# HP OpenView OS Manager Using Radia

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

Software Version: 2.0

## User's Guide

Manufacturing Part Number: T3424-90106

June 2005



### **Legal Notices**

#### Warranty

Hewlett-Packard makes no warranty of any kind with regard to this document, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be held liable for errors contained herein or direct, indirect, special, incidental or consequential damages in connection with the furnishing, performance, or use of this material.

A copy of the specific warranty terms applicable to your Hewlett-Packard product can be obtained from your local Sales and Service Office.

#### Restricted Rights Legend

Use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause in DFARS 252.227-7013.

Hewlett-Packard Company United States of America

Rights for non-DOD U.S. Government Departments and Agencies are as set forth in FAR 52.227-19(c)(1,2).

#### Copyright Notices

© Copyright 2005 Hewlett-Packard Development Company, L.P.

No part of this document may be copied, reproduced, or translated into another language without the prior written consent of Hewlett-Packard Company. The information contained in this material is subject to change without notice.

#### Trademark Notices

Linux is a registered trademark of Linus Torvalds.

Microsoft®, Windows®, and Windows® XP are U.S. registered trademarks of Microsoft Corporation.

OpenLDAP is a registered trademark of the OpenLDAP Foundation.

#### Acknowledgements

PREBOOT EXECUTION ENVIRONMENT (PXE) SERVER Copyright © 1996-1999 Intel Corporation.

#### TFTP SERVER

Copyright © 1983, 1993

The Regents of the University of California.

#### OpenLDAF

Copyright 1999-2001 The OpenLDAP Foundation, Redwood City, California, USA. Portions Copyright © 1992-1996 Regents of the University of Michigan.

#### OpenSSL License

Copyright © 1998-2001 The OpenSSLProject.

#### Original SSLeay License

Copyright © 1995-1998 Eric Young (eay@cryptsoft.com)

#### DHTML Calendar

Copyright Mihai Bazon, 2002, 2003

### Support

Please visit the HP OpenView support web site at:

#### http://www.hp.com/managementsoftware/support

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

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

- Search for knowledge documents of interest
- Submit enhancement requests online
- Download software patches
- Submit and track progress on support cases
- Manage a support contract
- Look up HP support contacts
- Review information about available services
- Enter discussions with other software customers
- · Research and register for software training

Most of the support areas require that you register as an HP Passport user and log in. Many also require a support contract.

To find more information about access levels, go to:

#### http://www.hp.com/managementsoftware/access\_level

To register for an HP Passport ID, go to:

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

1	Introduction	9
	About the OS Manager	10
	Benefits of the OS Manager  Prerequisites	
	Terminology	10
	Using the OS Manager for UNIX	11
	About the Product Architecture	13
	About the Preparation Architecture	13
	System Explorer	
	OS Manager Administrative Tasks	
	About the Target Machines	
	Flow of an Operating System Installation	
2	Preparing the UNIX Environment	17
	Requirements	
		17
	Requirements  Before Installing the OS Manager for UNIX  Server Requirements	17 17
	Requirements  Before Installing the OS Manager for UNIX  Server Requirements  Target Machine Requirements	17171718
	Requirements  Before Installing the OS Manager for UNIX  Server Requirements  Target Machine Requirements  Installing the OS Manager Server for UNIX	17171718
	Requirements  Before Installing the OS Manager for UNIX  Server Requirements  Target Machine Requirements  Installing the OS Manager Server for UNIX  Mounting the CD for HP-UX Environments	17171818
	Requirements  Before Installing the OS Manager for UNIX  Server Requirements  Target Machine Requirements  Installing the OS Manager Server for UNIX  Mounting the CD for HP-UX Environments  Installing the OS Manager Server for UNIX	
	Requirements  Before Installing the OS Manager for UNIX Server Requirements  Target Machine Requirements  Installing the OS Manager Server for UNIX  Mounting the CD for HP-UX Environments Installing the OS Manager Server for UNIX  Updating the Management Portal	
	Requirements  Before Installing the OS Manager for UNIX  Server Requirements  Target Machine Requirements  Installing the OS Manager Server for UNIX  Mounting the CD for HP-UX Environments  Installing the OS Manager Server for UNIX  Updating the Management Portal  Update romad.tkd	
	Requirements  Before Installing the OS Manager for UNIX  Server Requirements  Target Machine Requirements  Installing the OS Manager Server for UNIX  Mounting the CD for HP-UX Environments  Installing the OS Manager Server for UNIX  Updating the Management Portal  Update romad.tkd  Installing the ROMS UNIX Configuration File Publisher	
	Requirements  Before Installing the OS Manager for UNIX Server Requirements  Target Machine Requirements  Installing the OS Manager Server for UNIX  Mounting the CD for HP-UX Environments Installing the OS Manager Server for UNIX  Updating the Management Portal  Update romad.tkd  Installing the ROMS UNIX Configuration File Publisher  Preparing Client Installation Media	
	Requirements  Before Installing the OS Manager for UNIX  Server Requirements  Target Machine Requirements  Installing the OS Manager Server for UNIX  Mounting the CD for HP-UX Environments  Installing the OS Manager Server for UNIX  Updating the Management Portal  Update romad.tkd  Installing the ROMS UNIX Configuration File Publisher	

	Running pkg_client.sh	34
	Post-Install Tasks: Configuring the UNIX Server	35
	Configuring HP-UX Ignite	35
	Modifying the INDEX File	35
	Setting HP-UX Ignite for Non-Interactive Installations	36
	Configure Ignite Server to run instl_bootd instead of bootpd	36
	Configuring Solaris JumpStart	37
	Modifying JumpStart Files	37
	Configuring Linux Kickstart	38
	Modifying Kickstart Files	38
	Modifying /etc/hosts	38
	Modifying the Default PXE Configuration File	38
	Configuring the Configuration Server and Radia Database	39
	OSIGNITE Domain	40
	OSJUMP Domain	44
	OSKICK Domain	
	Updating PRIMARY.SYSTEM.ZPROCESS.ZMASTER	
	Configuring the ROMS Administration Tasks within the Management Portal	
	Adding a Directory Service	
	Specifying the Configuration Server for ROM Administration Tasks	
	Assigning ROM Views to New Users	
	Additional Configuration Information	
	Configuring the Default Behaviors Instance	
	Modifying Ivetwork I of Configurations	
3	Preparing the Configuration Files	55
	Using the ROMS UNIX Configuration File Publisher	
	Publishing Configuration Information	
	Update the JUMPCFG Class Instance	
	Update the KSCFG Class Instance	
	Setting Policy and Deploying Images	
	Devices	
	Manually Adding a Device	59

Modifying a Device	60
Connecting an OS to a Device, Subnet, Model, or Manufacturer	61
Connecting an Operating System to a Device	61
Connecting an Operating System to a Subnet, Model, or Manufacturer	63
Configuring a Role	64
Assigning a Role	65
Changing Policy	67
Repairing a Device	67
Reviewing OS Status	68
Reviewing Results	69
Linux Imaging	71
Creating Linux OS Images	71
Supported Linux Operating Systems	71
Using the Radia Image Preparation Wizard	
Using the Publisher	80
dex	0.5
	Connecting an OS to a Device, Subnet, Model, or Manufacturer  Connecting an Operating System to a Device  Connecting an Operating System to a Subnet, Model, or Manufacturer  Configuring a Role  Assigning a Role  Changing Policy  Repairing a Device  Reviewing OS Status  Reviewing Results  Linux Imaging  Creating Linux OS Images  Supported Linux Operating Systems  Preparing the Reference Machine  Using the Radia Image Preparation Wizard  Using the Publisher

# 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, 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

### **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.

Introduction 11

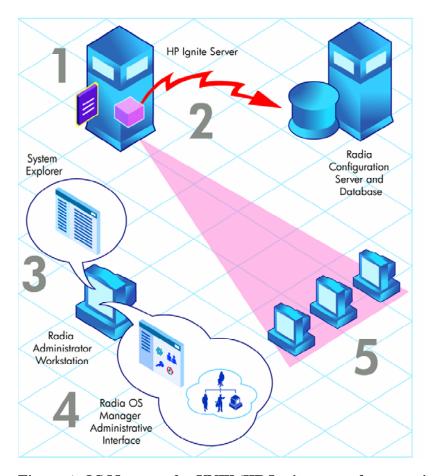


Figure 1: OS Manager for UNIX (HP Ignite example scenario)

- 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 to create and prepare a service for distribution.

### 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:

Introduction 13

#### • HP-UX Ignite, Linux Kickstart, 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:

- Radia Client 4.1 installation media.
- Hardware requirements as required for HP-UX Ignite, Linux Kickstart or Solaris JumpStart

### Flow of an Operating System Installation

Below is a description of the flow for an operating system installation.

- 1 A network boot is initiated on the target machine.
  - The UNIX server (Ignite, Kickstart or JumpStart) assigns an IP address and sends pre-installation scripts to the client. These scripts comprise standard (Ignite, Kickstart or JumpStart) 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 or Jumpstart) configuration file.
- 3 The script reboots the target machine and the configuration file created by the ROMS server is used.

Introduction 15

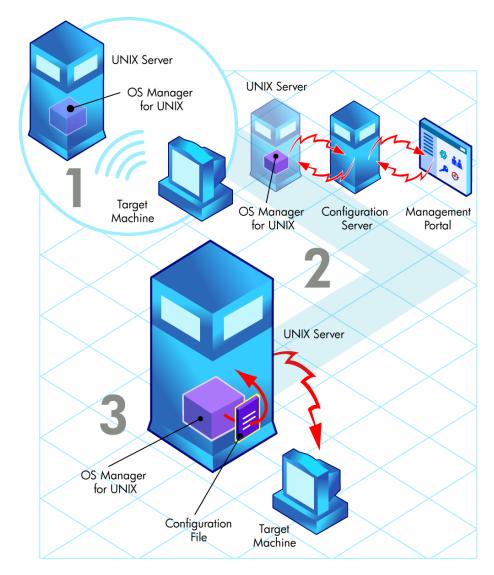


Figure 2: Operating system installation process flow.

# 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 LINIX

## 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 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 *Ignite-UX Administration Guide*, *Red Hat System Administrator's Guide* or the *Solaris Installation Guide* for more information about installing and configuring Ignite, Kickstart and JumpStart, respectively.

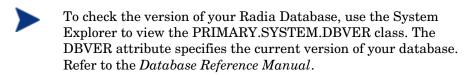


Make sure your Ignite server is set up to use instl\_bootd on port 67/68. Refer to section *Configure Ignite Server to run instl\_bootd instead of bootpd* on page 36 for details.

### Server Requirements

- An Ignite, Kickstart or JumpStart server configured for use with the OS Manager for UNIX.
- OS Manager Server (includes OS Manager Administrative interface) 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.



- 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 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 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

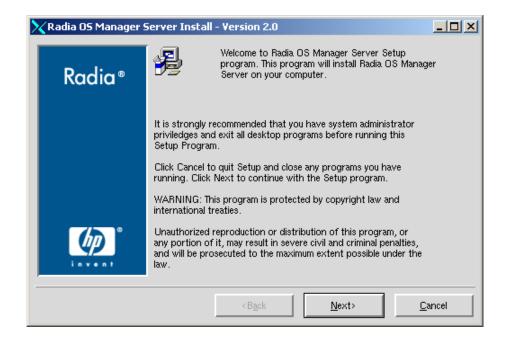


The OS Manager Server for UNIX must be installed as root.

#### To install the OS Manager Server

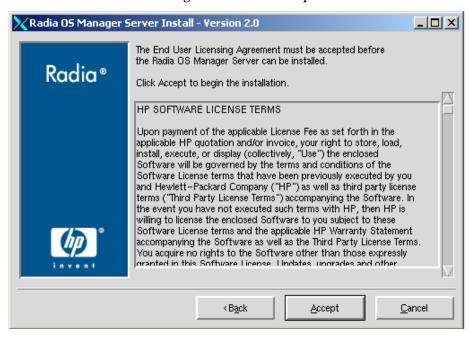
- If running, stop the Radia Integration Server service.
- 2 From the OS Manager CD-ROM, go to /os\_manager\_server/<platform>.
- 3 Type ./install.

The Welcome to OS Manager Server Setup window opens.



#### 4 Click Next.

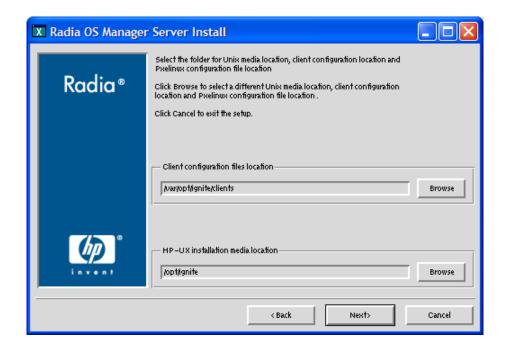
The HP End-User License Agreement window opens.



5 Review the HP Software License Terms and click **Accept**. The installation location window opens.



- 6 Select the folder where you want to install the OS Manager Server.
- 7 Click Next.



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



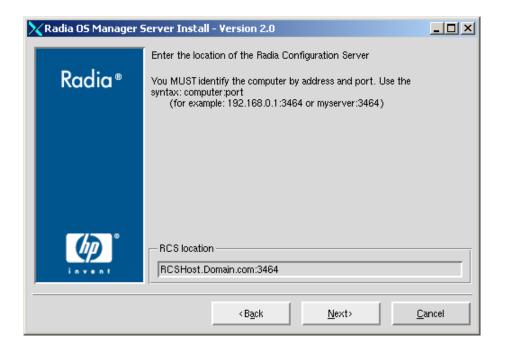
The client configuration files location must be NFS shared before starting the OS Manager for UNIX.

The License File window opens.



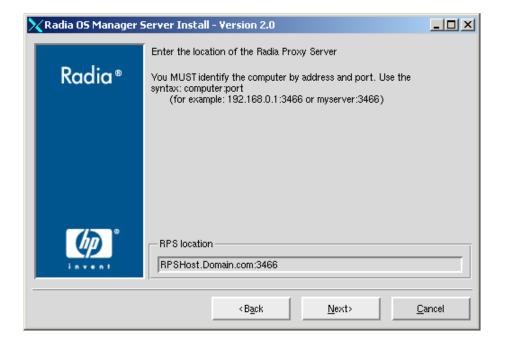
- 9 Enter the location of your license file (license.nvd) or click Browse to navigate to your license file.
- 10 Click Next.

The RCS Location window opens.



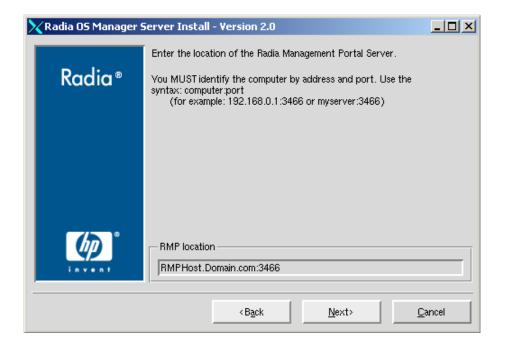
- 11 Specify the address and port for the Configuration Server.
- 12 Click Next.

The RPS Server Location window opens.



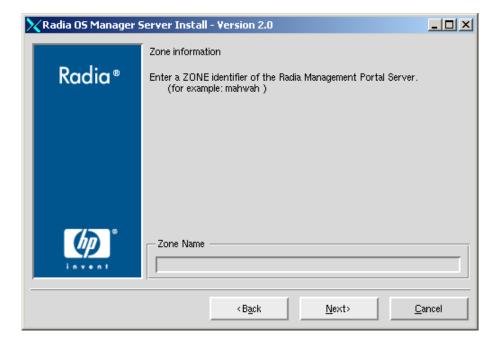
- 13 Specify the address and port for the Proxy Server.
- 14 Click Next.

The RMP Server Location window opens.



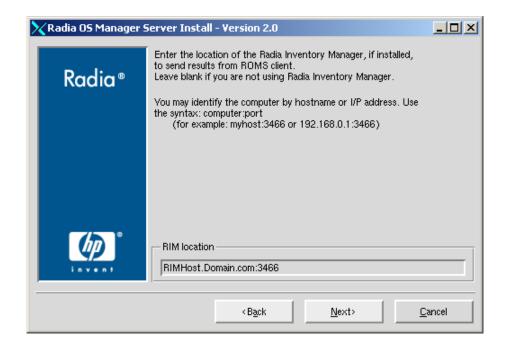
- 15 Specify the address and port number for the Management Portal. You may include the company name and domain, but it is not required. This server should be on a separate machine.
- 16 Click Next.

The Zone Information window opens.



- 17 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 underscores, commas, or periods. Refer to the *Management Portal Guide* for information about zones.
- 18 Click Next.

The RIM Server Location window opens.



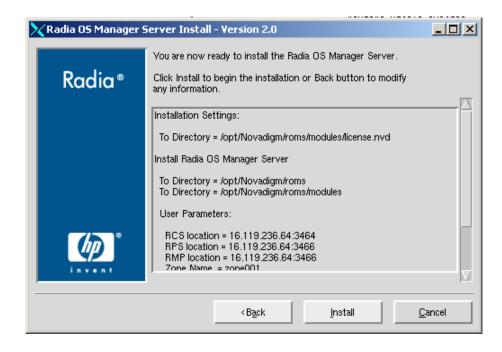
- 19 Specify the address and port for the Inventory Manager Server.
- 20 Click Next.

The Machine Object Name attribute select window opens.



- 21 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.
- 22 Click Next.

The Summary window opens.



- 23 Click **Install** to begin the installation.
- 24 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

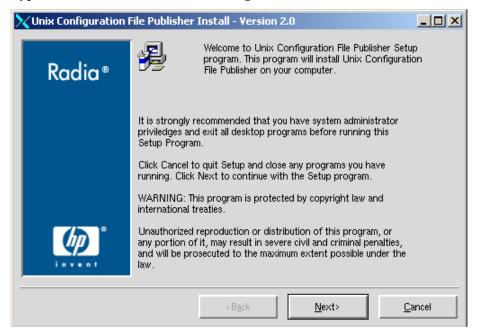
- From the OS Manager for UNIX CD-ROM, /os\_administrator directory, copy romad.tkd to your Management Portal's /IntegrationServer/modules directory.
- Stop and restart your Management Portal service.

# 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, Linux Kickstart or Solaris JumpStart server machine.

#### To install the Ignite Publisher

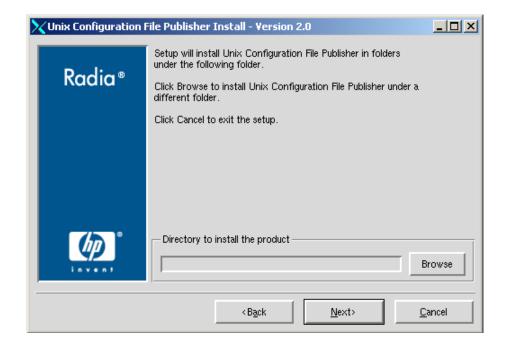
- 1 From the OS Manager CD-ROM, go to
  ../unix configuration file publisher/<platform>/.
- 2 Type ./install. The installation begins.



3 Click Next.

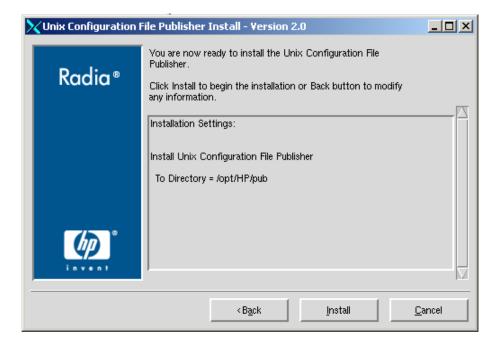
The Hp End User License Agreement Window opens.

4 Review the HP Software License Terms and click **Accept**.
The Installation Directory Location Window opens.



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

The Summary window opens.



- 6 Click **Install** to begin the installation process.
- 7 When the installation is complete, click Finish.
  The Ignite 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.

### 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 (2.0) 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 (location specified during 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 35.
- For JumpStart, continue with section Configuring Solaris JumpStart on page 37.
- For Kickstart, continue with section Configuring Linux Kickstart on page 38.

# 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

- Use a text editor and edit the INDEX file located in the /var/opt/ignite directory.
- Add a line to reference radia\_cfg in the /var/opt/ignite/data/Rel\_B.11.11 directory 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

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

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

Add the following line to /ect/inetd.conf to enable instl\_bootd on port 67/68:

bootps dgram udp wait root /opt/ignite/lbin/instl\_bootd \
instl bootd

3 Restart the inetd daemon.

# Configuring Solaris JumpStart

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

## 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

• Run add\_install\_client to add client configure 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

• 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> boottype=:in sysid_config= <IP>:<roms_path> install_config=<IP>:<roms_path> rootopts=:rsize=32768
```

#### For example, where:

— <IP>(JumpStart Server IP address) = 16.119.229.8

- <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=16.119.229.8:/opt/jumpstart_9/Solaris_9/Tools/Boot \ install=16.119.229.8:/opt/jumpstart_9 boottype=:in \ sysid_config=16.119.229.8:/var/opt/jumpstart/clients \ install_config=16.119.229.8:/var/opt/jumpstart/clients \ rootopts=:rsize=32768
```

# Configuring Linux 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 the Configuration Server and Radia Database

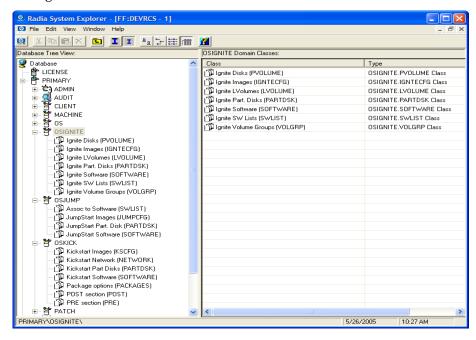
Before updating the Radia Database, be sure to install version 4.5.4 SP 5 or higher of the Configuration Server. Refer to the *Configuration Server Guide* for installation instructions.

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 (for Ignite: importi.cmd, for Kickstart: importks.cmd, for JumpStart: importjs.cmd) from the bin directory. 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 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, or PRIMARY.OSJUMP) and classes, as shown in the figure below.



The sections and tables below describe these new classes.

## **OSIGNITE** Domain

The OSIGNITE domain is required for processing Ignite configuration files. The following table describes each OSIGNITE domain class.

Table 1: OSIGNITE Domain class descriptions.

Class	Description	Connects to	Example
Ignite Images (IGNTECFG)	An instance in the IGNTECFG class contains general parameters for an Ignite image.	Required connection: VOLGRP or PARTDISK to further define the image. Optional connection: SWLIST instance	MyTestImg
Ignite Volume Groups (VOLGRP)	An instance in the VOLGRP class defines general information about a volume group such as its type and size. You may define one or more volume groups per hard drive.	Optional connections: PVOLUME LVOLUME Used to define a volume group further.	MyTestImg_VG001
Ignite Disks (PVOLUME)	An instance in the PVOLUME class contains information about the physical disk drive on a machine.	See VOLGRP class.	MyTestImgVG001_81250

Class	Description	Connects to	Example
Ignite LVolumes (LVOLUME)	An instance in the LVOLUME class contains information about a logical volume, such as volume size, block and fragment sizes, file system type and the mount point.	See VOLGRP class.	MyTestImgVG001_Root
Ignite Part. Disks (PARTDSK)	An instance in the PARTDSK class defines a partitioned disk layout. You may define one PARTDSK per hard drive.  Each disk may have a maximum of two partitions—one containing a file system and the other containing swap space.	See IGNTECFG class. You can connect a maximum of two PARTDSK instances to an IGNTECFG instance.	MyTestImg_PD001

Class	Description	Connects to	Example
Ignite SW Lists (SWLIST)	An instance of the SWLIST class defines a group of instances in the SOFTWARE class	Optional connections: You can connect two SWLIST instances to an Ignite image (IGNTECFG)—one SWLIST instance for all software instances to be deployed to the target and one SWLIST instance for all software instances already existing on the target. Set the INSTALL flag: FALSE – Distribute the software list but do not install TRUE – Distribute and install	MyTestImg_NoInstall
Ignite Software (SOFTWARE)			

## OSJUMP Domain

The OSJUMP domain is required for processing JumpStart configuration files. The following table describes each OSJUMP domain class.

Table 2: OSJUMP Domain class descriptions

Class	Description	Connects to	Example
Assoc to Software (SWLIST)	An instance of the SWLIST class defines a group of instances in the SOFTWARE class		MyJSTestImg_NoInstall
JumpStart Images (JUMPCFG)	An instance in the JUMPCFG class contains general parameters for a JumpStart image.		MyJSTestImg
JumpStart Part. Disk (PARTDISK)	An instance in the PARTDSK class defines a partitioned disk layout. You may define one PARTDSK per hard drive.  Each disk may have a maximum of two partitions—one containing a file system and the other containing swap space.		MyJSTestImg_PD002
JumpStart Software (SOFTWARE)			

## **OSKICK** Domain

The OSKICK domain is required for processing Kickstart configuration files. The following table describes each OSKICK domain class.

**Table 3: OSKICK Domain class descriptions** 

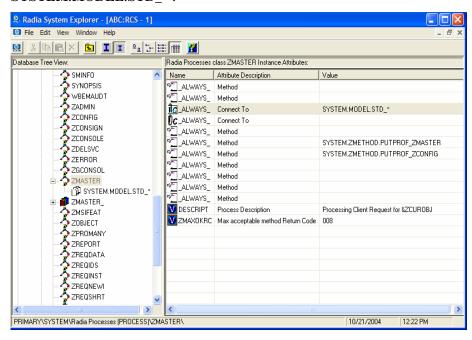
Class	Description	Connects to	Example
Kickstart Images (KSCFG)	An instance in the JUMPCFG class contains general parameters for a JumpStart image.		MyKSTestImg
Kickstart Network (NETWORK)			
Kickstart Part. Disk (PARTDISK)	An instance in the PARTDSK class defines a partitioned disk layout. You may define one PARTDSK per hard drive.  Each disk may have a maximum of two partitions—one containing a file system and the other containing swap space.		MyKSTestImg_PD003
Kickstart Software (SOFTWARE)			
Package Options (PACKAGES)			

## Updating PRIMARY.SYSTEM.ZPROCESS.ZMASTER

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

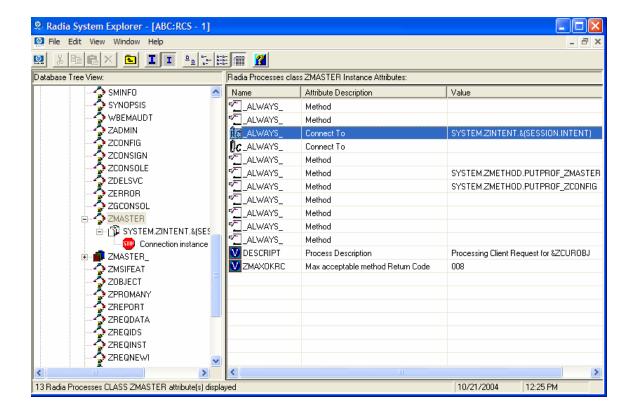
#### To manually update PRIMARY.SYSTEM.ZPROCESS.ZMASTER

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



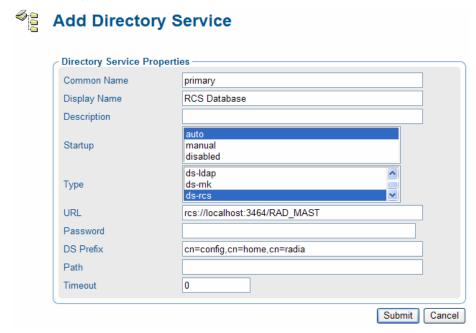
The Management Portal version 2.1 must be installed on a Windows machine.

## 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

- 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.



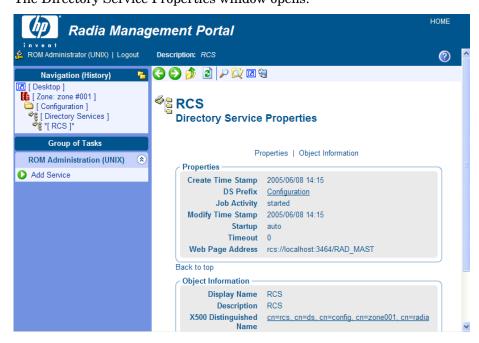
- 7 In the **URL** text box, change the value of localhost to the IP address of the Configuration Server that you want to use for ROM administration.
- 8 Click Submit.
- 9 Log out of the Management Portal.

# 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.

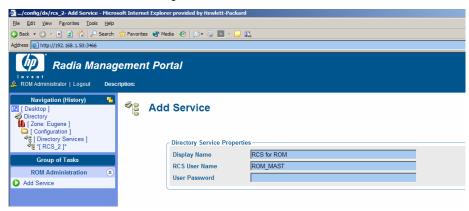
#### To specify the Configuration Server to be used for ROM administration tasks

- 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



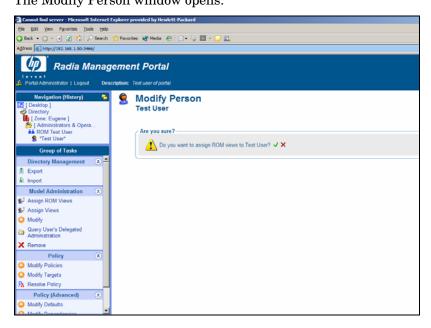
You will need to assign additional ROM Views only if you will be creating additional RMP user accounts other than ROMADMINU.

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.

- 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.



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

The Properties window opens, showing the modification is complete.

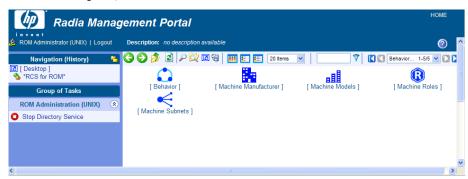
## Additional Configuration Information

## 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.

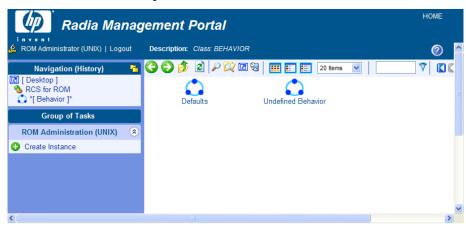
#### To configure the default Behaviors instance

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

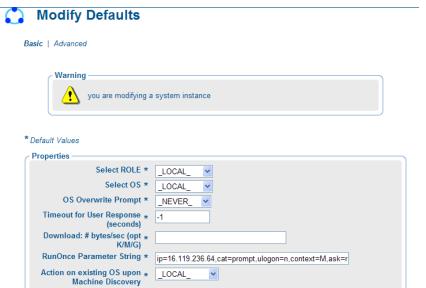


3 Click Behavior.

The Behavior window opens.



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





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

Modify Cancel

- 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 or JumpStart configuration file.

# Using the ROMS UNIX Configuration File Publisher

## **Publishing Configuration Information**

The Publisher creates object information from an existing Ignite 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 Ignite or JumpStart 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)

After you enter the debug level and hit 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.

ame	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
<b>∑</b> ROOTDEV	Root Device (ctd)	
<b>∑</b> 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	

Figure 3: JUMPCFG class instance attributes.



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

# Update the KSCFG Class Instance

After a Kickstart image is published into the Radia Database, the OSKICK.KSCFG class instance attributes KERNEL and INITRD must be updated with the compatible kernel and initrd information.

A sample attribute value for KERNEL could be:

vmlinuz-el3-as4

A sample value for INITRD might be:

initrd.img-el3-as4

# 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

- 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 Device Properties window opens.

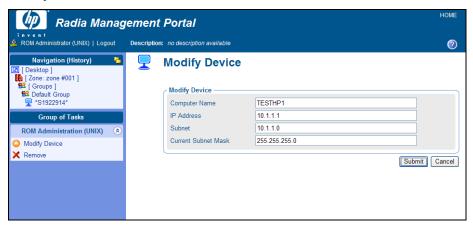


6 Enter your device information and click Submit. The device is added to the Management Portal.

## Modifying a Device

#### To modify a device

Select the device to be modified within the Management Portal and click Modify Device.



2 Modify the values for the device and click Submit.

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

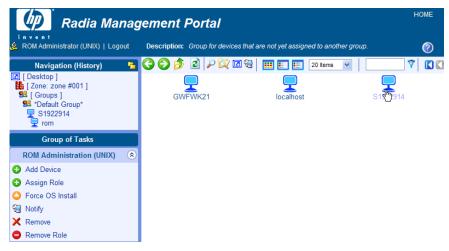


If you are unsure of the subnet, model or manufacturer, select the device and click View within the Resultant Policy section next to the Subnet, Model or Manufacturer.

### Connecting an Operating System to a Device

#### To connect an operating system to a device

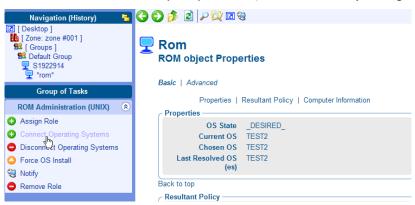
1 Within the device group, select the device.



2 Click the device ROM object

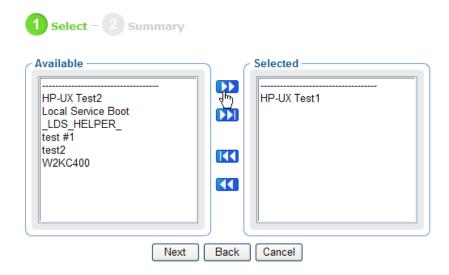


3 In the ROM Administration (UNIX) task list, click Connect Operating Systems.



4 Select the operating system to install and click the arrows pointing to the right to add it to the **Selected** box.

# Connect Operating Systems Install

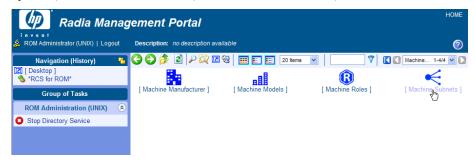


5 Click Next, then Submit.

#### 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**.
- Depending on which object you would like to connect an operating system, click Machine Subnets, Machine Manufacturers, or Machine Models.



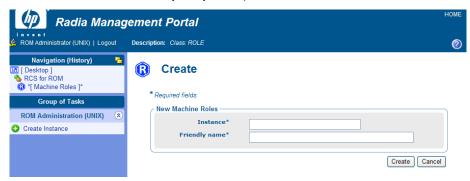
- 3 Select the correct subnet, manufacturer or model to which you would like to connect an operating system.
- 4 In the ROM Administration (UNIX) tasks, click Connect Operating Systems.
- 5 Select the operating system from the **Available** box and use the arrows to move it to the **Selected** box.
- 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

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



- 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.



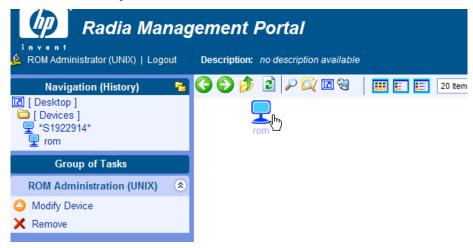
- 7 In the ROM Administration (UNIX) tasks, click Connect Operating Systems.
- 8 Select the operating system from the **Available** box and use the arrows to move it to the **Selected** box.
- 9 Click Next, then click Commit.

### Assigning a Role

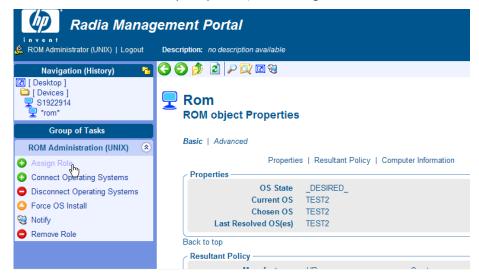
Assign a Role to a device within the device ROM object properties workspace.

#### To assign a Role

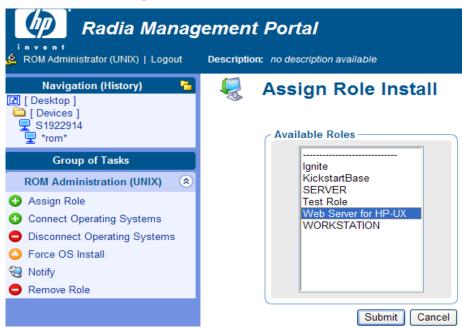
- 1 Browse to the device to which you would like to assign a Role.
- 2 Click the ROM object for that device.



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



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



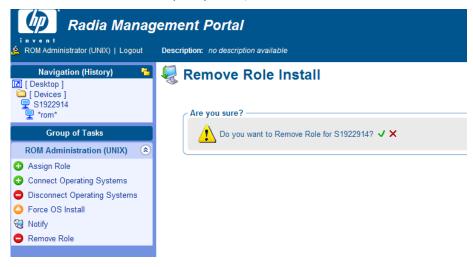
The Role is displayed within the Resultant Policy section of the device ROM object properties window.

## **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\_.
- 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.
- 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.

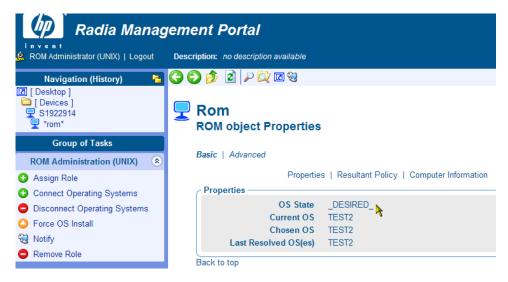


Figure 4: ROM Object properties, OS State value.

# Reviewing Results

After completing the configuration tasks in each section above, the configuration files are ready. Follow the usual HP-UX Ignite, Linux Kickstart 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 2** (*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 3** 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 OS Manager 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-bysector 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.

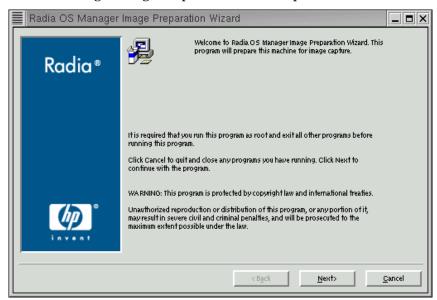


A comprehensive log (machineID.log) is also available in this directory after the image is deployed.

#### To use the Radia OS 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: ./prepwiz

The OS Manager Image Preparation Wizard opens.



5 Click Next.

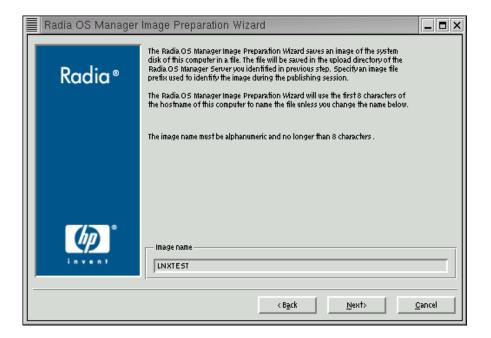
The Identify the OS Manager Server window opens.



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.cont>.

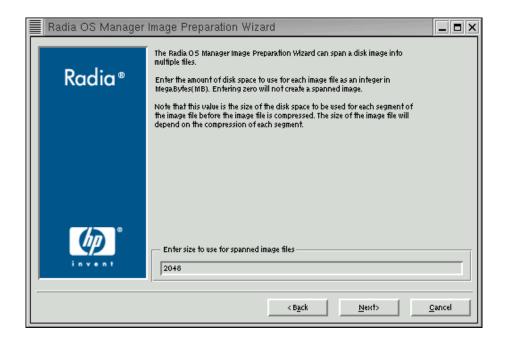
7 Click Next.

The Image Name window opens.



- 8 Type a name for the image file.
- 9 Click Next.

The Span Disk Image window opens.

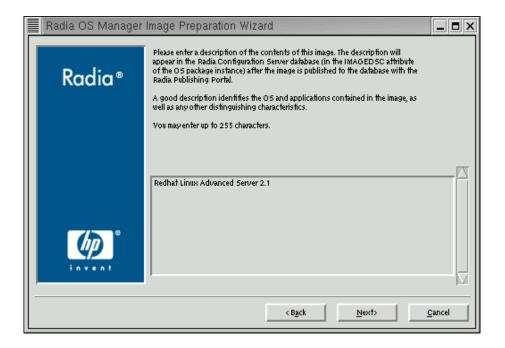


10 Type the amount of the total uncompressed disk space (in MB) to use for each image file. Type 0 (zero) if you do not want to create a spanned image.

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.

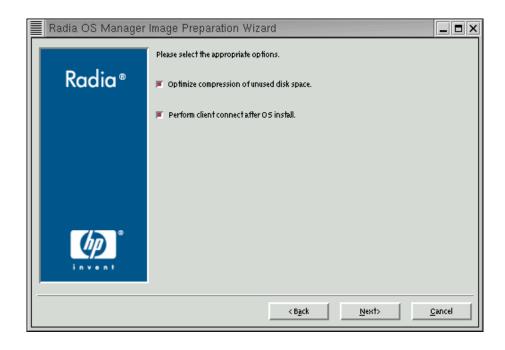


12 Type a description for the image file.

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:

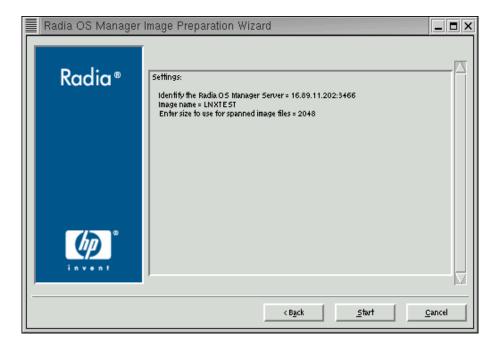
# Optimize compression of unused disk space. Select this check box to optimize compression of unused disk space. This adds zeroes up to the end of the disk. Note that this may take some time depending on the size of the hard drive.

#### 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.



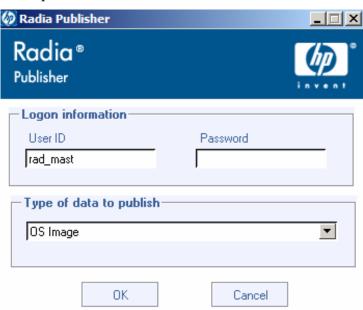
The Publisher component of the Administration Workstation is available for the Windows platform only. A Windows workstation with the Administration Workstation version 4.0 or higher with access to images published to the Radia Integration Server is required.

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

### Using the Publisher

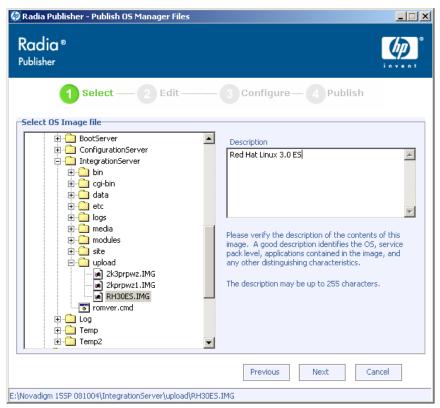
#### To use the Publisher

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**.

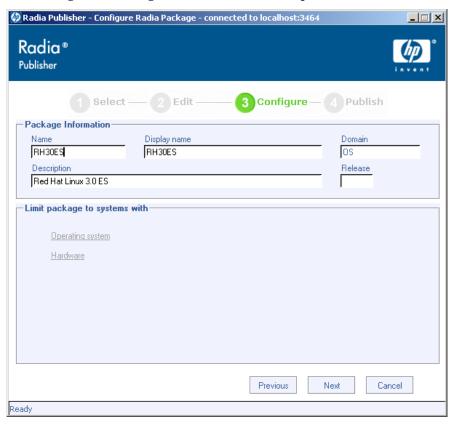
The Select window opens.



- 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.



- 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.



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.

## Index

A	adding, 47
Administrator Workstation, 18	DISPLAYNAME, 39
architecture	DSML_HOST, 39
deployment, 13	DSML_PORT, 39
preparation, 13	Е
В	environment
Boot Server	preparing, 17
configuring, 53	ethers, $37$
bootparams, 37	ш
bootpd, 36	Н
-	hosts, 37
C	HP Ignite, 10
Cisco switch, 53	HP Ignite Server, 14, 17
Client Configuration Information, 37	1
Configuration File Publisher, 13, 18	1
installing, 31	Ignite-UX Administration Guide, 17
configuration files, 10, 11, 12	IGNTECFG, 41
preparing, 55, 71	image file
Configuration Information	description, 77
publishing, 56	Image Preparation Wizard
Configuration Server. See RCS	creating images, 71
configuring, 39	using, 73
configuring	IMAGEDSC attribute, 77
Boot Server, 53	ImageName.EDM, 73
customer support, 4	ImageName.IMG, 72
D	ImageName.MBR, 72
	ImageName.PAR, 73
DBVER attribute, 18	images
Default Behaviors Instance	deploying, 13
configuring, 51	INDEX file
deploying images, 59	modifying, 35
deployment, 13	INDEX File
deployment architecture, 13	Modifying, 35

Directory Service

instl_bootd, 36	P
ipublish.tcl, 54	ı
T. Committee of the Com	Package Information section, 82
J	package instances, 12
JUMPCFG, 44	PARTDISK, 44, 45
JUMPCFG Class Instance	PARTDSK, 42
updating, 57	Perform client connect after OS install check box, 78
JumpStart	pfs_mount, 18, 19
configuring, 37	pfs_umount, 19
1	policy, setting, 59
L	preparation architecture, 13
Limit package to systems with section, 82	prerequisites, 10
LVOLUME, 42	PRIMARY.SYSTEM.ZPROCESS.MASTER
	updating, 46
M	product architecture, 13
MACHINE, 43	Publisher, using, 80
Mounting the CD for HP-UX, 18	Publishing, 56
Mounting the CD for TH -CX, To	PVOLUME, 41
N	R
Network Port Configurations	Padia diant 14
modifying, 53	Radia client, 14
Non-Interactive Installations, 36	Radia Database
	configuring, 39
O	updates, 18
Optimize compression of unused disk space check	Radia Image Preparation Wizard, 72 Radia Information Base Server, 14
box, 78	Radia OS Image Preparation Wizard
OS installation, flow, 15	using, 73
OS Manager	RCS, 17
Before Installing, 17	reference machine
benefits, 10	
OS Manager Administrative Interface, 13	preparing, 71
OS Manager Server for HP Ignite, 14	restarting, 79
OS Manager Server for UNIX	requirements, 17
installing, 18	Reviewing Results, 69
OS.ZSERVICE, 56	Rock Ridge format, 18
OSIGNITE domain, 18, 40	ROMS Administration Tasks
classes, 41	configuring, 47
OSJUMP domain, 18, 44	Run-once parameter string field, 51
classes, 44	S
OSKICK domain	<b>5</b>
classes, 45	Select window, 81
	server components, 13

86 Index

server requirements, 17
service OS, 11
services, 12
setting policy, 59
SOFTWARE, 44, 45
software lists, 12
definition, 11
Solaris Installation Guide, 17
Solaris JumpStart server, 17
Solaris JumpStart Server, 14
SWLIST, 44
SWLIST class, 43
SWLIST instance, 41
System Explorer, 13

T

target machine, 14

definition, 11
requirements, 18
technical support, 4
template file, 11
Terminology, 10
Type of Data to Publish drop-down list, 81



Undefined Behavior instance, 51 UNIX server, configuring, 35 unmount the CD-ROM, 19



Views assigning, 50 VOLGRP, 41

Index 87

88 Index