

# **Installing Prime Provisioning**

Use the information described in this chapter in the following order:



See Chapter 1, "Installation Requirements," before installing Cisco Prime Provisioning.

Note

If you are planning to use an Oracle Database with Prime Provisioning instead of the default embedded database, see Setting Up Oracle for Prime Provisioning, page 2-1 before continuing with the installation.

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# Initial Configuration—Creating the Prime Provisioning Owner

The first time you install Prime Provisioning, create a user to own the software. This user is the default username when you log into Prime Provisioning. Create the user and group using Linux commands or the Linux admin tool. This user must have a valid group ID and read and write permissions to the **install** directory.

To add a user to your server using the standard Linux commands, follow these steps:

**Step 1** At the Linux prompt, log in as **root**.

**Step 2** To create the user, enter:

useradd -d /users/<username> -m -s /bin/<shell\_type> <username>
passwd <username>

where:

-m creates the directory specified in -d

<shell\_type> is sh for the Bourne shell. The Bourne shell is the only supported shell.

iscadm is recommended as the <username>.

**Step 3** At the prompt, enter a password.

# **Installing Prime Provisioning**

Before installing Prime Provisioning, configure the server to be able to perform hostname to IP address translations. Ensure that Domain Naming System (DNS) or an alternative is configured.

Prime Provisioning accesses its database using a connection based on the hostname of the server. Ensure that you can reach the host via its hostname. For example, if the hostname is 'pollux', set up hostname resolution such that you do not get an error response when entering 'ping pollux'.

To add Prime Provisioning to your system, either as a new Prime Provisioning customer or a customer upgrading from an existing Prime Provisioning release, you can choose one of the following two ways to install:

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After installing Prime Provisioning, the installation log can be found in *PRIMEF\_HOME*/tmp, where *PRIMEF\_HOME* is the directory specified for Prime Provisioning to be installed to. By default the PRIMEF\_HOME directory is */opt/PrimeProvisioning* and the installation log can be found at */opt/PrimeProvisioning/tmp/PrimeInstallationLog.txt*.



The CLI installer does not support the use of Oracle database with Prime Provisioning. To use the Oracle database, use the GUI installer as explained in the "Installing Prime Provisioning Using the GUI Installer" section on page 3-3.

We recommend that you install Prime Provisioning using the Graphical User Interface (GUI) installer. This enables more configuration options than the CLI installer.

The installer checks for two kinds of disk space:

- In the intended install location, you need 1.2 GB free for the binaries plus an extra 250 MB for log file growth and the optional installation of the Cisco Configuration Engine software.
- In the database directory, you need 1 GB free. For large systems, you should have 4 to 5 GB of space. If the directory has less than 1.2 GB free, you can still install Prime Provisioning, but you might run out of space.

By default the database and installation files are all placed in a single directory. See Chapter 1, "Installation Requirements" for more information about disk space and planning.

Note

Prime Provisioning can also be installed using sudo command instead of root user. To use sudo command, Prime Provisioning sever need to be used, for example: **iscadm ./install.sh** This is applicable for both GUI and CLI.



Ensure that **/bin/ksh** is available before installing Prime Provisioning. If **/bin/ksh** is not available, it needs to be installed.

## Installing Prime Provisioning Using the GUI Installer

This section describes both a general installation procedure that applies to all upgrade path and specific details regarding individual upgrade paths.

### Prerequisites

To perform Prime Provisioning GUI mode installation in RHEL 5.x or 6.x, the following prerequisites must be met.

- Install X11 packages on Linux server to launch Graphical installer.
- In addition to X11 installation, install **Xming** in windows server and enable X11 forwarding to launch Graphical installer through any CLI terminal emulator such as Putty.

For more specific information, refer to Appendix A, "Graphical Installer Mode Not Supported."

After reviewing the information in the "Installing Prime Provisioning" section on page 3-2, you can follow these steps to install the Prime Provisioning software using the Graphical User Interface (GUI):

**Step 1** If an existing Prime Provisioning installation is running, enter the./prime.sh stop command in the PRIMEF\_HOME directory.

See the Cisco Prime Provisioning 7.2 User Guide for information about WatchDog commands.

**Step 2** To install using the Prime Provisioning DVD, insert the Prime Provisioning installation DVD in the drive.

/!\ Caution

When you insert the DVD, the File Manager is invoked automatically. Do *not* use the File Manager to install the Prime Provisioning product. Run the installation script from a terminal window.



**Note** You should install as root even though Prime Provisioning will be owned by a specific user, the 'Prime Provisioning Owner'. If you do not install as root, the install will not have permission to enable automatic restart of Prime Provisioning on reboot.

- **Step 3** To install from a downloaded version of the product, download the Prime Provisioning software from the Software Download page.
- **Step 4** Open a terminal window and log in as the **root** user.
- **Step 5** Change to the CD ROM directory:
  - \$ cd /cdrom/cdrom0
- **Step 6** If you have an existing Prime Provisioning installation with a database, you *must* back up your current database. See the instructions to back up and restore an Prime Provisioning repository or create a standby system, as explained in *Backup and Restore of Prime Provisioning Repository*.
- Step 7 Change to the path in the cdrom where the Linux installation files are available, as follows:

cdrom> cd <path name>

where:

<path name> Specify the location of the directory where the Linux installation files are available. The path for the Linux installation files in cdrom is: /prime\_provisioning\_6\_8\_FCS/

**Step 8** Start the installation by executing the Prime Provisioning product installation script as follows: ./install.sh

The Prime Provisioning Graphical User Interface is initiated.

The Prime Provisioning software is installed by default in the /opt/PrimeProvisioning-6.8 directory.

- Step 9 If you are upgrading an existing Prime Provisioning installation, ensure that the existing Prime Provisioning application is completely shut down, and use *one* of the following methods to specify the target directory:
  - **a.** Install the new version of Prime Provisioning into the same directory as the existing Prime Provisioning application.

For example, if you are upgrading from Prime Provisioning 6.4 to Prime Provisioning 7.1 and the existing Prime Provisioning 6.4 installation is under the directory /opt/PrimeProvisioning-6.4, then install Prime Provisioning 7.1 in the same directory using the following steps:

- Invoke the Prime Provisioning GUI using the command:

./install.sh

- Choose the installation directory as:

/opt/PrimeProvisioning-6.4

- Choose the option Upgrade Existing Repository
- Choose the path to the isc-upgrade.zip script
- Complete the remaining steps using the default values.

-or-

**b.** Install Prime Provisioning 7.1 in the same directory with a new name.

For example, if you are upgrading from Prime Provisioning 6.4 to Prime Provisioning 7.1 and the existing Prime Provisioning 6.4 installation is under the directory /opt/PrimeProvisioning-6.4, rename this directory to **/opt/PrimeProvisioning** and then install Prime Provisioning 7.1 in the same directory using the following steps:

- Invoke the Prime Provisioning GUI installation using the command:

./install.sh

- Choose the installation directory as:

/opt/PrimeProvisioning

- Choose the option Upgrade Existing Repository
- Choose the path to the isc-upgrade.zip script
- Complete the remaining steps using the default values.

-or-

c. (Using the CLI) Install Prime Provisioning in a new directory.

For example, if you are upgrading from Prime Provisioning 6.4 to Prime Provisioning 7.1 and the existing Prime Provisioning 6.4 installation is under the directory /opt/PrimeProvisioning-6.4, then install Prime Provisioning 7.1 in a new directory /opt/PrimeProvisioning, with steps like the following:

- Save the Prime Provisioning 6.4 installation for possible uninstall purposes, as follows:

tar cvf PP-6.4.tar /opt/isc-6.4

- Copy the /opt/PP-6.4/Repository to /opt/PrimeProvisioning directory.
  - cp –R /opt/PP-6.4/Repository /opt/PrimeProvisioning
- Go to
  - <cd /cdrom/cdrom0 directory>/upgradeTool/
- Execute the command:

### ./upgradeIscSchema.sh /opt/PrimeProvisioning

- Provide the default Prime Provisioning admin username and password.
- Step 10 Click Next.

The Choose Installation Type dialog box is displayed.

- **Step 11** Choose one of the following types of installation and click **Next**.
  - **Express** enables standard set of options. Express installation type does not support the Oracle database and takes Embedded Sybase as the default database for Prime Provisioning. To use the Oracle database, choose Custom installation type.
  - **Custom** enables you to specify various ports and locations, and change the watermark level for available disk space.

The Server Operation Mode dialog box is displayed.

The following steps are common to both Express and Custom installation types. Steps that are specific to custom installation type are marked (**Installation type- Custom**).

- Step 12 Choose one of the following operating modes and click Next.
  - Integrate with Cisco Prime Central- Cisco Prime Provisioning registers and interacts with the Prime Central server, portal, and other common components. You will need to provide Prime Central server details during installation. When installed as part of the suite, you can launch Prime Provisioning from the Prime Central portal. For more information about Prime Central, see the documentation for Cisco Prime Central 1.3.

Prime Provisioning 7.1 is only compatible with Prime Central 1.3. For installing Prime Provisioning 7.1 in Suite mode, it is a pre-requisite that you upgrade Prime Central from its earlier versions to Prime Central 1.3.

# <u>Note</u>

After you integrate Prime Provisioning with Prime Central, you cannot modify Prime Provisioning to work as a Standalone application. However, if you install Prime Provisioning as a Standalone application, you can later integrate it with Prime Central.

- Standalone- Cisco Prime Provisioning installs as a standalone application.
- The Cisco Prime Provisioning Owner dialog box is displayed.
- Step 13 Enter the username you created in Step 2 of the "Initial Configuration—Creating the Prime Provisioning Owner" section on page 3-1 and click Next.



If you leave the field blank the Prime Provisioning owner will be the user you are using to run the installation. It is not recommended to make the root user the Prime Provisioning owner.



To obtain the DB version:

- 1) Log into the server where Oracle is installed.
- 2) From the SQL prompt, execute the command:

select \* from v\$version where banner like 'Oracle%';

3) The output displayed is the DB version.

For example, 'Oracle Database 10g Enterprise Edition Release 10.2.0.1.0 - 64bi". You can use this output in the DB version field.

- 2. Click Next.
- 3. Set the Oracle database User and Password values.
- 4. Click Next.

The Configuring Naming Port dialog box is displayed.



The embedded Sybase database is used for service-level agreement (SLA), independent of whether you are using Oracle as your database.

Note

If you want to use the same Sybase repository from an original server on this new server you are now installing, see the "Restoring Your Sybase Repository to a New Server" section on page 5-1.

Note

If you are upgrading from a version of ISC before Prime Provisioning 6.0, make sure your Prime Provisioning Repository has been imported to the Oracle Database 11g, Enterprise Edition Release 11.2.0.3.0 - 64 bit Production, as indicated in the "Initial Configuration—Creating the Prime Provisioning Owner" section on page 3-1.

Step 19 (Installation type- Custom) Specify the port used by the Naming Server and click Next.

The Configure Http Port dialog box is displayed.

If you change the default port value (1030) of the naming server, ensure that you specify the same port for all servers in your system.

Note

We do not recommend to use ports under 1024. Ports under 1024 are accessed only by the root user, and we do not recommend that the root user be the Prime Provisioning owner.

Step 20 (Installation type- Custom) Specify the port used by the HTTP server and click Next.

The Configure Https Port dialog box is displayed.

**Step 21** (For installation in Standalone mode only) Specify the port used by the HTTP Over Secure Socket Layer (SSL) (HTTPS) server and click **Next**.

The Hi/Low Watermark dialog box is displayed.

When you click **Next**, the system checks whether any of the ports entered are duplicate port numbers. If duplicate port numbers are found, an error message indicates the two ports that have duplicate entries.

Note

To configure the web access to Prime Provisioning, you must set up the HTTPS port as explained in the "Configuring HTTPS" section on page 5-2.

Step 22 Reset the High and Low watermarks for available disk space if required, and click Next.

The default values are 20% and 10% for High and Low respectively. Ensure that the percentage of High watermark is a larger than that of the Low watermark. Every time the High and Low watermarks are reached, you are notified via e-mail (notification is sent to the e-mail address that you specify in Step 24).

For Standalone installation- The E-mail Notifications dialog box is displayed. Proceed to Step 24.

For integration with the Prime Carrier Management Suite - The Prime Central Database Information dialog box is displayed.

Proceed to the next step.

- **Step 23** (For integration with Prime Carrier Management Suite) Enter the following details about the Prime Central database and click **Next**:
  - Server IP Address- IP Address of the Prime Central server
  - SID- Server instance identifier of the Prime Central server
  - Port- Port number of the Prime Central Database server
  - DB User- Database username of the Prime Central server
  - DB Password- Database password associated with the above username.
- **Step 24** Enter the following information to receive e-mail notifications from Prime Provisioning every time the server restarts, and hi/low disk usage watermarks are reached.
  - Hostname of the Simple Mail Transfer Protocol (SMTP) host.
  - Username to display in the "From" field of the e-mail.
  - E-mail address to be notified when High and Low watermarks are reached (indicates that the specified disk space availability has been reached).
  - E-mail address to be notified when the Prime Provisioning server restarts.
- Step 25 Click Next.

The Pre-Installation Summary dialog box displays the product name, installation folder, and the required/available disk space infomation.

Step 26 Click Install.

The Installing Cisco Prime Provisioning 7.1 dialog box displays the sequence of processes that are run and the status of installation.

Prime Provisioning is installed in the folder you specified in Step 14.

**Step 27** If the installation failed, you receive a failed message.

To review the log message, go to PRIMEF\_HOME/tmp and view the PrimeInstallationLog.txt log file.

- **Step 28** If the installation was successful, you receive an Install Complete message. Even if you have a successful install, to be sure there were no exceptions or failures, you can go to PRIMEF\_HOME/tmp and view the PrimeInstallationLog.txt log file.
- **Step 29** The Prime Provisioning server is started automatically after the installation is successful.



**Note** If Prime Provisioning is installed in the Suite mode, you must restart the integration layer in Prime Central. To do this, log into the Prime Central integration layer and enter the command **itgctl restart** that is available in \$PRIMEF\_HOME/bin directory.

- **Step 30** To verify that Prime Provisioning is properly installed:
  - **a.** Before logging in, repeat the following command until the servers are in the **started** mode. If any server is reported as **disabled**, Prime Provisioning is not installed or configured correctly:

#### ./prime.sh status

For more information about WatchDog commands, see the *Cisco Prime Provisioning 7.2 User Guide*.

- Step 31 Before you can use any of the licensed services, proceed to the "Installing License Keys" section on page 5-3.
- **Step 32** If you have a Prime Provisioning repository, you *must* upgrade your repository to have access to it, as explained in Chapter 4, "Upgrading Prime Provisioning".
- Step 33 If you want to eventually use the Inventory Manager or the Topology Tool, your client machine *must* be set up properly. Proceed to the "Uninstalling Prime Provisioning" section on page 5-6. This section explains what occurs and leads you to the launching explanations in the *Cisco Prime Provisioning 7.2 User Guide*.

## Installing Prime Provisioning Using the CLI Installer

Note

The CLI installer does not support the use of Oracle database with Prime Provisioning. To use the Oracle database, use the GUI installer as explained in the "Installing Prime Provisioning Using the GUI Installer" section on page 3-3.

After reviewing the information in the "Installing Prime Provisioning" section on page 3-2, you can follow these steps to install the Prime Provisioning software using the Command Line Installer:

Note

The command line installer only allows you to configure the installation directory and Prime Provisioning owner. All other configuration options use default values. For more configuration options, use the GUI installer, explained in the "Installing Prime Provisioning Using the GUI Installer" section on page 3-3.

Step 1 Insert the Prime Provisioning product DVD.

Ø Note

When you insert the DVD, the File Manager is automatically invoked. Do *not* use the File Manager to install the Prime Provisioning product. Run the installation script from a terminal window.

- **Step 2** Open a terminal window and log in as the identified UNIX user.
- **Step 3** Change to the DVD directory, as follows:

### \$ cd /cdrom/cdrom0

Step 4 If you are upgrading Prime Provisioning from an existing version, use the ./prime.sh stop command to be sure the existing Prime Provisioning is shut down completely. See the *Cisco Prime Provisioning 7.2 User Guide* for information about all WatchDog commands.

Step 5 If you have an existing Prime Provisioning installation with a database, you *must* back up your current database. See the instructions to back up and restore an Prime Provisioning repository or create a standby system, as explained in *Backup and Restore of Prime Provisioning Repository*.



- **Caution** If you use the command line installer to install Prime Provisioning in a directory containing an existing installation of Prime Provisioning, the installer replaces the existing repository with a new empty repository. You are not asked to confirm this operation and no alternative option is given. The directory containing the existing repository is renamed to **Repository.save.** *<timestamp>*.
- **Step 6** Change to the path in the cdrom where the Linux installation files are available, as follows:

```
cdrom> cd <path name>
```

where:cpath name> Specify the location of the directory where the Linux installation files are available.

Path for the Linux installation files in cdrom is: /prime\_provisioning\_6\_8\_FCS/

**Step 7** Execute the Prime Provisioning product installation script as follows:

./install.sh <directory> <user>

where:

*<directory>* Specify the location of the directory where you want to install Prime Provisioning. If you are upgrading an existing Prime Provisioning installation, see the options in this step.

*<user>* Enter the username you created in Step 2 of the "Initial Configuration—Creating the Prime Provisioning Owner" section on page 3-1.

For example, ./install.sh /opt/PrimeProvisioning-6-7-cli pkarkera

You are asked to choose one of the following:

• Integrate Prime Provisioning with the Prime Carrier Management Suite- Prime Provisioning registers and interacts with the Prime Central server, portal, and other common components.

You will need to provide Prime Central server details during installation.

- Install Prime Provisioning as a Standalone application- Prime Provisioning installs as a standalone application.
- Step 8 To integrate with the Prime Carrier Management Suite, enter yes and press Enter.

To install Prime Provisioning as a standalone application, enter no and press Enter.

The Prime Provisioning installation process is initiated

- **Step 9** If you upgraded from an existing Prime Provisioning installation and want to retain the database from that installation, manually copy the database directory to the new installation before running the upgrade tool.
  - **a.** The directory in which you installed this release contains a directory named Repository that contains an empty repository. Temporarily rename this directory before copying the old repository. For example, you might wish to rename this directory to **Repository.empty, as follows:**

### mv \$PRIMEF\_HOME/Repository \$PRIMEF\_HOME/Repository.empty

b. If you installed Prime Provisioning in a directory that contains an existing version of Prime Provisioning, then the existing repository has been renamed to \$PRIMEF\_HOME/Repository.save.<timestamp>. To restore the original database, enter the following:

mv \$PRIMEF\_HOME/Repository.save.<timestamp> \$PRIMEF\_HOME.Repository

c. If you installed Prime Provisioning in a new directory, copy the Repository directory and its contents from the old Prime Provisioning installation directory to the new Prime Provisioning installation directory. For example, if you are upgrading from Prime Fulfillment 6.1 to Prime Provisioning 7.1, where the old installation directory is **/opt/isc-6.1** and the new installation directory is **opt/PrimeProvisioning**, enter the following:

#### cp -R /opt/isc-6.1/Repository /opt/PrimeProvisioning/Repository

**Step 10** If you have upgraded a previous Prime Provisioning installation and want to retain the database from this installation, you *must* run the upgrade tool. Run the upgrade tool as explained in Using the Repository Upgrade Tool, page 4-2.

# Integrating Prime Provisioning (Standalone) with Prime Carrier Management Suite

To install Prime Provisioning 7.1 in Suite mode, you must first upgrade to Prime Carrier Management 1.3.

To integrate Prime Provisioning (standalone installation) with the Prime Carrier Management Suite:

Step 1	Stop Prime Provisioning. ./prime.sh stop		
Step 2	Set the Prime Provisioning environment by executing the following command from the installation directory: ./prime.sh shell		
Step 3	(Optional) If you are logged in as the installation owner, to ensure that the script has executable permissions, you can execute the following commands:		
	• chmod +x DMIntegrator.sh		
	chmod 755 DMIntegrator.tar		
Step 4	Execute the DMIntegrator.sh script in one of the following modes:		
	<ul> <li>For Non-Interactive Mode         <pre>/DMIntegrator.sh [-] <pre>prop_file&gt; <server> <sid> <dbuser> <dbpassword> <port></port></dbpassword></dbuser></sid></server></pre></pre></li></ul>		
	• For Interactive Mode ./DMIntegrator.sh [-i] <prop_file> In this mode, you will be prompted for the above inputs in a sequential manner.</prop_file>		

Table 3-1 describes the inputs required when you execute the DMIntegrator.sh script.

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Argument	Definition	Sample Input
<prop_file></prop_file>	Location of the DMIntegrator.prop file. On the Prime Provisioning server this file will be present in INSTALL_DIR/prime_integrato r	INSTALL_DIR/prime_integrato r/DMIntetgrator.prop
<server></server>	Hostname of the Prime Central database server.	centralserver.mydomain.com
<sid></sid>	System ID of the Prime Central database server.	orcl
<dbuser></dbuser>	Username of the Prime Central database server.	primedba
<dbpassword></dbpassword>	Password of the Prime Central database server.	N/A
<dbport></dbport>	Port number of the Prime Central database server.	1521

Table 3-1 DMIntegrator.sh Script Argument Descriptions

**Step 5** To complete the integration process with Prime Carrier Management Suite, configure Prime Network in Prime Provisioning. See Configuring Prime Network(s) in Prime Provisioning.

### **Configuring Prime Network(s) in Prime Provisioning**

In the **Host Configuration** screen, you can configure Prime Network in Prime Provisioning by choosing **Properties > Inventory Import > Prime Network** and modifying the below values:

- **enablePrompts** Prompts are present on the server so that the Prime Provisioning can execute the web services at the backend.
- **Gateway** Multiple gateways can be configured by separating the values with a comma. The order in which the Prime Networks are configured has an impact on the inventory import.

For example, if there is a device D1 available in two instances of Prime Network configured in the order PN1 and PN2, inventory import will always import the device from the first instance PN1 and will ignore the other.

- loginPrompts General configuration for the login prompts on the server.
- logLevel Log level for the inventory import log.
- Password and UserName
  - Prime Provisioning can interface with Prime Network in both the installation modes: Standalone mode and Suite mode integrated with Prime Central.
  - When Multiple Prime Networks are configured either in Standalone or Suite mode, the login credentials provided should be able to access all the instances of Prime Network.

For example, consider a user *admin* is created in Prime Central. In Suite mode, for all the features to work as expected, *admin* should have access to Prime Provisioning with appropriate role and access to Prime Network as **Administrator**. The user should be assigned with the scope of all the Network elements in Prime Network.

In case of Standalone mode, the user should have access to Prime Network as **Administrator** and should be assigned with the scope of all the Network elements in Prime Network. For more information about Prime Network configuration, refer to *Prime Network User Guide*.

• Password provided here is encrypted both at the screen level and also in the database. Be sure to configure a valid value for the Inventory Import, Device Commission and Device Decommission features to function as expected

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Integrating Prime Provisioning (Standalone) with Prime Carrier Management Suite