy Server or Radia Integration Server.



While these files are transferred, network speed will be less than optimal as the OS image is compressed during transfer.

— *ImageName.IMG*

This file contains the gold image. This is a compressed, sector-by-sector copy of the boot partition from the hard drive system that may be very large. The file contains an embedded file system that will be accessible when the image is installed.

— *ImageName.MBR*

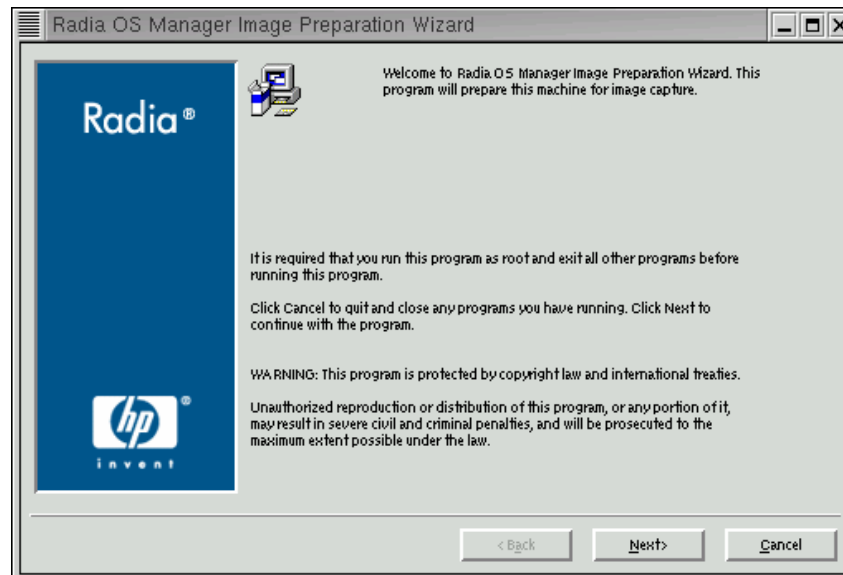
This file contains the master boot record file of the reference machine.

- ImageName.PAR  
The file contains the partition table file of the reference machine.
  - ImageName.EDM  
This file contains the object containing inventory information.
- A comprehensive log (*machineID.log*) is also available in this directory after the image is deployed.

#### To use the Radia Image Preparation Wizard

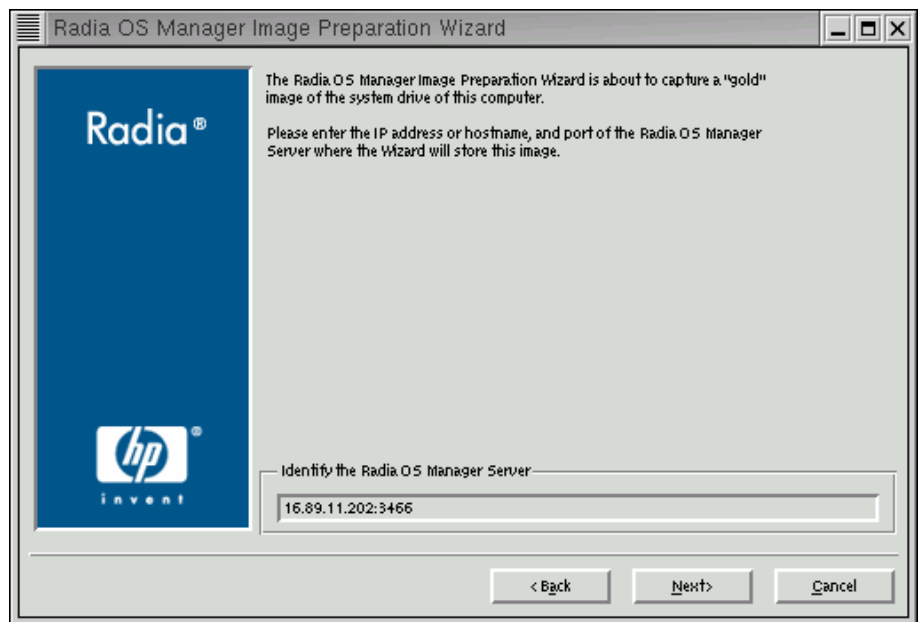
- 1 Login as root.
- 2 Insert the OS Manager CD-ROM into the CD-ROM drive of the reference machine.
- 3 Mount the CD-ROM.
- 4 Go to the `/os_manager_image_preparation_wizard/linux` directory and type **./prep wiz**

The OS Manager Image Preparation Wizard opens.

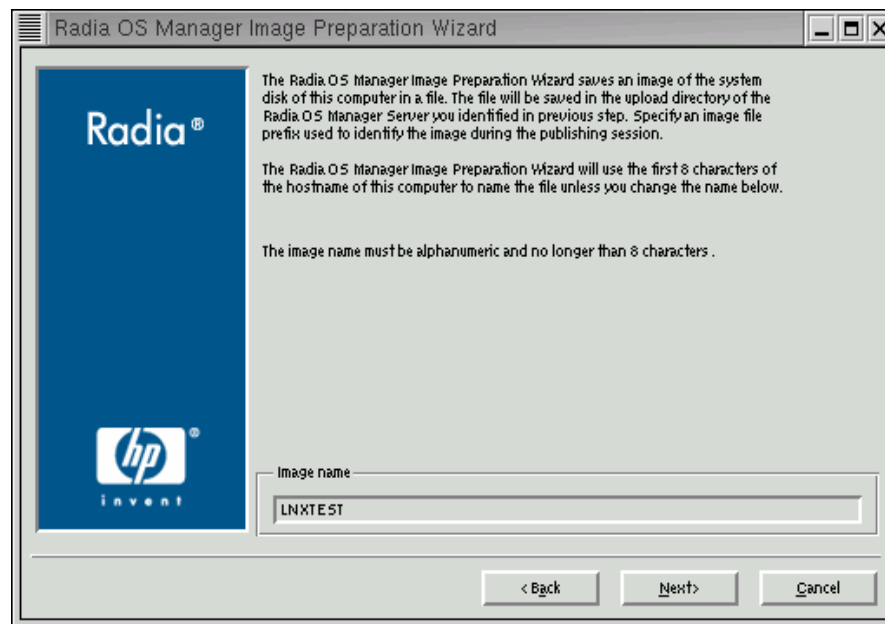


- 5 Click **Next**.

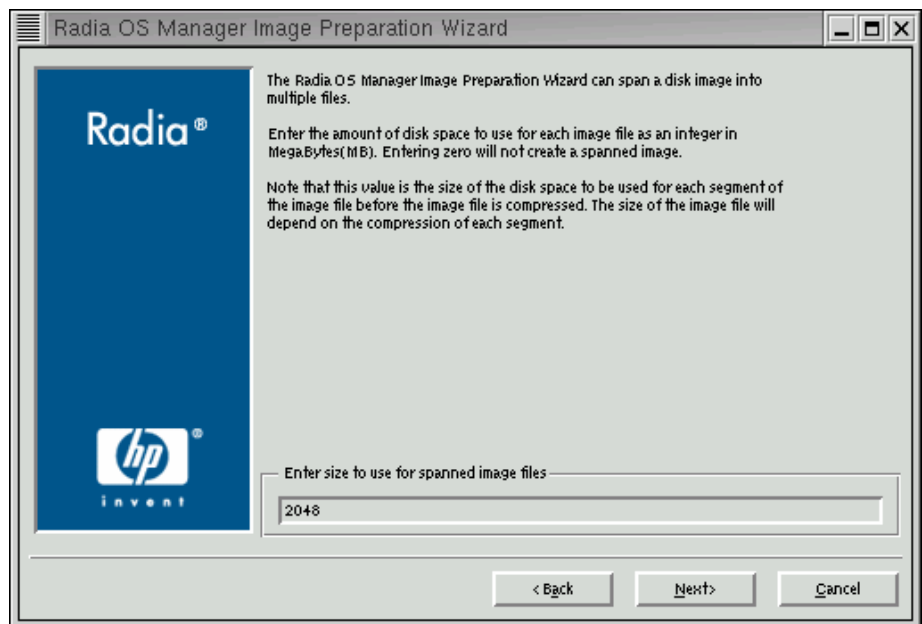
The Identify the OS Manager Server window opens.



- 6 Type the IP address or host name and port for the OS Manager Server. This must be specified in the following format:  
`xxx.xxx.xxx.xxx:<port>`.
- 7 Click **Next**.  
The Image Name window opens.



- 8 Type a name for the image file.
  - 9 Click **Next**.
- The Span Disk Image window opens.



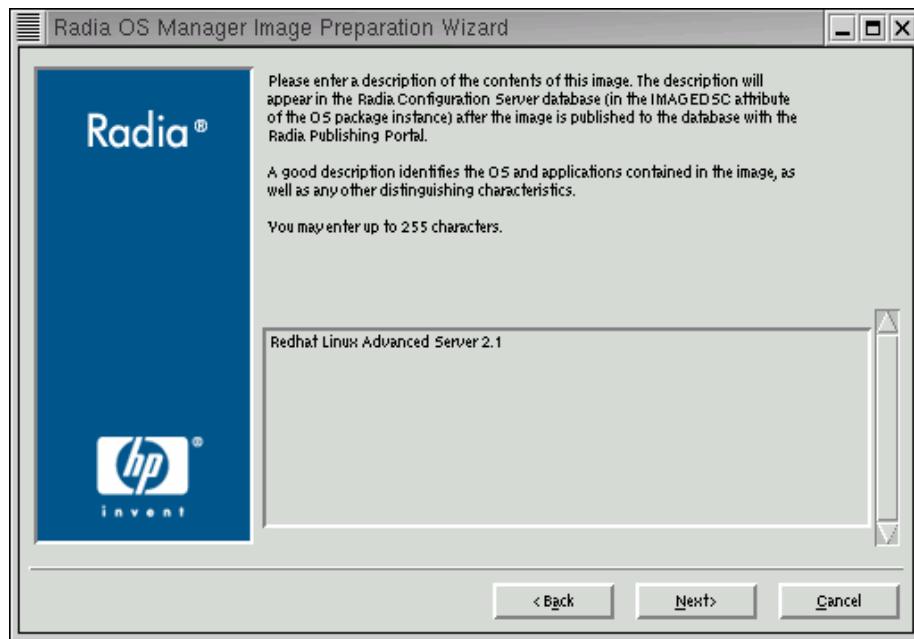
- 10 Type the amount of the total uncompressed disk space (in MB) to use for each image file. Type **0** (zero) if you do not want to create a spanned image.

Use spanned images to break the image file into smaller segments. This is helpful so that you do not have to be concerned with your images being less than 4 GB so that they can be stored in the Configuration Server. If you choose not to use the spanned image option (by typing zero), your images must be less than 4 GB.

- 11 Click **Next**.

A window opens so you can enter a description for the image.



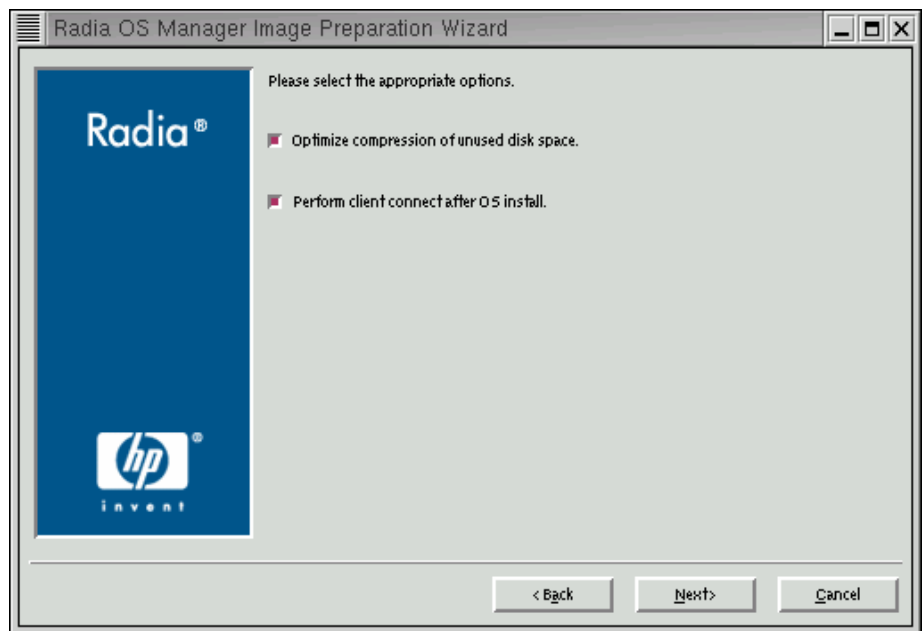


- 12 Type a description for the image file.

This description appears in the Radia Database in the IMAGEDSC attribute in the OS package instance.

- 13 Click **Next**.

The Options window opens.



14 Select the appropriate options:

- **Optimize compression of unused disk space.**

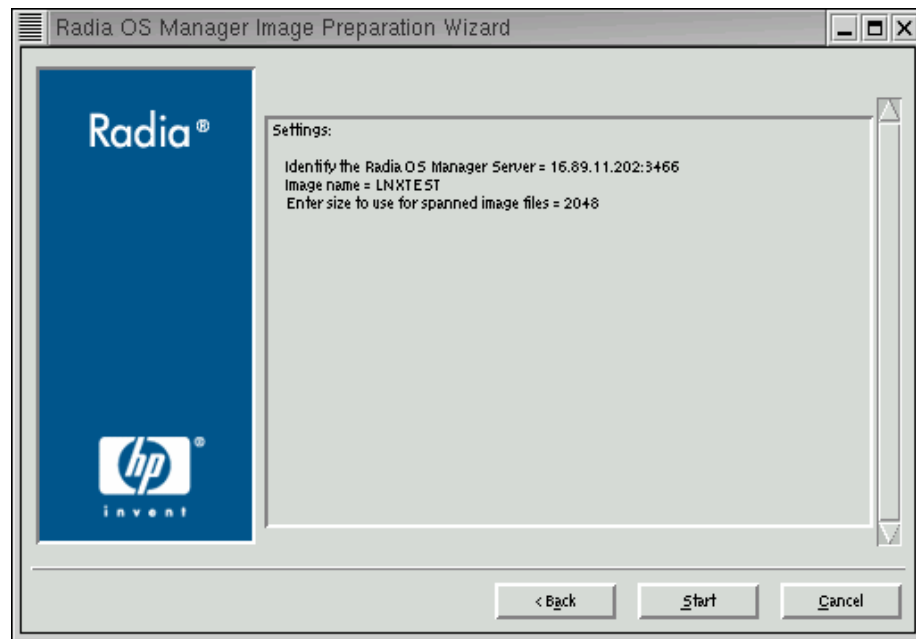
Select this check box to optimize compression of unused disk space. This adds zeroes up to the end of the disk. Note that this may take some time depending on the size of the hard drive.

- **Perform client connect after OS install.**

Select this check box to perform a Radia OS Connect after the OS is installed. If this is not selected, the Radia OS Connect will not occur automatically after the OS is installed. This check box allows you more granular control over the migration from unmanaged target machines to managed machines.

15 Click **Next**.

The Summary window opens.



- 16 Click **Start**.
- 17 Click **Finish**.
- 18 Click **OK** to restart the reference machine.

After restarting, the machine will boot to the CD-ROM, connect to the network, and store the gold image on the OS Manager Server.

- The upload of the gold image may seem to take a long time. However, it is not the upload that is taking a long time, but rather the compression of the image and the optimization for compression of the unused disk space (especially if there is a lot of free disk space). This happens during the transfer of the image and therefore, the network pipe is not a bottleneck. Transfer speeds will be approximately 30-400 Kbps but may vary depending upon processor speeds and your network environment.
- You may want to create copies of the files stored in the `\upload` directory so that you can retrieve them if necessary.

Once you have used the OS Manager Image Preparation Wizard to create your gold image, you must publish it to the Radia Database. Use the Publisher located on your Administrator Workstation to do this.

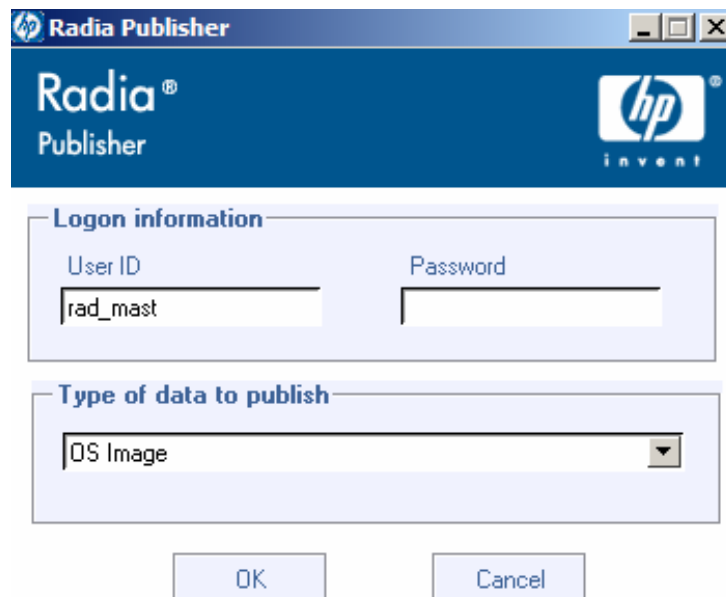
- Publishing is an administrative task that should be done in a non-production lab environment.
- The Publisher component of the Administration Workstation is available for the Windows platform only. A Windows workstation with the Administration Workstation version 4.0 or higher with access to images published to the Radia Integration Server is required.

For more information about the Publisher, refer to the *Publisher Guide*.

## Using the Publisher

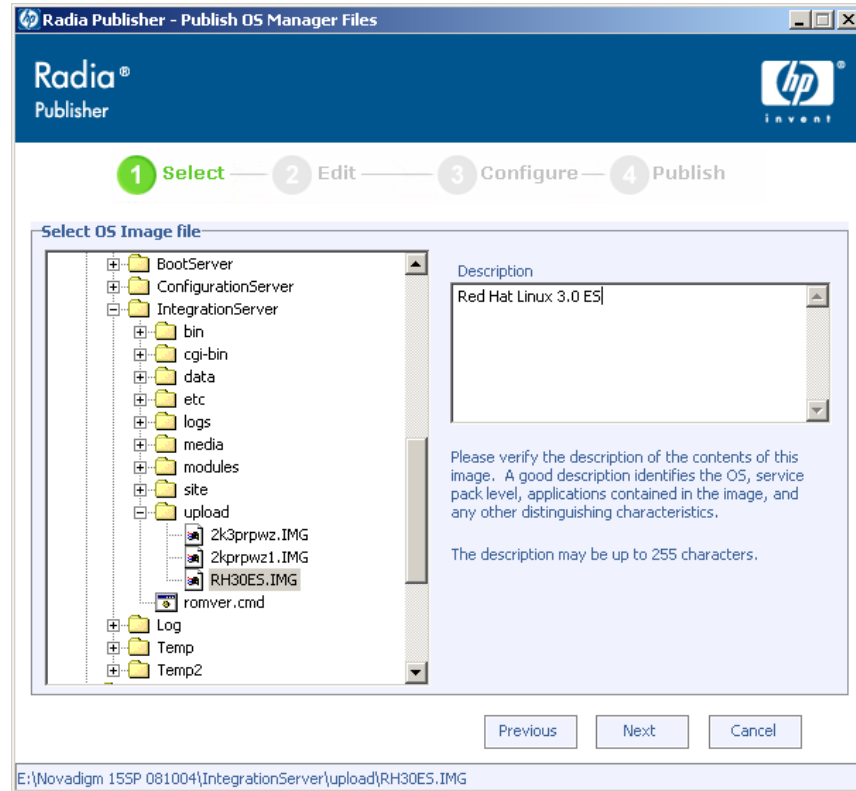
To use the Publisher

- 1 On your Windows workstation, double-click the Publisher icon on your desktop.



- 2 In the User ID box, type your Radia Administrator user ID.
- 3 In the Password box, type your Radia Administrator password.
- 4 From the Type of data to publish drop-down list, select **OS Image** to publish an operating system (OS) image.
- 5 Click **OK**.

The Select window opens.



- 6 Use the Select window to find and select the file you want to publish (typically stored in the upload directory on the Radia Integration Server). Only supported file types appear in the window.
- 7 Use the information in the Description box to verify that you have selected the correct file before you continue. You can also add information to the description if you choose.

- 8 Click **Next**.

The Configure – Package Information window opens.

Radia Publisher - Configure Radia Package - connected to localhost:3464

Radia® Publisher

1 Select — 2 Edit — 3 Configure — 4 Publish

**Package Information**

Name	Display name	Domain
RH30ES	RH30ES	OS
Description	Release	
Red Hat Linux 3.0 ES		

**Limit package to systems with**

Operating system

Hardware

Previous Next Cancel

Ready

- 9 Use the Package Information section to enter the Radia package information. Note that the Limit package to systems with section is not available when publishing OS images.

- 10 Click **Next**.

The Configure – Service Information window opens.

Radia Publisher - Configure Radia Service - connected to localhost:3464

Radia® Publisher

1 Select — 2 Edit — 3 Configure — 4 Publish

**Service Information**

☒ Create new ☐ Use existing ☐ No service

Name: REDHAT30ES Display name: Red Hat Linux 3.0 ES

Vendor: Red Hat Web URL:

Description: Red Hat Linux 3.0 ES Author:

**Assignment type**

☒ Mandatory ☐ Optional

**Management type**

☒ Automatic ☐ Manual

**Report on the following events**

☐ Use Base

Install	<input checked="" type="checkbox"/> Success	<input checked="" type="checkbox"/> Failure
Remove	<input checked="" type="checkbox"/> Success	<input checked="" type="checkbox"/> Failure
Update	<input checked="" type="checkbox"/> Success	<input checked="" type="checkbox"/> Failure
Verify	<input type="checkbox"/> Success	<input checked="" type="checkbox"/> Failure
Repair	<input type="checkbox"/> Success	<input checked="" type="checkbox"/> Failure

Previous Next Cancel

Ready

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



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

- 12 Enter the appropriate information in the rest of the fields.
- 13 Click **Next**.
- 14 Review the Summary section to verify the package and service information you provided during the previous steps. When you are satisfied, click **Publish**.
- 15 Click **Finish** to exit the Publisher.

Use the System Explorer to view your package and service.



There are some default connections to all OS services that come from the BASE INSTANCE. These must not be changed.

Once the image is published to the Radia Database, you can create policy and manage the published Linux image. Refer to the Windows version of the *OS Manager Guide* for details.



Local Service Boot is not supported for Linux imaging.

Refer to the Windows version of the *OS Manager Guide* for administration and policy assignments.



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