

Oracle® Hardware Management Pack Installation Guide

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Using This Documentation

This section describes product information, documentation and feedback, and a document change history.

- [“Documentation and Feedback”](#) on page 5
- [“About This Documentation”](#) on page 5
- [“Change History”](#) on page 6

Documentation and Feedback

The following documentation is available related to the Oracle Hardware Management Pack.

Documentation	Link
All Oracle products	http://www.oracle.com/documentation
Oracle Hardware Management Pack	http://www.oracle.com/goto/ohmp/docs
Oracle ILOM	http://www.oracle.com/goto/ILOM/docs

Provide feedback on this documentation at:

<http://www.oracle.com/goto/docfeedback>.

About This Documentation

This documentation is available in both PDF and HTML and relates to software version 2.2.x. Any differences between software versions are noted. The information is presented in topic-based format (similar to online help) and therefore does not include chapters, appendixes, or section numbering.

You can get a PDF that includes all information about a particular topic subject (such as hardware installation or product notes) by clicking the PDF button in the upper left corner of the page.

Change History

The following changes have been made to the documentation set.

- September 2010, initial publication.
- January 2011, Installation Guide and Management Agent User's Guide updated.
- July 2011, updated document URLs.
- September 2011, updated to match software version 2.2. Changes to graphic installer documented.
- November 2011, updated to integrate information related to installing Oracle Solaris OS 11 and information related to install prerequisites.
- January 2012, updated to reflect changes to version 2.2.1, the support for Emulex and QLogic Fibre channel controllers, new package names and describe all software package dependencies.
- March 2012, updated to include all package contents for version 2.2, 2.2.1 and 2.2.2, including Mellanox InfiniBand support.
- February 2013, updated to include changes in version 2.2.5, such as configuration of ILOM trap proxy during install, correct terminology for Host-to-ILOM Interconnect, information about installing security certificate on Windows, and improvement of the platform support of ubiosconfig.
- April 2013, updated to include changes in version 2.2.6, such as installing itpconfig on Windows, improved instructions for manually configuring on Oracle Solaris 10 and dependencies for Linux.
- July 2013, updated to include changes in version 2.2.7, such as installing on Oracle Solaris 11 OS using the graphic installer, support for Oracle VM, and renamed dependencies for Linux.
- October 2013, released to include changes in version 2.2.8, such as the extra step in the installer for installing on Oracle Solaris 10 OS servers with zones, and using the Oracle Solaris 11 OS packages to install on a server with zones.
- May 2014, updated *Installation Guide* instructions on using the Oracle Solaris 11 OS packages to install on a server with zones. Updated *Installation Guide* instructions on installing components using silent mode. Made minor editorial changes to the *Installation Guide* and *Agents User's Guide*.

Oracle Hardware Management Pack Installation Guide Overview

The following table shows the content of this document.

Description	Link
Introduction to the Oracle Hardware Management Pack	“Introduction to the Oracle Hardware Management Pack” on page 9
Enable the Host-to-ILOM Interconnect	“Enabling the Host-to-ILOM Interconnect” on page 15
Install the Oracle Hardware Management Pack components using the Oracle Hardware Management Installer	“Installing Components Using the Oracle Hardware Management Pack Installer” on page 17
Install Oracle Hardware Management Pack components using operating system-specific commands.	“Installing Components Manually” on page 45
Install drivers necessary to enable Oracle Hardware Management Pack components.	“Installing Drivers Manually” on page 61

Introduction to the Oracle Hardware Management Pack

This section provides an overview of the Oracle Hardware Management Pack components and how to use them with your Oracle servers.

Oracle Hardware Management Pack (Hardware Management Pack) provides tools to help you manage and configure your Oracle servers. Hardware Management Pack consists of components that you install on your servers. These components enable you to:

- Use a management agent at the operating system level to enable in-band monitoring of your Oracle hardware over Simple Network Management Protocol (SNMP). You can use this information to integrate your Oracle servers into your data center management infrastructure.
- Use command-line tools to configure BIOS, UEFI BIOS, RAID volumes and Oracle Integrated Lights Out Manager (ILOM) service processors on your servers.
- Use a command-line tool to upgrade your server components' firmware.
- Use a command-line tool to view hardware configuration information and the status of your Oracle servers.
- Use a command-line tool to configure an ILOM trap proxy that forwards SNMP traps from your Oracle ILOM service processor over the Host-to-ILOM Interconnect.
- Use a command-line tool to configure zoning on supported servers running Oracle Solaris operating system.
- Use IPMItool to access server service processors using the IPMI protocol and perform management tasks.

This guide provides an overview of the Hardware Management Pack components and how to install them. For more information on how to configure and work with the Hardware Management Pack components see:

- *[Oracle Server Management Agents User's Guide](#)*
- *[Oracle Server CLI Tools User's Guide](#)*

For more information on the Hardware Management Pack features, see:

- “Oracle Server Management Agents” on page 10
- “Oracle Server CLI Tools” on page 12
- “IPMItool” on page 12
- “IPMIflash” on page 12

- [“Host-to-ILOM Interconnect” on page 13](#)

Oracle Server Management Agents

Oracle Server Management Agents provide operating-system-specific agents to enable management and configuration of your Oracle servers.

Oracle Server Management Agents provides the following software:

- Oracle Server Hardware Management Agent
- Oracle Server Hardware SNMP Plugins
- `itpconfig`, a tool that enables you to forward traps generated by an Oracle ILOM service processor over the Host-to-ILOM Interconnect.

Oracle Server Hardware Management Agent

The Oracle Server Hardware Management Agent (Hardware Management Agent) and associated Oracle Server Hardware SNMP Plugins (Hardware SNMP Plugins) provide a way to monitor and manage your server and server module's hardware using an operating system native agent. This in-band functionality enables you to use a single IP address (the host's IP) for monitoring your servers and blade server modules, without having to connect the management port of the Oracle Integrated Lights Out Manager (ILOM) service processor to the network.

The Hardware Management Agent and Hardware SNMP Plugins run on the host operating system of your Oracle servers, communicating with the Oracle ILOM service processor. The Hardware Management Agent daemon, called `hwmgmtd`, regularly polls the service processor to fetch information about the current state of the server. The Hardware Management Agent can poll the service processor for hardware information over either the Keyboard Controller Style (KCS) interface or the Host-to-ILOM Interconnect. This information is then made available by Hardware Management Agent through the Hardware SNMP Plugins.

In addition, the Hardware Management Agent provides sensor and indicator readings by reading System Event Log (SEL) records stored on the service processor. The SEL is used for recording hardware events such as temperatures crossing a threshold. The Hardware Management Agent reads the service processor's SEL records and the host operating system's `syslog` and sends the appropriate SNMP traps using the OS-native SNMP daemon. Finally, the Hardware Management Agent also maintains a separate log that contains information about the Hardware Management Agent status, which can be used for troubleshooting.

Note – Previous versions of Hardware Management Pack have included a separate Storage Management Agent, but starting with Oracle Hardware Management Pack 2.1, the Storage Management Agent has been merged with the functionality of the Hardware Management Agent.

Oracle Server Hardware SNMP Plugins

The Oracle Server Hardware SNMP Plugins consists of Net-SNMP plugins, that are compiled versions of hardware-specific Management Information Bases (MIB) which have been designed to enable you to monitor your Oracle servers effectively.

The sunHwMonMIB describes the state of sensors and alarms on your servers and provides the following information:

- Overall system alarm status
- Aggregate alarm status by device type
- FRU Alarm status
- Lists of sensors, sensor types, sensor readings, and sensor thresholds
- Indicator states
- System locator control
- Inventory including basic manufacturing information
- Product and chassis inventory information (such as serial number and part numbers)
- Per-sensor alarm status

The sunHwTrapMIB describes a set of traps for hardware events that can be generated by an Oracle server. It provides the following information:

- Conditions affecting the environmental state of the server (such as temperature, voltage, and current out-of-range conditions)
- Error conditions affecting the hardware components in the server such as FRU insertion, and removal and security intrusion notification

The sunStorageMIB provides the following information about system storage:

- Basic manufacturing information, properties, and alarm status for controllers
- Properties and alarm status for disks
- Properties and alarm status for RAID volumes
- Status of logical components

itpconfig

The `itpconfig` tool enables you to configure a trap proxy to send traps from Oracle ILOM based service processors over the Host-to-ILOM Interconnect, and forward the traps from the host server to a configurable destination. `itpconfig` can also enable or disable the Host-to-ILOM Interconnect, which is available on the latest Oracle servers.

Oracle Server CLI Tools

Oracle Server CLI Tools (CLI Tools) are command-line interface tools that configure Oracle servers. CLI Tools consists of the following:

- `BIOSconfig` enables you to configure your server's BIOS settings, found on the previous generation of servers.
- `FWupdate` enables you to upgrade the firmware of your server components.
- `HWmgmtcli` enables you to view hardware configuration information and the status of your Oracle servers.
- `ILOMconfig` enables you to configure Oracle ILOM, and can also configure Host-to-ILOM Interconnect settings.
- `RAIDconfig` enables you to configure RAID volumes on your servers.
- `UBIOSconfig` enables you to configure your server's UEFI BIOS, found on the latest Oracle servers.
- `ZoningCLI` enables you to configure the Oracle SPARC T3-1 platform with the 16 disk backplane (SAS-2 expander) running Oracle Solaris OS into two separate zones.

IPMItool

IPMItool is a command line application which enables you to manage and configure devices which support the IPMI protocol. A version of IPMItool is provided as part of the Hardware Management Pack. It can be installed if your system does not already have IPMItool installed. For more information on IPMItool, see: <http://ipmitool.sourceforge.net/>

IPMIflash

IPMIflash is a command line application which provides an alternative method to update Oracle ILOM service processor firmware and BIOS remotely over the management network or locally from the server. A version of IPMIflash is provided as part of the Hardware Management Pack. It can be installed if your system does not already have IPMIflash installed. This utility is available for Oracle Solaris, Linux based and Windows operating systems. Refer to the Oracle Integrated Lights Out Manager (ILOM) 3.1 SNMP and IPMI Procedures Guide for more information and instructions for updating Oracle ILOM firmware using the IPMIflash utility.

Host-to-ILOM Interconnect

Host-to-ILOM Interconnect is a new feature found on the latest Oracle servers and that provides a high speed internal interconnect between the Oracle ILOM service processor and the host server. It is supported by Management Pack version 2.1 onwards.

For more information, see [“Enabling the Host-to-ILOM Interconnect”](#) on page 15.

Enabling the Host-to-ILOM Interconnect

As of Oracle ILOM 3.0.12, a communication channel known as the Host-to-ILOM Interconnect was added to enable you to communicate locally with Oracle ILOM from the host operating system (OS) without the use of a network management connection (NET MGT) to the server. The Host-to-ILOM Interconnect is available on the latest Oracle servers and is particularly useful when you want to perform these Oracle ILOM tasks locally:

- All server management functions in Oracle ILOM that you typically perform from the command line, web, or IPMI interfaces through the network management (NET MGT) connection on the server.
- All data transfers, such as firmware upgrades, to Oracle ILOM that you typically perform from the host over a Keyboard Controller Style (KCS) interface using IPMI flash tools. For these types of server management environments, the Host-to-ILOM Interconnect can provide a more reliable and potentially faster data transfer rate than traditional KCS interfaces.
- All future server monitoring and fault detection operations that you typically perform from the host operating system through the use of Oracle enabled software tools and agents installed on the server.

Note – The Oracle Hardware Management Pack refers to this feature as Host-to-ILOM Interconnect. The Oracle ILOM interface refers to this feature as Local Host Interconnect.

Platform Server Support and ILOM Access Through the Host-to-ILOM Interconnect

Oracle servers supporting the Host-to-ILOM Interconnect are supplied with an internal LAN-over-USB device installed.

The Host-to-ILOM Interconnect provides two network connection points known as the Oracle ILOM Service Processor (SP) connection point and the host operating system (OS) connection point. These must each have a non-routable IPv4 address for the Host-to-ILOM Interconnect to work. Non-routable IPv4 addresses are considered secured private addresses that prevent external internet users from navigating to your system.

Note – By default, Oracle provides non-routable IPv4 addresses for each connection point (Oracle ILOM SP and host OS). Oracle recommends not changing these addresses unless a conflict exists in your network environment with the provided non-routable IPv4 addresses.

Host-to-ILOM Interconnect Configuration Options

You can choose to either have the Host-to-ILOM Interconnect automatically configured for you or manually configured. Details about both of these configuration options are provided below.

■ Automatic Configuration (Recommended)

For the Oracle Hardware Management Pack 2.1 (or later) to automatically configure the Host-to-ILOM Interconnect connection points, the Local Interconnect settings in Oracle ILOM must be in the Host Managed state. In order to automatically configure the Host-to-ILOM Interconnect connection points, you must:

1. Before installing Hardware Management Pack, accept the default settings provided in Oracle ILOM for Local Host Interconnect.
2. Install the Oracle Hardware Management Pack 2.1 or later on the server and accept the installation defaults provided for Host-to-ILOM Interconnect.

■ Manual Configuration (Advanced users only)

If you are an advanced network administrator and prefer not to automatically configure the Host-to-ILOM Interconnect, you can manually configure the connection points on the Oracle ILOM SP and host operating system. In order to manually configure the Host-to-ILOM Interconnect connection points, you must:

- Ensure your operating system recognizes the internal LAN—over—USB device, which requires an Ethernet. For instructions on installing the driver, see “[Installing the Host-to-ILOM Interconnect Driver](#)” on page 64.
- You must manually configure an IPv4 address for the connection points. There are two ways to do this:
 - Use the `itpconfig` tool or the `ilomconfig` tool to configure the Host-to-ILOM Interconnect connection points on the Oracle ILOM service processor and the host OS.
 - Use the Oracle ILOM interface to configure the connection point in the Oracle ILOM service processor and separately configure the host side connection point.For more information, refer to the Oracle Integrated Lights Out Manager Documentation Collection at: <http://www.oracle.com/goto/ILOM/docs>

Installing Components Using the Oracle Hardware Management Pack Installer

This section describes how to install and uninstall Hardware Management Pack components on an Oracle server using the supplied Oracle Hardware Management Pack Installer. This section contains the following:

- “Getting Started” on page 17
- “Getting the Software” on page 17
- “Prerequisites” on page 18
- “Installation Issues” on page 19
- “Installing Hardware Management Pack Components” on page 21

Getting Started

The following methods are available for installing the Hardware Management Pack components:

- GUI mode
- Console mode
- Silent mode

Regardless of the installation method you choose, you must carry out the installation as a user with administrative privileges, such as root on Oracle Solaris OS or Linux based operating systems and Administrator on Microsoft Windows.

Getting the Software

Before you start, check that your target server and operating system are supported. For more information on the supported servers, see:

<http://www.oracle.com/goto/ohmp>

This procedure explains how to use My Oracle Support to download server firmware and software.

▼ Download Firmware and Software Using My Oracle Support

- 1 Navigate to the following site:**
<http://support.oracle.com>
- 2 Sign in to My Oracle Support.**
- 3 At the top of the page, click the Patches and Updates tab.**
The Patches and Updates screen appears.
- 4 In the Search screen, click Product or Family (Advanced Search).**
The screen appears with search fields.
- 5 In the Product is field, type a full or partial product name, until a list of matches is displayed and select the product of interest.**
 - To search for the latest Hardware Management Pack, type Hardware Management Pack.
 - To search for firmware for a specific server, type the product name, for example Sun Server X2-8.
- 6 In the Release field, select a software release from the drop-down list.**
Expand the folders to see all available software releases.
- 7 Click Search.**
The software release comprises a set of downloads (patches).
- 8 To select a patch, click the check box next to the patch name (you can select more than one patch).**
A popup action panel appears. The panel contains several action options.
- 9 To download the patch, click Download in the popup panel.**
The download begins automatically.

Prerequisites

If you have previous versions of Hardware Management Pack or Component Manager installed, you must remove these before installing the Oracle Hardware Management Pack components. For more information, refer to the documentation supplied with the version of Hardware Management Pack you have installed.

Different Hardware Management Pack components are supported by different servers and operating systems, so ensure that your target platform is supported by all of the components you intend to install. Before proceeding make sure that you have consulted the support matrix for the version that you plan to install. The support matrix is available at:

<http://www.oracle.com/goto/ohmp>

Depending on the target server's operating system, you should note the following:

- Oracle Solaris operating system - For the Oracle Server Hardware SNMP Plugins to function correctly, you must have System Management Agent (SMA). SMA is installed by default on Oracle Solaris OS. For more information about SMA, see `snmpd(1M)`. When installing Hardware Management Pack components, you must be in the global zone. On Oracle Solaris 10 `biosconfig` can only be installed on the global zone. The device `/dev/bmc` must be present on your system for the Hardware Management Agent to function correctly.
- Linux based operating system - For the Oracle Server Hardware SNMP Plugins to function correctly, you must have Net-SNMP installed. For more information about Net-SNMP, see the `snmpd` documentation. The device `/dev/ipmi#` (where # is a digit) must be present on your system for the Hardware Management Agent to function correctly. You must also make sure that the IPMI interface between the Oracle server service processor and host operating system is enabled, and that the IPMI service is started. When using the Hardware Management Agent, you must ensure the root user has read/write access to the IPMI device in order for the Hardware Management Agent to function correctly.
- Windows operating system - For the Oracle Server Hardware SNMP Plugins to function correctly, you must have an IPMI device installed and the SNMP service enabled. For more information about the IPMI devices available for your version of Windows, see your Windows product documentation.

Installation Issues

Review the following notes before performing the Hardware Management Pack installation.

Note – There might be additional installation issues in the Oracle Hardware Management Pack Release Notes. Please review the Release Notes, along with the following issues, before installing Hardware Management Pack.

Unix Installer Issue (CR 6977584)

The installer aborts when the `DISPLAY` variable is set on a server running Oracle Solaris OS or Linux operating system. To avoid this issue, unset the `DISPLAY` variable before installing Hardware Management Pack.

Error Reported When Launching Installer on a Solaris System (CR 6982393)

When launching the Oracle Hardware Management Pack Installer on a Oracle Solaris OS system, the following error might appear:

```
./install.bin: !: not found
```

You can ignore this error and the Installer should launch normally.

Running Installer on Solaris With SUNWCreq Cluster Fails (CR 6982718)

Before installing Oracle Hardware Management Pack on a server running Oracle Solaris OS installed with the SUNWCreq (Core System Support) metacluster, you must install SUNWxcu4 (contains POSIX df command) or set the following environment variable:

```
IATEMPDIR=$HOME
```

Sun Fire X4170 M2 Requires Tools and Driver Installation for Correct ICH10 Slot Information (CR 6992155)

For a Sun Fire X4170 M2 system running Windows Server 2008 R2, install the drivers from the X4170 M2 Tools and Drivers CD before using the RAIDconfig tool. Failure to install the drivers might result in the slot information for the HDDs attached to the internal ICH10 controller to be reported incorrectly.

You can also use the Oracle Hardware Installation Assistant to install Windows Server 2008 R2 to avoid this problem.

Oracle Solaris OS Servers with SUNWipmi Installed Cannot Complete the Install (CR 7070692)

On servers running Oracle Solaris OS 10 where SUNWipmi is already installed, the Hardware Management Pack cannot be successfully installed. The only workaround is to stop the current install using control-c, remove the installed version of SUNWipmi, and then restart the Hardware Management Pack installation.

Unable to Launch Installer in GUI Mode on Oracle Linux 6 (CR 7129501)

When using the GUI mode Oracle Hardware Management Pack installer on Oracle Linux 6, the graphical installer can not be started. This is because the `libXtst.i686` package is not installed by default. Either install this package before using the GUI mode, or use the console mode.

Installing the QLogic Support on Linux Takes a Long Time (CR 7115215)

If you choose to install the QLogic support on Linux using the Oracle Hardware Management Pack installer, the process can take a long time. To make this process more efficient, install the QLogic package manually.

Error returned as Available space in Summary Screen (15820240)

During the install process, the summary screen might show

```
Disk Space Information (for Installation Target):
  Required: 169,082,111 bytes
  Available: Error!
```

This can be safely ignored.

Host-to-ILOM Interconnect Feature Might be Left in a Disabled State When Solaris Automated Installer is Used (CR 18696723)

When using the Solaris Automated Installer (introduced with Solaris 11) to deploy software on a server, the server's Host-to-ILOM interconnect feature (required for many Oracle Hardware Management Pack features) might be left in a disabled state after the Automated Installer performs a reboot during installation. If this happens, a second server reboot after the installation has completed should fix the problem.

To determine if your server was setup by the Automated Installer, enter the following command:

```
# netadm list | grep ncp
ncp      Automatic   online    <-- Automated Installer was used
ncp      DefaultFixed  disabled
```

Installing Hardware Management Pack Components

This section covers the following topics:

- [“Using GUI Mode to Install and Uninstall Components” on page 21](#)
- [“Using Console Mode to Install or Uninstall Components” on page 34](#)
- [“Using Silent Mode to Install and Uninstall Components” on page 40](#)

Using GUI Mode to Install and Uninstall Components

This section covers the following procedures:

- [“How to Install Hardware Management Components Using GUI Mode” on page 22](#)
- [“How to Uninstall Hardware Management Components Using GUI Mode” on page 30](#)

▼ How to Install Hardware Management Components Using GUI Mode

Before You Begin

- To install Management Pack components with Oracle Hardware Management Pack Installer, you must be logged into your system with Administrator privileges.
- Download and extract the Hardware Management Pack. See [“Getting the Software” on page 17](#).

The directory that you extract the files to is referred to as *extract-directory* in this procedure.

- For Windows Server 2003 SP2 or earlier, you must first install the Sun IPMI System Management Driver. See [“Installing the Sun IPMI System Management Driver 2.1” on page 61](#). This driver is included with other operating systems.
- The packages for Hardware Management Pack have dependencies that must be satisfied for a successful installation. See [“Software Dependencies” on page 67](#) for more information.
- On the Oracle Solaris operating system, due to the restrictions of pkgadd(1M), the path that you extract the Hardware Management Pack to must not contain any spaces for the installation process to proceed.
- On a server running Oracle Solaris 11 with zones set up, the graphical installer can not be used. See [“How to Manually Install Components on Oracle Solaris 11 With Zones” on page 50](#) for information on installing manually on a server with zones set up.

1 To start the installer, type one of the following commands:

- **For Oracle Solaris OS based systems:**

SPARC processors: `/extract-directory/oracle-hmp-version/install.sparc.bin`

x86 processors: `/extract-directory/oracle-hmp-version/install.x86.bin`

- **For Linux based systems:** `/extract-directory/oracle-hmp-version/install.bin`

- **For Windows systems:** `/extract-directory/oracle-hmp-version/install.exe`

The splash screen opens.

- 2 If any of the following dialogs opens, perform the appropriate action.
 - If the following dialog opens, click Quit and log into the system with Administrator privileges.



- If the following dialog opens, click Quit and remove the previously installed version of the software.



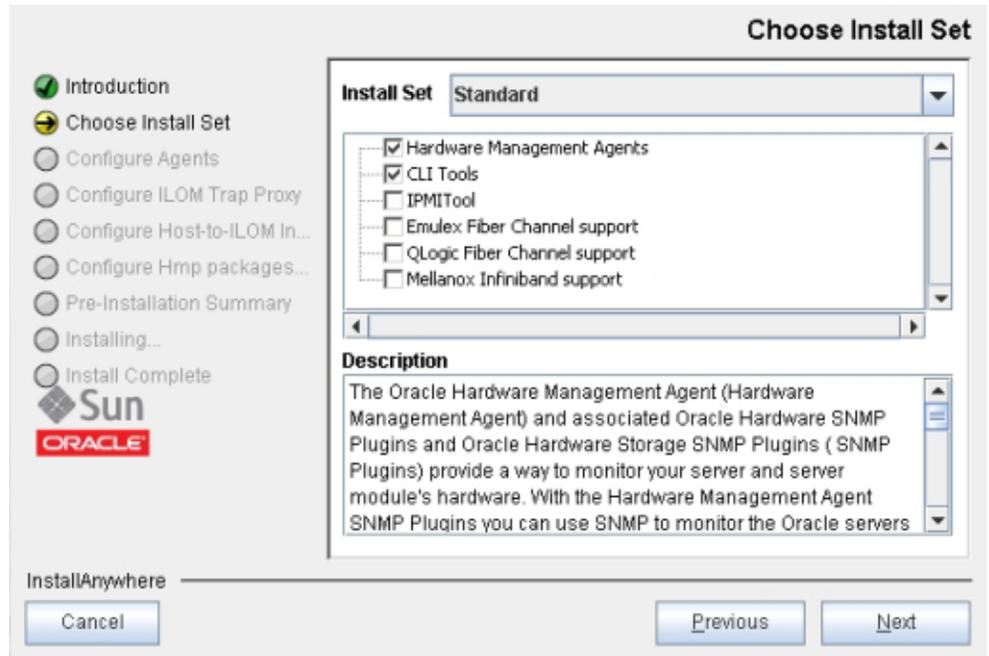
- If the following dialog opens, click Quit and then check that you have the correct software version for your processor architecture.



If the installation is ready to proceed, the Introduction screen opens.

When you are ready to proceed, click Next.

- 3 From the Install Set drop-down menu, select either Standard or Custom.
 - If you select Standard, the Hardware Management Agents and CLI Tools components are automatically selected.
 - If you select Custom, the Choose Install Set screen opens.



- 4 For information on the available components, click the component name.

The Description field displays information about the component.

Note – The Fibre Channel support options should only be selected on servers with compatible hardware. Selecting these options on a server without the supported hardware makes the installation process slower.

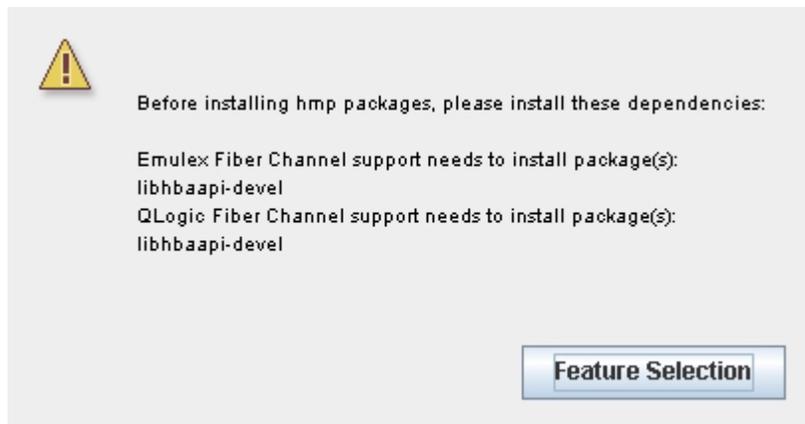
- 5 Select the components that you want to install using the check boxes and then click Next.

6 If one of the following dialogs opens, take the appropriate action:

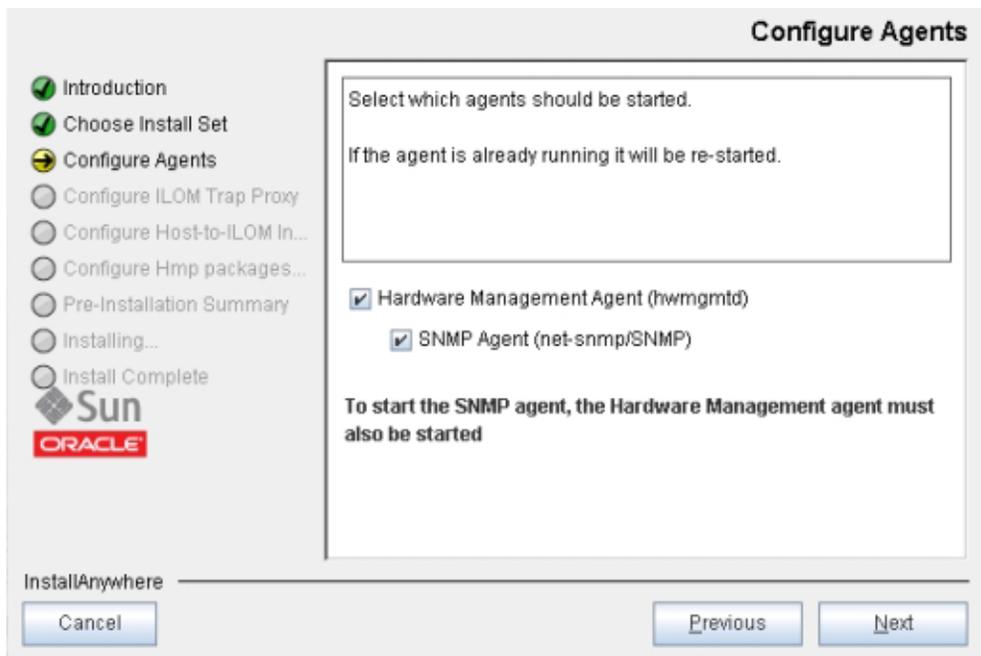
- Click OK and deselect the Hardware Management Agent feature from the Choose Install Set screen.



- Click Feature Selection and install the listed dependencies.



The Configure Agents screen opens.



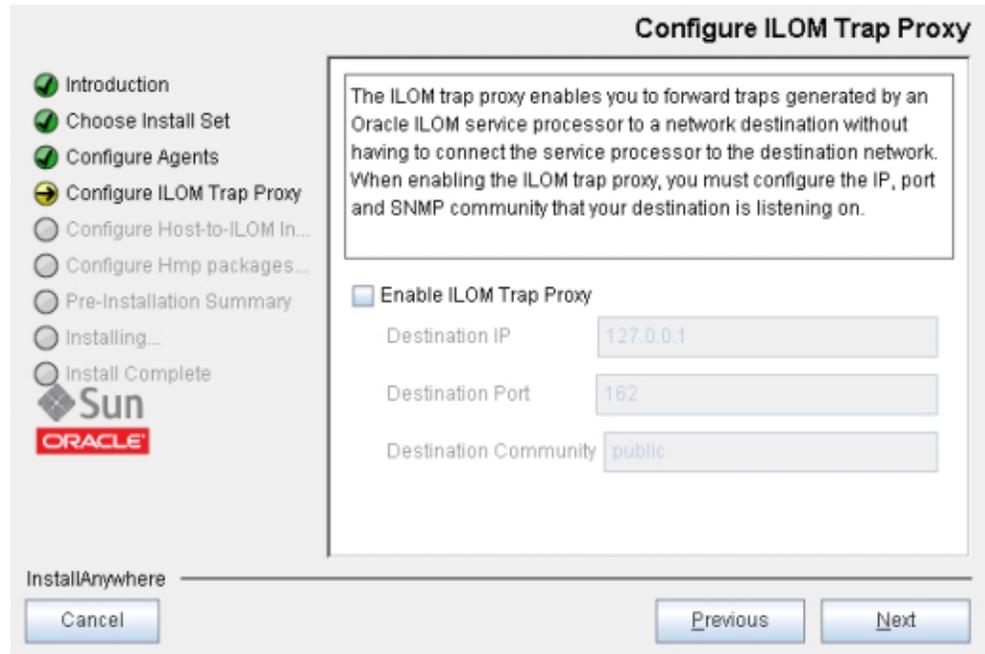
- 7 Select the Hardware Management Agent and SNMP Agent and click Next.

Note – If you select SNMP Agent, you must also select Hardware Management Agent.

- 8 Choose one of the following:
 - If you did not select the Hardware Management Agent, then go to the next step.

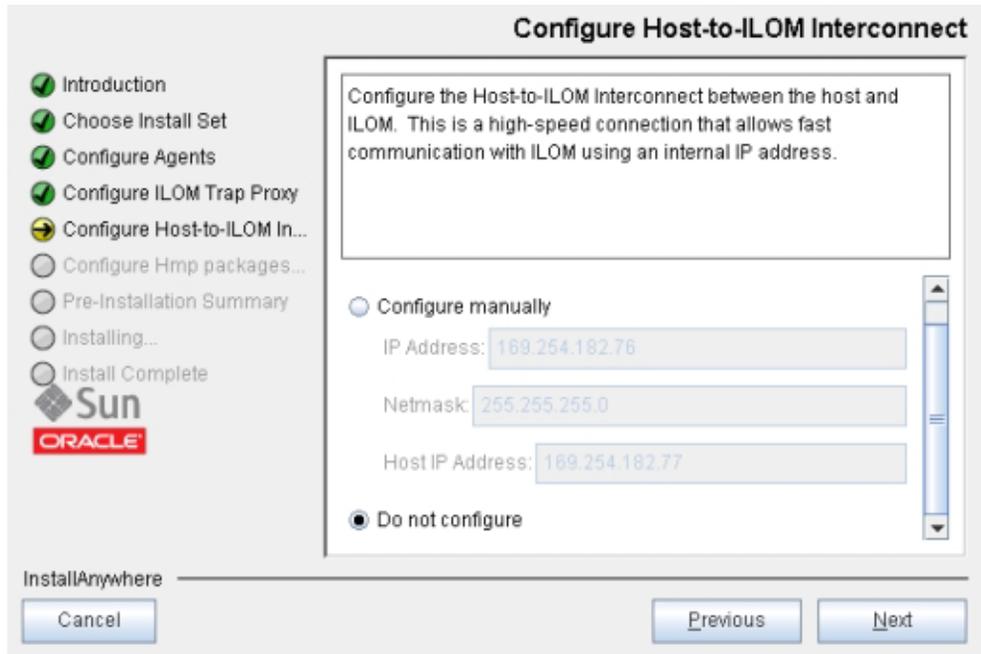
- If you selected the Hardware Management Agent, then you can choose to enable the ILOM trap proxy.

The ILOM trap proxy enables you to forward fault traps generated by an Oracle ILOM service processor to a network destination over the Host-to-ILOM Interconnect. When enabling the ILOM trap proxy, you must configure the IP, port and SNMP community that your destination is listening on.



- 9 If your server supports the new Host-to-ILOM Interconnect, then you can choose to configure the interconnect during installation. For more information on Host-to-ILOM Interconnect, see [“Enabling the Host-to-ILOM Interconnect” on page 15](#).
 - On servers without the Host-to-ILOM Interconnect, go to the next step.
 - On supported platforms, the Configure Host-to-ILOM Interconnect screen opens.

Note – The Host-to-ILOM Interconnect must be enabled for the ILOM trap proxy to function.



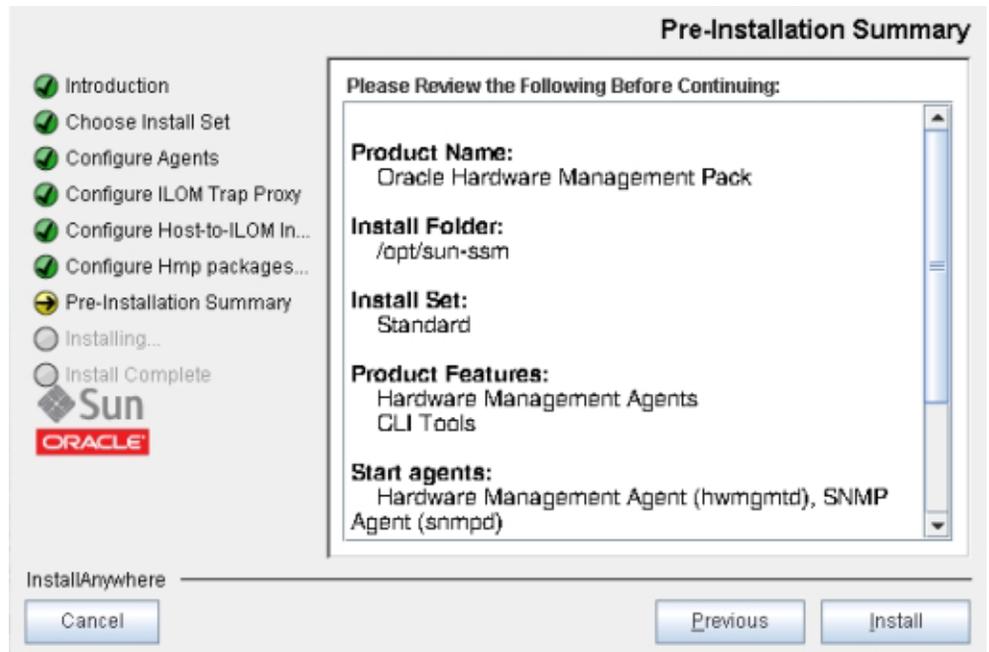
By default the Host-to-ILOM Interconnect is disabled and unconfigured. Select one of the options for configuring the Host-to-ILOM Interconnect:

- If you select the **Configure automatically** option, the Host-to-ILOM Interconnect is configured using default settings.
- If you select the **Configure manually** option, you need to enter the IP Address, Netmask, and Host IP Address information.

Note – Automatic configuration is recommended, manual configuration is provided for expert use.

- 10 On a server running Oracle Solaris 10 OS with non-global zones available, you are given the option to install to all zones.

- 11 A Pre-Installation Summary screen opens with information similar to the following screen.

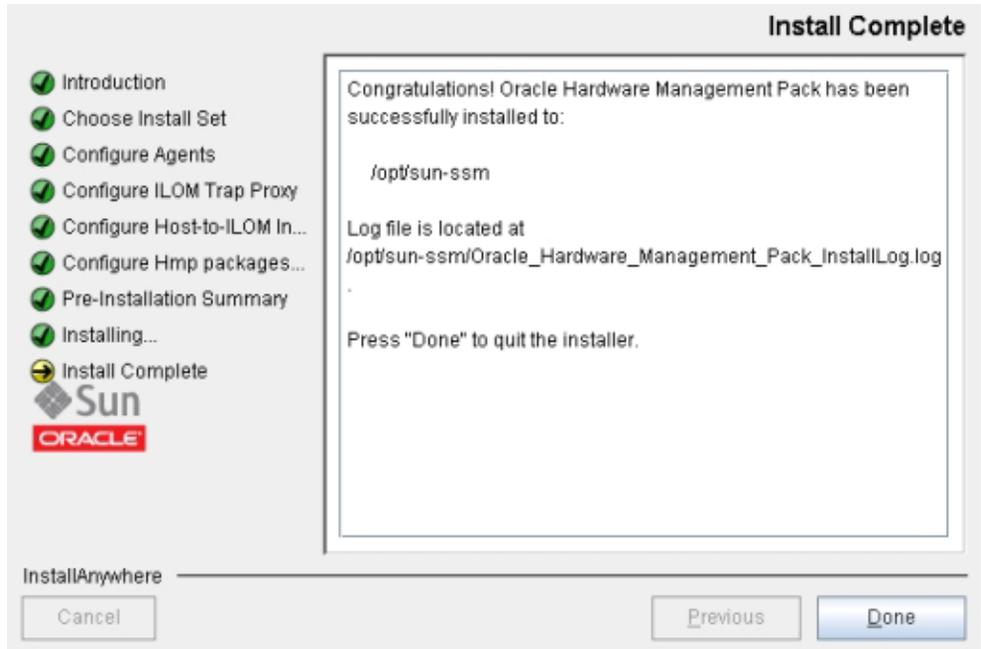


Verify that the information in the Pre-Installation Summary is correct.

- If you want to change any of the installation items, click the Previous button until you get back to the screen where you want to make the changes.

- **If the information is correct, click Install.**

The Install Complete screen opens when the installation has completed.



- 12 Click Done to complete the installation.

- See Also**
- [“How to Uninstall Hardware Management Components Using GUI Mode”](#) on page 30
 - [“Using Console Mode to Install or Uninstall Components”](#) on page 34
 - [“Using Silent Mode to Install and Uninstall Components”](#) on page 40

▼ How to Uninstall Hardware Management Components Using GUI Mode

- Before You Begin**
- To uninstall Management Pack components with Oracle Hardware Management Pack Installer, you must be logged into your system with Administrator privileges.

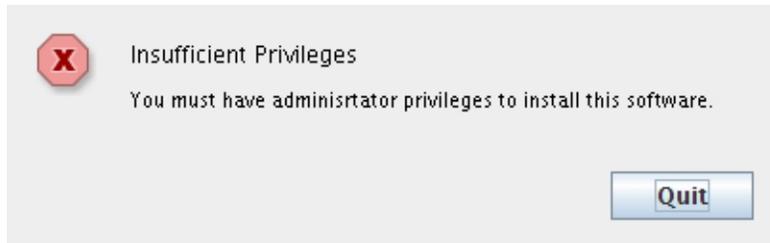
- 1 To start the uninstaller, issue one of the following commands:
 - For Oracle Solaris OS or Linux systems: `/opt/sun-ssm/setup/uninstall`

- **For Windows systems:** *Program Files\Oracle\Oracle Hardware Management Pack\setup\uninstall.exe*

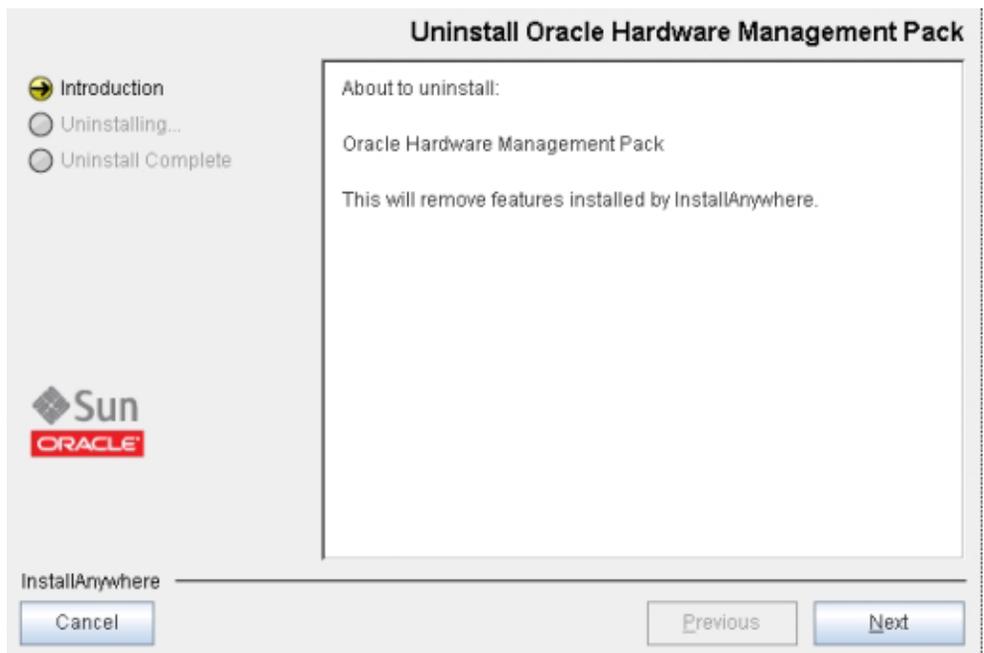
Where *Program Files* is the folder where your version of Windows stores programs.

The splash screen opens.

- 2 If the following dialog opens, click **Quit** and log into the system with **Administrator** privileges.

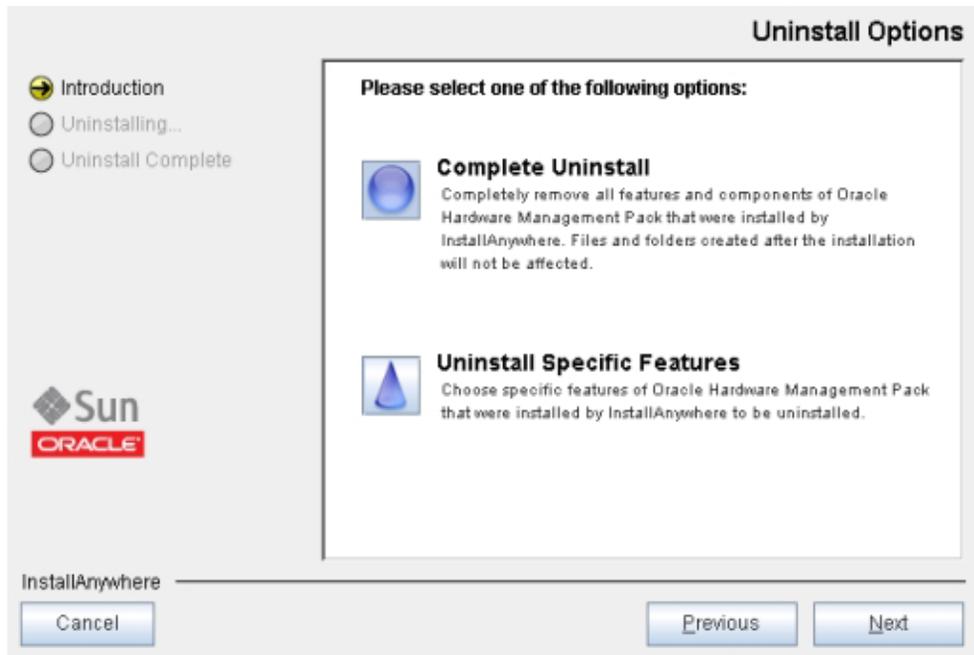


The Uninstall Oracle Management Pack screen opens.



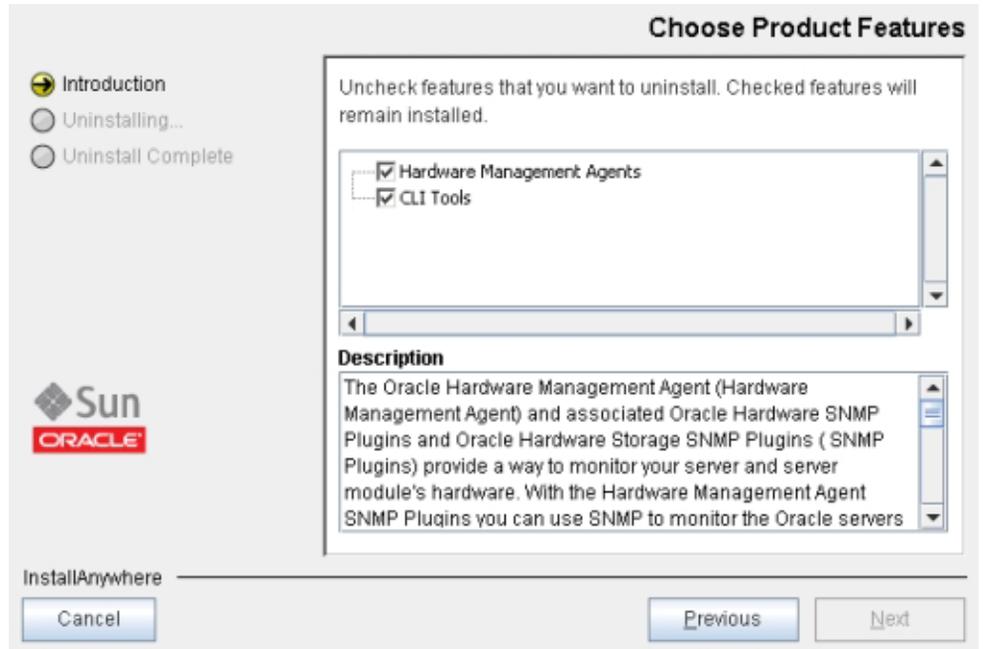
3 Click Next.

The Uninstall Options screen opens.



4 Select Complete Uninstall or Uninstall Specific Features and click Next.

If you selected Uninstall Specific Features, the Choose Product Features screen opens.



If the Host-to-ILOM Interconnect was enabled during installation, the following screen opens.



5 Select **Yes** or **No** and click **Uninstall**.

6 Select any features that you want to uninstall and click **Uninstall**.

The Uninstall Oracle Hardware Management Pack screen opens.

When the components have been uninstalled, the Uninstall Complete screen opens.

7 Click **Done**.

- See Also**
- [“How to Install Hardware Management Components Using GUI Mode”](#) on page 22
 - [“Using Console Mode to Install or Uninstall Components”](#) on page 34
 - [“Using Silent Mode to Install and Uninstall Components”](#) on page 40

Using Console Mode to Install or Uninstall Components

This section covers the following procedures:

- [“How to Install Hardware Management Components Using Console Mode”](#) on page 35

- [“How to Uninstall Hardware Management Pack Components Using Console Mode” on page 39](#)

▼ How to Install Hardware Management Components Using Console Mode

Before You Begin

- To install Management Pack components with Oracle Hardware Management Pack Installer, you must be logged into your system with Administrator privileges.
- Download and extract the Hardware Management Pack. See [“Getting the Software” on page 17](#).
The directory that you extract the files is referred to as *extract-directory* in this procedure.
- For Windows Server 2003 SP2 or earlier, you must first install the Sun IPMI System Management Driver. See [“Installing the Sun IPMI System Management Driver 2.1” on page 61](#).
- The packages for Hardware Management Pack have dependencies that must be satisfied for a successful installation. See [“Software Dependencies” on page 67](#) for more information.
- On the Oracle Solaris operating system, due to the restrictions of pkgadd(1M), the path that you extract the Hardware Management Pack to must not contain any spaces for the installation process to proceed.
- On servers running the Windows Server operating system, when installing the Host-to-ILOM Interconnect, it is necessary to import the security certificate. See [“How to Import the Security Certificate on a Windows Server” on page 66](#) for more information.
- On a server running Oracle Solaris 11 with zones set up, the console installer can not be used. See [“How to Manually Install Components on Oracle Solaris 11 With Zones” on page 50](#) for information on installing manually on a server with zones set up.

1 Set up a console session with the server.

2 To start the installer, type one of the following commands:

- **For Linux based systems:** `/extract-directory/oracle-hmp-version/install.bin -i console`
- **For Oracle Solaris OS:** `/extract-directory/oracle-hmp-version/install.arch.bin -i console`
where *arch* is SPARC or x86 depending on your processor.
- **For Windows systems:** `\extract-directory\oracle-hmp-version\install.exe -i console`

The system displays output similar to the following:

```
Preparing to install...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
```

```
Launching installer...
```

```
Preparing CONSOLE Mode Installation...
```

```
=====
Oracle Hardware Management Pack                (created with InstallAnywhere)
-----
```

```
=====
Introduction
-----
```

```
InstallAnywhere will guide you through the installation of Oracle Hardware
Management Pack.
```

```
It is strongly recommended that you quit all programs before continuing with
this installation.
```

```
Respond to each prompt to proceed to the next step in the installation. If you
want to change something on a previous step, type 'back'.
```

```
You may cancel this installation at any time by typing 'quit'.
```

3 The system displays:

```
ENTER A COMMA SEPARATED LIST OF NUMBERS REPRESENTING THE FEATURES YOU WOULD
LIKE TO SELECT, OR DESELECT. TO VIEW A FEATURE'S DESCRIPTION, ENTER
'?'<NUMBER>'. PRESS RETURN WHEN YOU ARE DONE:
```

```
1- [X] Hardware Management Agents
2- [X] CLI Tools
3- [ ] IPMITool
4- [ ] Emulex Fibre Channel support
5- [ ] QLogic Fibre Channel support
```

```
Please choose the Features to be installed by this installer.:
```

```
Options 1 and 2 are preselected. To toggle the selected options, enter a comma separated list of
numbers.
```

```
For example, given the default selection shown above, if you enter 1, 3 Hardware Management
Agents is deselected and IPMITool is selected.
```

4 When you have typed the features you want to install, press return.

```
If the system displays:
```

```
=====
Dependency requirement for feature selection.
-----
```

Before installing hmp packages, please resolve these requirements:

```
Emulex Fibre Channel support requires package(s):  elxocmcore
libhbaapi-devel
QLogic Fibre Channel support requires package(s):  libhbaapi-devel
```

- 1- Exit and resolve the dependencies.
- 2- Continue and de-select unresolved packages.

Choose one of the options and press Enter.

5 Depending on your choices in Step 3:

- **If you did not choose to install Hardware Management Agents, go to Step 6.**
- **If you chose to install Hardware Management Agents, the system displays:**

```
Configure Hardware Management Agent
-----
```

Start the Hardware Management Agent? This agent's short name is hwmgmt.

- >1- Yes
- 2- No

Type the number for your choice or press Enter to select Yes.

The following screen opens:

```
Configure SNMP Agent
-----
```

Start the SNMP agent? This agent's short name is snmpd on Linux, sma on Solaris, and SNMP on Windows.

- >1- Yes
- 2- No

Type the number for your choice or press Enter to select Yes.

6 If you did not choose to install Hardware Management Agents in Step 3, go to Step 10. If you chose to install Hardware Management Agents in step 3, then you can configure the ILOM trap proxy:

```
=====
Configure ILOM Trap Proxy
-----
```

The ILOM trap proxy enables you to forward traps generated by an Oracle ILOM service processor to a network destination without having to connect the service processor to the destination network. When enabling the SNMP trap proxy, you must configure the IP, port and SNMP community that your destination is listening on.

Do you want to enable ILOM Trap Proxy?

- 1- Yes
- >2- No

If you want to enable the fault trap proxy, enter 1. The system offers options to configure the SNMP fault trap proxy, or to accept the defaults:

Destination IP (DEFAULT: 127.0.0.1):

Destination Port (DEFAULT: 162):

Destination Community (DEFAULT: public):

- 7 If you did not choose to install CLI Tools in Step 3, go to Step 10. If you chose CLI Tools in Step 3, the system displays:**

Configure Host-to-ILOM Interconnect

Configure the Host-to-ILOM Interconnect between the host and ILOM. This is a high-speed connection that allows fast communication with ILOM using an internal IP address.

1- Configure automatically

->2- Configure manually

Note – For more information on Host-to-ILOM Interconnect, see [“Enabling the Host-to-ILOM Interconnect” on page 15.](#)

- 8 By default the Host-to-ILOM Interconnect is disabled and unconfigured. If the server you are installing on supports the Host-to-ILOM Interconnect, you can select one of these options:**

Type the number for your choice or Enter to select Configure automatically.

If you choose 1 or 3, go to Step 11. If you choose 2–Configure manually, the system displays:

Configure Host-to-ILOM Interconnect Manually

Specify the following parameters.

IP Address: (DEFAULT: 169.254.182.76):

Netmask: (DEFAULT: 255.255.255.0):

Host IP Address: (DEFAULT: 169.254.182.77):

- 9 Enter the appropriate values for the IP Address, Netmask, and Host IP Address and press Enter.**
- 10 On a server running Oracle Solaris 10 OS with non-global zones available, you are given the option to install to all zones.**
- 11 The Pre-Installation Summary opens. Verify that the information displayed on the Pre-Installation Summary is correct.**
- **If the information is not correct, type back until you return to the screen you want to change.**

- **If the information shown in the screen is correct, press Enter to continue.**

The following screen opens:

```
Ready To Install
-----
```

```
InstallAnywhere is now ready to install Oracle Hardware Management Pack onto
your system at the following location:
```

12 Press Enter to begin the installation.

The installation takes about 2 minutes.

- See Also**
- [“How to Uninstall Hardware Management Pack Components Using Console Mode” on page 39](#)
 - [“Using GUI Mode to Install and Uninstall Components” on page 21](#)
 - [“Using Silent Mode to Install and Uninstall Components” on page 40](#)

▼ How to Uninstall Hardware Management Pack Components Using Console Mode

- Before You Begin**
- To uninstall Management Pack components with Oracle Hardware Management Pack Installer, you must be logged into your system with Administrator privileges.

1 To start the uninstallation, type one of the following commands:

- **For Oracle Solaris OS or Linux systems:** `/opt/sun-ssm/setup/uninstall -i console`
- **For Windows systems:** `Program Files\Oracle\Oracle Hardware Management Pack\setup\uninstall -i console` where *Program Files* is the folder your version of Windows stores programs in.

The following screen opens:

```
Uninstall Oracle Hardware Management Pack
-----
```

```
About to uninstall...
```

```
Oracle Hardware Management Pack
```

```
This will remove features installed by InstallAnywhere. It will not remove
files and folders created after the installation.
```

2 Press Enter.

The following screen opens.

```
Uninstall Options
-----
```

ENTER THE NUMBER FOR YOUR CHOICE, OR PRESS <ENTER> to select the default.
->1- Completely remove all features and components.
2- Choose specific features that were installed by InstallAnywhere.

Please choose one of the following options:

3 Enter the number that represents your choice or press Enter to completely remove all features and components.

The uninstall begins. When the uninstall is complete, the following screen opens.

```
Uninstall Complete  
-----
```

All items were successfully uninstalled.

4 Press Enter to exit the installer.

- See Also**
- [“How to Install Hardware Management Components Using Console Mode” on page 35](#)
 - [“Using GUI Mode to Install and Uninstall Components” on page 21](#)
 - [“Using Silent Mode to Install and Uninstall Components” on page 40](#)

Using Silent Mode to Install and Uninstall Components

This section includes the following topics:

- [“Silent Mode Installation Options” on page 40](#)
- [“How to Install Hardware Management Pack Components Using Silent Mode” on page 41](#)
- [“How to Uninstall Hardware Management Pack Component Using Silent Mode” on page 42](#)

Silent Mode Installation Options

Silent mode is a non-interactive installation method. You navigate to the *extract-directory* and execute the `install.bin` (Oracle Solaris OS or Linux) or `install.exe` (Windows) at the command line. Silent mode to be executed in one of two ways:

- A silent installation can be directed by supplying a response file. The response file contains parameters and properties that define the installation choices for the Installer.

A response file can first be created by running a GUI or console mode installation using the `-r` option as shown in the following example:

```
# ./install.bin -i GUI -r /path_to_file/response.txt
```

Once the response file is created, you can use the file to do an identical silent installation, using the following command:

```
# ./install.bin -i silent -f /path_to_file/response.txt
```

- If no response file is supplied, a default installation of the Management Pack components is performed with no post-installation configuration steps. When using the default silent install, all Management Pack components are installed, except IPMItool.

Note – On a server without SNMP configured, Management Agents is not installed. On a server with a previous version of Management Pack installed, the software is upgraded. The Host-to-ILOM Interconnect is not configured or enabled by default.

▼ How to Install Hardware Management Pack Components Using Silent Mode

- Before You Begin**
- To install Management Pack components with Oracle Hardware Management Pack Installer, you must be logged into your system with Administrator privileges.
 - Download and extract the Hardware Management Pack Software. See [“Getting the Software” on page 17](#).
The directory that you extract the files is referred to as *extract-directory* in this procedure.
 - For Windows Server 2003 SP2 or earlier, you must first install the Sun IPMI System Management Driver. See [“Installing the Sun IPMI System Management Driver 2.1” on page 61](#).
 - The packages for Hardware Management Pack have dependencies that must be satisfied for a successful installation. See [“Software Dependencies” on page 67](#) for more information.
 - On the Oracle Solaris operating system, due to the restrictions of pkgadd(1M), the path that you extract the Hardware Management Pack to must not contain any spaces for the installation process to proceed.
 - Refer to [“Silent Mode Installation Options” on page 40](#) before performing the installation.
 - On servers running Windows Server operating system, when installing the Host-to-ILOM Interconnect, it is necessary to import the security certificate. See [“How to Import the Security Certificate on a Windows Server” on page 66](#) for more information.
- **To start the silent mode installation process, use one of the following commands:**
 - **For Oracle Solaris OS or Linux systems:**
 - **To perform a typical silent installation:**
`/extract-directory/oracle-hmp-version/install.bin -i silent`
 - **To perform an installation directed by a response file:**
`/extract-directory/oracle-hmp-version/install.bin -i silent -f /path_to_file/response.txt`

- **For Windows systems:**
 - **To perform a typical silent installation:**
`\extract-directory\oracle-hmp-version\install.exe -i silent`
 - **To perform an installation directed by a response file:**
`\extract-directory\oracle-hmp-version\install.exe -i silent -f
\path_to_file\response.txt`

Note – On a server without SNMP configured, Management Agents is not installed. On a server with a previous version of Management Pack installed, the software is upgraded.

Output similar to the following opens:

```

Preparing to install...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

Preparing SILENT Mode Installation...

=====
Oracle Hardware Management Pack                (created with InstallAnywhere)
-----

```

The installation should take about two minutes. A progress bar is displayed as the installation proceeds.

When the installation is complete, the following output displays:

```
Installation Complete.
```

- See Also**
- [“How to Uninstall Hardware Management Pack Component Using Silent Mode”](#) on page 42
 - [“Using GUI Mode to Install and Uninstall Components”](#) on page 21
 - [“Using Console Mode to Install or Uninstall Components”](#) on page 34

▼ How to Uninstall Hardware Management Pack Component Using Silent Mode

- Before You Begin**
- To uninstall Management Pack components with Oracle Hardware Management Pack Installer, you must be logged into your system with Administrator privileges.
 - **To start the silent mode installation process, use one of the following commands:**
 - **For Oracle Solaris OS or Linux systems:** `/opt/sun-ssm/setup/uninstall -i silent`

- **For Windows systems:** *Program Files\Oracle\Oracle Hardware Management Pack\setup\uninstall.exe -i silent* where *Program Files* is the folder your version of Windows stores programs in.

The following output opens:

```
Preparing SILENT Mode Uninstallation...
```

```
=====
Oracle Hardware Management Pack                (created with InstallAnywhere)
-----
```

```
=====
Uninstalling...
```

The installation should take about 2 minutes. A progress bar is displayed as the installation proceeds.

When the installation is complete, the following output displays:

```
Uninstallation Complete.
```

- See Also**
- [“How to Install Hardware Management Pack Components Using Silent Mode”](#) on page 41
 - [“Using GUI Mode to Install and Uninstall Components”](#) on page 21
 - [“Using Console Mode to Install or Uninstall Components”](#) on page 34

Installing Components Manually

This section describes how to install and uninstall Hardware Management Pack components on an Oracle server manually using OS-specific commands.

The section contains:

- [“Installing and Uninstalling Components Manually on an Oracle Solaris Server”](#) on page 45
- [“Installing and Uninstalling Components Manually on a Linux Server”](#) on page 53
- [“Installing and Uninstalling Components Manually on a Windows Server”](#) on page 57

Installing and Uninstalling Components Manually on an Oracle Solaris Server

This section covers the following topics:

- [“Installing and Uninstalling Components Manually on an Oracle Solaris 10 Server”](#) on page 45
- [“Installing and Uninstalling Components Manually on an Oracle Solaris 11 Server”](#) on page 48
- [“How to Manually Configure Hardware Management Pack on an Oracle Solaris Server”](#) on page 52

Installing and Uninstalling Components Manually on an Oracle Solaris 10 Server

This section covers the following topics:

- [“Available Packages for Oracle Solaris 10”](#) on page 46
- [“How to Manually Install Components on an Oracle Solaris 10 Server”](#) on page 47
- [“How to Manually Uninstall Components on an Oracle Solaris 10 Server”](#) on page 48

Available Packages for Oracle Solaris 10

This section provides details on the packages included with the Hardware Management Pack. For information on the software dependencies for these packages, see “[Software Dependencies](#)” on page 67. The following packages are available on Intel x86 and SPARC architecture servers running Oracle Solaris 10:

- `ORCLhmp-hwmgmt` - Oracle Server Hardware Management Agents.
- `ORCLhmp-libs` - libraries required by Oracle Hardware Management Pack.
- `ORCLhmp-smnp` - Oracle Server Hardware SNMP plugins.
- `ORCLhmp-tools` - Oracle Server CLI Tools.
- `ELXocmcore` and `EMLXemlxu` - Emulex Fibre Channel support and drivers, part of Hardware Management Pack since version 2.2.1.
- `SUNWfirmwareflash` - Oracle Solaris Generic Firmware Flash Tool for InfiniBand Host Channel Adapters, part of Hardware Management Pack since version 2.2.1.
- `QConvergeConsoleCLI` - QLogic Fibre Channel Host Bus Adapter command line interface, part of Hardware Management Pack since version 2.2.1.
- `ipmiFlash` - IPMIflash utility.
- `ipmitool` - IPMItool utility.

Note – the QLogic Fibre Channel Host Bus Adapter command line interface, part of Hardware Management Pack since version 2.2.1 was previously provided as `QLScli` and `QLScliX`.

The following packages are available for installation on SPARC processor architecture servers only:

- `ORCLhmp-uecm` - CDC ECM USB-to-Ethernet driver.
- `ORCLhmp-zoningcli` - zoning CLI Tool for Oracle SPARC T3-1 servers that have the 16 disk backplane.

The following packages are available for installation on Intel processor architecture servers only:

- `ORCLhmp-tools-biosconfig` - Oracle Server CLI Tools `biosconfig`.
- `ORCLhmp-tools-ubiosconfig` - Oracle Server CLI Tools `ubiosconfig`. Only compatible with servers that have a UEFI BIOS and is part of Hardware Management Pack since version 2.2.1.

Note – for Hardware Management Pack version 2.2.2 `ORCLhmp-tools-biosconfig` is a separate package for Intel processor architecture machines but `biosconfig` is part of the `ORCLhmp-tools` package on SPARC processor architecture machines.

▼ How to Manually Install Components on an Oracle Solaris 10 Server

Before You Begin

- To install Management Pack components with Oracle Hardware Management Pack Installer, you must be logged into your system with Administrator privileges.
- Download and extract the Hardware Management Pack. See [“Getting the Software” on page 17](#).
The directory that you extract the files is referred to as *extract-directory* in this procedure.
- The packages for Hardware Management Pack have dependencies that must be satisfied for a successful installation. See [“Software Dependencies” on page 67](#) for more information.
- On the Oracle Solaris operating system, due to the restrictions of `pkgadd(1M)`, the path that you extract the Hardware Management Pack to must not contain any spaces for the installation process to proceed.
- If your system includes adapters using technology from QLogic or Emulex, you must install the appropriate Third party utilities included with Hardware Management Pack. See [“Available Packages for Oracle Solaris 10” on page 46](#).

- 1 If you want to install only `IPMItool` or `IPMIflash`, see the following steps. If you also want to install the other Hardware Management Pack components, go to Step 3.

- To install `ipmiFlash`, run the following command:

```
pkgadd -d /extract-directory/packages ipmiFlash
```
- To install `ipmitool`, run the following command:

```
pkgadd -d /extract-directory/packages ipmitool
```

- 2 If you see the prompt to install conflicting files, type `y` to continue the installation.

- 3 Determine which Hardware Management Pack components that you want to install, see [“Available Packages for Oracle Solaris 10” on page 46](#).

- 4 To install the packages, use the following command:

```
pkgadd -d /extract-directory/packages ORCLhmp-Libs additional components
```

For example, to install just the Hardware Management agent and SNMP plugins:

```
pkgadd -d /extract-directory/packages ORCLhmp-Libs ORCLhmp-hwmgmt ORCLhmp-snmp
```

- 5 Follow the on screen instructions to continue the installation.

The selected components are installed.

▼ How to Manually Uninstall Components on an Oracle Solaris 10 Server

Before You Begin

- To uninstall Hardware Management Pack components manually, you must be logged into your system with root privileges.
- The packages for Hardware Management Pack have dependencies that must be observed for a successful uninstallation. See [“Software Dependencies” on page 67](#) for more information.
- The packages for Hardware Management Pack have dependencies that must be observed for a successful uninstallation. See [“Software Dependencies” on page 67](#) for more information.

- 1 Determine which components you want to uninstall. See [“Available Packages for Oracle Solaris 10” on page 46](#).

Note – The following package dependencies exist.

- ORCLhmp - libs must be uninstalled after all other Hardware Management packages have been uninstalled.
 - ORCLhmp - snmp must be uninstalled before ORCLhmp - hwmgmt is uninstalled.
-

- 2 Run the following command:

```
pkgrm package name(s)
```

For example, to remove the hardware agent with SNMP plugins:

```
pkgrm ORCLhmp-snmp ORCLhmp-hwmgmt
```

- 3 Follow any on screen prompts to complete the uninstallation.

Installing and Uninstalling Components Manually on an Oracle Solaris 11 Server

This section contains the following:

- [“Available Packages for Oracle Solaris 11” on page 49](#)
- [“How to Manually Install Components on Oracle Solaris 11 Without Zones” on page 49](#)
- [“How to Manually Uninstall Components on an Oracle Solaris 11 Server” on page 51](#)

Available Packages for Oracle Solaris 11

This section provides details on the packages included with the Hardware Management Pack. For information on the software dependencies for these packages, see [“Software Dependencies” on page 67](#). The following packages are available:

Note – For installation, the package name specified must include the full package path listed below (for example, `system/management/hmp/hmp-ipmitool`).

- `system/management/hmp/hmp-libs` - libraries required by Oracle Hardware Management Pack.
 - `system/management/hmp/hmp-snmplib` - Oracle Server Hardware SNMP plugins.
 - `system/management/hmp/hmp-hwmgmt` - Oracle Server Hardware Management Agents.
 - `system/management/hmp/hmp-tools` - Oracle Server CLI Tools.
 - `system/management/hmp/hmp-ipmiflash` - IPMIflash utility.
 - `system/management/hmp/hmp-ipmitool` - IPMItool utility.
 - `system/management/hmp/hmp-tools-biosconfig` - BIOS configuration utility
 - `system/management/hmp/hmp-tools-ubiosconfig` - UEFI BIOS configuration utility
 - `system/management/hmp/hmp-zoningcli` - zoning CLI Tool for Oracle SPARC T3-1 servers that have the 16 disk backplane.
 - `system/management/hmp/ELXocmcore` and `EMLXemlxu` - Emulex Fibre Channel support and drivers, part of Hardware Management Pack since version 2.2.1.
 - `system/management/hmp/QConvergeConsoleCLI` - QLogic Fibre Channel Host Bus Adapter command line interface, part of Hardware Management Pack since version 2.2.6.
-

Note – `hmp-hwmgmt` must be installed before `hmp-snmplib` is installed.

the QLogic Fibre Channel Host Bus Adapter command line interface, part of Hardware Management Pack since version 2.2.1 was previously provided as `QLSccli` and `QLSccliX`.

▼ How to Manually Install Components on Oracle Solaris 11 Without Zones

Before You Begin

- To install Hardware Management Pack components manually, you must be logged into your system with root privileges.
- Download and extract the Hardware Management Pack. See [“Getting the Software” on page 17](#).

The directory that you extract the files to is referred to as *extract-directory* in this procedure.

- The packages for Hardware Management Pack have dependencies that must be satisfied for a successful installation. See [“Software Dependencies” on page 67](#) for more information.
 - On the Oracle Solaris operating system, due to the restrictions of `pkgadd(1M)`, the path that you extract the Hardware Management Pack to must not contain any spaces for the installation process to proceed.
 - If your system includes adapters using technology from QLogic or Emulex, you must install the appropriate Third party utilities included with Hardware Management Pack. See [“Available Packages for Oracle Solaris 11” on page 49](#).
 - This procedure applies to servers without zones. See [“How to Manually Install Components on Oracle Solaris 11 With Zones” on page 50](#) for a server with zones.
- 1 **Determine which Hardware Management Pack components that you want to install. See [“Available Packages for Oracle Solaris 11” on page 49](#).**

- 2 **To list the available packages:**

```
pkg list -g file:///extract-directory/oracle-hmp-2.2.7-SunOS-5.11.p5p
```

- 3 **To install the packages, use the following command:**

```
pkg install -g file:///extract-directory/oracle-hmp-2.2.2-SunOS-5.11.p5p  
pkg:/mp-re/package-name
```

Where *package-name* is one or more of the packages listed in [“Available Packages for Oracle Solaris 11” on page 49](#).

The selected packages are installed.

▼ **How to Manually Install Components on Oracle Solaris 11 With Zones**

Before You Begin

- To install Hardware Management Pack components manually, you must be logged into your system with root privileges.
- Download and extract the Hardware Management Pack. See [“Getting the Software” on page 17](#).
The directory that you extract the files to is referred to as *extract-directory* in this procedure.
- The packages for Hardware Management Pack have dependencies that must be satisfied for a successful installation. See [“Software Dependencies” on page 67](#) for more information.
- On the Oracle Solaris operating system, due to the restrictions of `pkgadd(1M)`, the path that you extract the Hardware Management Pack to must not contain any spaces for the installation process to proceed.

- If your system includes adapters using technology from QLogic or Emulex, you must install the appropriate Third party utilities included with Hardware Management Pack. See [“Available Packages for Oracle Solaris 11” on page 49](#).
 - This procedure applies to servers with zones. See [“How to Manually Install Components on Oracle Solaris 11 Without Zones” on page 49](#) for a server without zones.
- 1 **Determine which Hardware Management Pack components that you want to install.** See [“Available Packages for Oracle Solaris 11” on page 49](#).
 - 2 **Create a package repository at a suitable path.**
`pkgrepo create path`
 Where *path* is a path such as `/var/tmp/OHMP`
 - 3 **Publish the repository using the install files.**
`pkgrecv -s extraction_directory/oracle-hmp-2.2.7-SunOS-5.11.p5p -d path '*'`
 Where *path* is the path used in the previous step.
 - 4 **Set the publisher for the repository.**
`pkg set-publisher -g file://path mp-re`
 Where *path* is the path used in the previous step and *mp-re* is a name for the repository.
 - 5 **To install the packages, use the following command:**
`pkg install pkg://mp-re/package-name`
 Where *mp-re* is the name of the repository used in the previous step and *package-name* is one or more of the packages listed in [“Available Packages for Oracle Solaris 11” on page 49](#).
 The selected packages are installed.

▼ How to Manually Uninstall Components on an Oracle Solaris 11 Server

- Before You Begin**
- To uninstall Hardware Management Pack components manually, you must be logged into your system with root privileges.
 - The packages for Hardware Management Pack have dependencies that must be observed for a successful uninstallation. See [“Software Dependencies” on page 67](#) for more information.
- 1 **Determine which components you want to uninstall.** See [“Available Packages for Oracle Solaris 11” on page 49](#).

Note – The following package dependencies exist.

- `hmp-libs` must be uninstalled after all other Hardware Management packages have been uninstalled.
 - `hmp-snmpp` must be uninstalled before `hmp-hwmgmt` is uninstalled.
 - `hmp-zoningcli` is only available for SPARC servers running Oracle Solaris OS.
-

2 To uninstall the packages, use the following command:

```
pkg uninstall package-name
```

Where *package-name* is one of the packages listed in [“Available Packages for Oracle Solaris 11” on page 49](#).

▼ **How to Manually Configure Hardware Management Pack on an Oracle Solaris Server**

- **Run the appropriate commands for the features that you want to configure.**
 - **If Oracle Server Management Agents are installed, restart the Hardware Management Agent using the following commands:**

```
/usr/sbin/svcadm disable hwmgmt  
/usr/sbin/svcadm enable hwmgmt
```
 - **If Oracle Hardware SNMP Plugins are installed, restart the SNMP daemon.**

On Oracle Solaris 10 OS, use the following command:

```
/usr/sbin/svcadm restart sma
```

On Oracle Solaris 11 OS, use the following command:

```
/usr/sbin/svcadm restart net-snmpp
```
 - **If `itpconfig` is installed on a server that supports Host-to-ILOM Interconnect, enable the Host-to-ILOM Interconnect using the following steps:**
 - a. **Verify the server's Oracle ILOM service processor supports this feature using the following command:**

```
/opt/sun-ssm/bin/itpconfig list interconnect
```

If `SUBCOMMAND NOT SUPPORTED` opens, then this feature is not supported by your server.

- b. On Oracle Solaris OS 10 10/09, install the `usbemc` driver.

```
pkgadd -d //packages ORCLhmp-drvs
```

- c. Do one of the following:

- If you want to enable the interconnect automatically, use the following command:

```
/opt/sun-ssm/bin/itpconfig enable interconnect
```

This is the preferred method for configuring the interconnect.

- If you want to enable the interconnect manually, use the following command:

```
/opt/sun-ssm/bin/itponfig enable interconnect --ipaddress=x.x.x.x
--netmask=x.x.x.x --hostipaddress=x.x.x.x
```

Installing and Uninstalling Components Manually on a Linux Server

This section covers the following procedures:

- [“Available Packages for Linux” on page 53](#)
- [“How to Install Components on a Linux Server” on page 54](#)
- [“How to Uninstall Components on a Linux Server” on page 55](#)
- [“How to Configure the Software After Installation” on page 56](#)

Available Packages for Linux

The Hardware Management Pack download contains packages that can be used to install the components manually. For information on the software dependencies for these packages, see [“Software Dependencies” on page 67](#). The following list provides an overview of the names of these packages.

- `hmp-libs` - libraries required by Oracle Hardware Management Pack.
- `hmp-snmplib` - Oracle Server Hardware SNMP plugins.
- `hmp-hwmgmt` - Oracle Server Hardware Management Agents.
- `hmp-tools` - Oracle Server CLI Tools.
- `hmp-tools-biosconfig` - Oracle Server CLI Tools `biosconfig`.
- `hmp-tools-ubiosconfig` - Oracle Server CLI Tools `ubiosconfig`. Only compatible with servers that have a UEFI BIOS and is part of Hardware Management Pack since version 2.2.1.
- `ipmiflash` - IPMIflash utility.

- `ipmitool` - IPMItool utility.
- `elxocmcore` - Emulex Fibre Channel support and drivers, part of Hardware Management Pack since version 2.2.1.
- `QConvergeConsoleCLI` - QLogic Fibre Channel Host Bus Adapter command line interface, part of Hardware Management Pack since version 2.2.1.
- `mstflint` - Mellanox InfiniBand Host Channel Adapter firmware burning and diagnostics tools, part of Hardware Management Pack since version 2.2.1.

The file names for the packages generally follow the following format:

component-version.distribution.architecture.rpm

where:

- *component* is one of component names listed above.
- *version* is the software version number.
- *distribution* is one of el4, el5, el6, ovm3, sl10 or sl1.
- *architecture* is either i386 (32-bit) or x86_64 (64-bit).

For example, for Oracle Enterprise Linux 5 32-bit, the Hardware Management Pack version 2.2.1 CLI Tools file name is `oracle-hmp-tools-2.2.1-1.el5.i386.rpm`.

▼ How to Install Components on a Linux Server

Before You Begin

- To install Hardware Management Pack components manually, you must be logged into your system with root privileges.
- Download and extract the Hardware Management Pack. See [“Getting the Software” on page 17](#).
The directory that you extract the files is referred to as *extract-directory* in this procedure.
- The packages for Hardware Management Pack have dependencies that must be satisfied for a successful installation. See [“Software Dependencies” on page 67](#) for more information.
- If your system includes adapters using technology from QLogic, Emulex or Mellanox, you must install the appropriate Third party utilities included with Hardware Management Pack. See [“Available Packages for Linux” on page 53](#).
- These instructions also apply to Oracle VM, see [“Software Dependencies” on page 67](#) for operating system specific package dependencies information.

1 If you want to install only `ipmitool` or `ipmiflash`, see the following steps. If you also want to install the other Hardware Management Pack components, go to Step 3.

- To install `ipmiflash`, run the following command:
`rpm -i /extract-directory/packages/ipmiflash*.rpm`

- To install `ipmitool`, run the following command:
`rpm -i /extract-directory/packages/ipmitool*.rpm`

By default, no output opens after the installation.

2 Determine which Hardware Management Pack components to install.

See “[Available Packages for Linux](#)” on page 53 for an overview of which packages are available for installation.

Note – You must install `oracle-hmp-libs` with all packages. If you are installing `oracle-hmp-snmp` you must also install `oracle-hmp-hwmgmt`.

3 Use the following command to install the packages:

`rpm -i /extract-directory/packages/oracle-hmp-libs*.rpm` *additional components*

For example, to install just the Hardware Management Agent and SNMP plugins:

```
rpm -i /extract-directory/packages/oracle-hmp-libs*.rpm
/extract-directory/packages/oracle-hmp-hwmgmt*.rpm
/extract-directory/packages/oracle-hmp-snmp*.rpm
```

No output opens by default.

▼ How to Uninstall Components on a Linux Server

1 Determine which components you want to uninstall.

See “[Available Packages for Linux](#)” on page 53 for an overview of which packages are available for uninstallation.

Note – You must uninstall `oracle-hmp-libs` after uninstalling all other packages. If you are uninstalling `oracle-hmp-snmp` you must also uninstall `oracle-hmp-hwmgmt`.

2 Run the following command:

`rpm -e package name(s)`

For example, to remove the hardware agent with SNMP plugins:

```
rpm -e oracle-hmp-snmp oracle-hmp-hwmgmt
```

No output opens by default.

▼ How to Configure the Software After Installation

- Run the appropriate commands for the features that you want to configure.
 - On Oracle VM, the ipmi service must be started manually with the following command:
`/sbin/service hmp-ipmi start`
 - If `oracle-hmp-hwmgmt` is installed, enable and start the Hardware Management Agent with the following commands:
`/sbin/chkconfig hwmg/usr/bmt on`
`/sbin/service hwmgmt start`
 - If `oracle-hmp-snmp` is installed, enable and start the SNMP daemon with the following commands:
 - a. To enable the SNMP daemon, run the following command:
`/sbin/chkconfig snmpd on`
 - b. To determine whether or not the daemon is running, run the following command:
`/sbin/service snmpd status`
 - If `snmpd` is running, type the following command to restart it:
`/sbin/service snmpd restart`
 - If `snmpd` is not running, type the following command to start it:
`/sbin/service snmpd start`
 - If `oracle-hmp-tools` is installed, enable the Host-to-ILOM Interconnect with the following steps:
 - a. Verify the system service processor supports this feature with the following command.
`/usr/sbin/ilomconfig list interconnect`
If `SUBCOMMAND NOT SUPPORTED` opens than this feature is not supported by your service processor.
 - b. Do one of the following:
 - If you want to enable the interconnect automatically, use the following command:
`/usr/sbin/ilomconfig enable interconnect`
This is the preferred method for configuring the interconnect.

- If you want to enable the interconnect manually, use the following command:

```
/usr/sbin/ilonconfig enable interconnect --ipaddress=x.x.x.x  
--netmask=x.x.x.x --hostipaddress=x.x.x.x
```
- If `oracle-hmp-tools` is installed, start the IPMI driver if not already running:
 - a. Run the following command to see if IPMItool is running:

```
/sbin/service ipmi status
```
 - b. If IPMItool is not running, type the following command to start it:

```
/etc/init.d/ipmi start
```

Installing and Uninstalling Components Manually on a Windows Server

This section covers the following procedures:

- [“Available Packages for Windows” on page 57](#)
- [“How to Install Components on a Windows Server” on page 58](#)
- [“How to Uninstall Components on a Windows Server” on page 59](#)
- [“How to Configure Software After Installation” on page 59](#)

Available Packages for Windows

The Hardware Management Pack download contains packages that can be used to install the components manually. The following list provides an overview of the names of these packages.

- `hmp-libs` - libraries required by Oracle Hardware Management Pack.
- `hmp-snmplib` - Oracle Server Hardware SNMP plugins.
- `hmp-agents` - Oracle Server Hardware Management Agents.
- `hmp-tools` - Oracle Server CLI Tools.
- `hmp-tools-biosconfig` - Oracle Server CLI Tools `biosconfig`.
- `hmp-tools-ubiosconfig` - Oracle Server CLI Tools `ubiosconfig`. Only compatible with servers that have a UEFI BIOS and is part of Hardware Management Pack since version 2.2.1.
- `ipmiFlash` - IPMIFlash utility.
- `ipmitool` - IPMItool utility.
- `elxocmcore` - Emulex Fibre Channel support and drivers, part of Hardware Management Pack since version 2.2.1.

- `scli` - QLogic Fibre Channel Host Bus Adapter command line interface, part of Hardware Management Pack since version 2.2.1.
- `mstflint` - Mellanox InfiniBand Host Channel Adapter firmware burning and diagnostics tools, part of Hardware Management Pack since version 2.2.1.

▼ How to Install Components on a Windows Server

Before You Begin

- For Windows Server 2003 SP2 and earlier, the ISM driver must be installed. See “[Installing the Sun IPMI System Management Driver 2.1](#)” on page 61.
- For information on the Microsoft IPMI driver for Windows Server 2003 R2 and later, see [http://msdn.microsoft.com/en-us/library/aa391402\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/aa391402(VS.85).aspx)
- SNMP Service, if you plan to install SNMP agents. For more information, see [http://msdn.microsoft.com/en-us/library/aa379100\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/aa379100(VS.85).aspx).
- If your system includes adapters using technology from QLogic, Emulex or Mellanox, you must install the appropriate Third party utilities included with Hardware Management Pack. See “[Available Packages for Windows](#)” on page 57.

1 Download the Hardware Management Pack and extract it.

The directory to which you extract the files is referred to as *extract-directory* the remainder of this procedure.

2 If you want to install only `ipmitool` or `ipmiflash`, see the following steps. If you also want to install the other Hardware Management Pack components, go to Step 4.

- To install `ipmiflash`, do the following:
 - a. Run the following command:


```
C:\> msixec /i \extract-directory\package\ipmiflash*.msi
```

 The installation GUI opens.

b. Click through installation screens to install `ipmiflash`.

- To install `ipmitool`, do the following:
 - a. Run the following command:


```
C:\> msixec /i \extract-directory\packages\ipmitool*.msi
```
 - b. Click through the installation screens to install `ipmitool`.

3 Determine which Hardware Management Pack components that you want to install. See “[Available Packages for Windows](#)” on page 57.

Note – You must install `oracle-hmp-libs` with all `oracle-hmp` packages.

4 To install the packages, use the following commands:

```
C:\> msixec /i \extract-directory\packages\oracle-hmp-libs*msi
```

```
C:\> msixec /i \extract-directory\packages\other components
```

5 For example, to install just the Hardware Management Agent and SNMP plugins:

```
C:\> msixec /i \extract-directory\packages\oracle-hmp-libs*msi
```

```
C:\> msixec /i \extract-directory\packages\oracle-hmp-agents*msi
```

The GUI installation screens appear for the packages that you chose to install.

6 To install the packages, click through the installation screens.

▼ How to Uninstall Components on a Windows Server

1 Determine which components you want to uninstall. See [“Available Packages for Windows” on page 57](#).

2 Run the following command:

```
msixec /x \extract-directory\packages\package name(s)
```

For example, to remove the hardware agent with SNMP plugins:

```
msixec /x \extract-directory\packages\oracle-hmp-agents*msi
```

The uninstall GUI opens.

3 To uninstall the packages, click through the uninstall screens .

▼ How to Configure Software After Installation

● Run the appropriate commands for the features that you want to configure.

- If `oracle-hmp-hwmgmt` is installed, start the Hardware Management Agent using the following command:

```
C:\> net start "Oracle Server Hardware Management Agent"
```

- If `oracle-hmp-snmpp` is installed, start the SNMP daemon using the following commands:

```
C:\> net stop SNMP
```

```
C:\> net start SNMP
```

- If `oracle-hmp-tools` is installed, enable the Host-to-ILOM Interconnect with the following steps:

- a. Verify the system service processor supports this feature with the following command.

```
C:\> ProgramFiles(x86)\Oracle\Oracle Hardware Management  
Pack\bin\ilomconfig list interconnect
```

If `SUBCOMMAND NOT SUPPORTED` opens, then this feature is not supported by your service processor.

- b. Install the RNDIS driver.

- For a 32-bit system:

```
C:\> \extract-directory\drivers\rndis\32\installrndis ..\USB2SP.INF
```

- For a 64-bit system:

```
C:\> \extract-directory\drivers\rndis\64\installrndis\ ..\USB2SP.INF
```

- c. Do one of the following:

- If you want to enable the interconnect automatically, use the following command:

```
C:\> ProgramFiles(x86)\Oracle\Oracle Hardware Management  
Pack\bin\ilomconfig enable interconnect
```

This is the preferred method for configuring the interconnect.

- If you want to enable the interconnect manually, use the following command:

```
C:\> ProgramFiles(x86)\Oracle\Oracle Hardware Management  
Pack\bin\ilomconfig enable interconnect --ipaddress=x.x.x.x  
--netmask=x.x.x.x --hostipaddress=x.x.x.x
```

Installing Drivers Manually

This section describes how to manually install drivers to enable IPMItool and Host-to-ILOM Interconnect functionality.

The section contains the following topics:

- [“Installing the Sun IPMI System Management Driver 2.1” on page 61](#)
- [“Installing the Host-to-ILOM Interconnect Driver” on page 64](#)

Installing the Sun IPMI System Management Driver 2.1

Note – See the OS support matrix in [“Installing Components Using the Oracle Hardware Management Pack Installer” on page 17](#) to determine if you need this driver.

The Sun IPMI System Management Driver 2.1 allows communication between the Microsoft Windows host operating system and the Oracle ILOM service processor over an internal Keyboard Controller Style (KCS) interface. This driver is required for Microsoft Windows Server 2003 SP2 and earlier.

For later OS versions (including Microsoft Windows Server 2003 R2) the Microsoft-provided IPMI driver included in their Hardware Management Module provides the same functionality.

This section covers the following procedures:

- [“How to Install Sun IPMI System Management Driver 2.1 Manually” on page 62](#)
- [“How to Perform an Unattended Installation of the Sun IPMI System Management Driver 2.1” on page 63](#)
- [“How to Verify ipmi tool Installation” on page 64](#)
- [“How to Uninstall the Sun IPMI System Management Driver 2.1” on page 64](#)

▼ How to Install Sun IPMI System Management Driver 2.1 Manually

The Sun IPMI System Management Driver 2.1 is included in the Hardware Management Pack download, in the Drivers directory. To install the Sun IPMI System Management Driver 2.1 for Microsoft Windows Server 2003 SP2 or earlier:

- 1 **Uninstall any previous versions of this driver:**
 - a. Right-click My Computer and select Properties.
 - b. Select the Hardware tab and click Device Manager.
 - c. Expand the System Devices section.
 - d. Locate SUN IPMI System Management Driver and right-click this item.
 - e. Select Uninstall and confirm the removal.
- 2 **Open the Control Panel and select New Hardware.**
- 3 **Click Next.**
- 4 **Select Yes, I have already connected the hardware, and click Next.**
- 5 **Select Add a new hardware device from the displayed list, and click Next.**
- 6 **Select Install the hardware that I manually select from a list, and click Next.**
- 7 **Select System Devices, and click Next.**
- 8 **To specify the file system location where the `ism.inf` file is stored, click the Have Disk tab.**
- 9 **Navigate to the `extraction-directory\oracle-hmp-version\drivers\ism\` directory and choose the 32 or 64 bit driver depending on your operating system.**
- 10 **Click OK to install the driver.**

▼ How to Perform an Unattended Installation of the Sun IPMI System Management Driver 2.1

This section describes how to perform unattended (no user interaction required) installation of the Sun IPMI System Management Driver 2.1 for Microsoft Windows Server 2003 SP2 or earlier. The Sun IPMI System Management Driver 2.1 is included in the Hardware Management Pack download, in the Drivers directory.

1 Navigate to the directory containing the correct `ism.inf` file:

- For the 32-bit driver:

```
cd \extraction-directory\oracle-hmp-version\drivers\ism\32
```

- For the 64-bit driver:

```
cd \extraction-directory\oracle-hmp-version\drivers\ism\64
```

2 From an administrator command shell (DOS), run the following command:

```
isminst load ism.inf *ism
```

A window might open requesting that the unsigned driver be installed.



3 Click Yes to install the driver.

▼ How to Verify `ipmitool` Installation

1 Navigate to the directory containing the correct `ism.if` file:

- For the 32-bit driver:

```
cd \extraction-directory\oracle-hmp-version\drivers\ism\32
```

- For the 64-bit driver:

```
cd \extraction-directory\oracle-hmp-version\drivers\ism\64
```

2 To obtain the status, run the following command:

```
isminst.exe status *ism
```

You should see the following output:

```
ROOT\SYSTEM\0003: SUN IPMI System Management Driver v2.3      Driver is running.
```

If the driver is not running, the following output opens:

```
No matching devices found.
```

▼ How to Uninstall the Sun IPMI System Management Driver 2.1

1 Navigate to the directory containing the correct `ism.if` file:

- For the 32-bit driver:

```
cd \extraction-directory\oracle-hmp-version\drivers\ism\32
```

- For the 64-bit driver:

```
cd \extraction-directory\oracle-hmp-version\drivers\ism\64
```

2 Run the following command:

```
isminst remove *ism
```

Installing the Host-to-ILOM Interconnect Driver

The drivers described in this section must be installed if you are manually configuring the Host-to-ILOM Interconnect through `ilomconfig` or the Local Host Interconnect through the ILOM interface on a Windows system or Oracle Solaris OS 10 10/09 system.

You do not need to install this driver if:

- You have installed the Oracle Hardware Management Pack using the instructions in “Installing Components Using the Oracle Hardware Management Pack Installer” on page 17 and enabled the Host-to-ILOM Interconnect during the installation.
- You have installed the Oracle Hardware Management Pack using the manual instructions in “Installing Components Manually” on page 45 and chosen to install the Host-to-ILOM Interconnect features.
- You are running a Linux operating system or Solaris version other than Oracle Solaris OS 10 10/09 (Oracle Solaris OS 10 9/10 contains the driver and Oracle Solaris OS 10 5/09 does not support this feature).

This section covers the following procedures:

- “How to Install Host-to-ILOM Interconnect Drivers on a Oracle Solaris Server” on page 65
- “How to Uninstall Host-to-ILOM Interconnect Drivers on a Oracle Solaris Server” on page 65
- “How to Import the Security Certificate on a Windows Server” on page 66
- “How to Install the Host-to-ILOM Interconnect Drivers on a Windows Server” on page 66

▼ How to Install Host-to-ILOM Interconnect Drivers on a Oracle Solaris Server

- 1 Check that your system is running Oracle Solaris OS 10 10/09 using the following command:

```
cat /etc/release
```

- 2 Navigate to the packages directory in the management pack distribution.

```
cd /extraction-directory/oracle-hmp-version/package
```

- 3 Install the driver using the following command:

```
pkgadd -d . ORCLhmp-drvs
```

▼ How to Uninstall Host-to-ILOM Interconnect Drivers on a Oracle Solaris Server

- 1 Navigate to the packages directory in the management pack distribution.

```
cd /extraction-directory/oracle-hmp-version/package
```

- 2 Uninstall the driver using the following command:

```
pkgrm ORCLhmp-drvs
```

▼ How to Import the Security Certificate on a Windows Server

The security certificate ensures that you can install and enable the Host-to-ILOM Interconnect drivers on a Windows server. Without the security certificate imported, you receive an unsigned driver error during installation. This unsigned driver error could prevent you from installing Management Pack using console mode.

- Run the following command:

```
certutil -f -addstore TrustedPublisher  
extraction-directory\drivers\rndis\USB2SP.CAT
```

▼ How to Install the Host-to-ILOM Interconnect Drivers on a Windows Server

The security certificate must be installed before installing Host-to-ILOM Interconnect Drivers in console mode on a Windows server.

- Depending on the Windows architecture, run one of the following commands:

- For a 32-bit system:

```
\extraction-directory\drivers\rndis\32\installrndis ..\USB2SP.INF
```

- For a 64-bit system:

```
\extraction-directory\drivers\rndis\64\installrndis\ ..\USB2SP.INF
```

You might receive a warning that the driver is unsigned, which can be ignored.

Software Dependencies

This section provides details of the software dependencies for Hardware Management Pack components on each of the supported operating systems. You must satisfy these dependencies before installing the component. For more information on installing packages, see your operating system documentation.

Component Package Dependencies

The following table shows the package dependencies for Hardware Management Pack components on a server running Oracle Solaris 10 .

Component	Dependencies
ipmiflash	SUNWcslr SUNWopenssl-libraries SUNWcry SUNWlibmsr SUNWzlib
ipmitool	SUNWlibmsr SUNWcslr SUNWopenssl-libraries SUNWcry
ORCLhmp-hwmgmt	SUNWcslr SUNWgccruntime SUNWlibmsr SUNWlxml SUNWopenssl-libraries SUNWzlib SUNWcry ORCLhmp-libs
ORCLhmp-libs	SUNWcslr SUNWgccruntime SUNWlibmsr SUNWopenssl-libraries SUNWlxml SUNWzlib SUNWcry
ORCLhmp-snmp	SUNWlibmsr SUNWcslr SUNWgccruntime ORCLhmp-hwmgmt
ORCLhmp-tools	SUNWopenssl-libraries SUNWlxml SUNWlibmsr SUNWcslr SUNWgccruntime SUNWzlib SUNWcry ORCLhmp-libs
ORCLhmp-tools-biosconfig	SUNWcsl SUNWcslr SUNWlibmsr
ORCLhmp-tools-ubiosconfig	SUNWlxml SUNWlibmsr SUNWcslr SUNWopenssl-libraries SUNWzlib SUNWcry ORCLhmp-libs
QConvergeConsoleCLI (x86)	SUNWcfcl SUNWcsl SUNWcslr SUNWcsr SUNWdpl SUNWlibms SUNWlibmsr
QConvergeConsoleCLI (SPARC)	SUNWbcp SUNWcfcl SUNWcsl SUNWcslr SUNWcsr SUNWdpl SUNWlibms SUNWlibmsr
ELXocmcore	SUNWcslr SUNWcfcl SUNWlibmsr

The following table shows the package dependencies for Hardware Management Pack components on a server running Oracle Solaris 11.

Component	Dependencies
ipmitool	math openssl
hmp-ipmiflash	library openssl math
hmp-libs	library linker math gcc-45-runtime openssl libxml2 hmp-libs zlib gcc-3-runtime
hmp-hwmgmt	hmp-libs library gcc-45-runtime math libxml2 linker openssl zlib
hmp-snmp	hmp-libs hmp-hwmgmt math gcc-45-runtime net-snmp
hmp-tools	hmp-libs
hmp-tools-biosconfig	hmp-libs xsvc gcc-45-runtime
hmp-tools-ubiosconfig	hmp-libs
QConvergeConsoleCLI (x86)	library math snia-hbaapi linker
QConvergeConsoleCLI (SPARC)	profiled-libc SUNWcs library math hbaapi

The following table shows the package dependencies for Hardware Management Pack components on a server running Oracle Unbreakable Linux 4.x or Red Hat Enterprise Linux 4.x.

Component	Dependencies
ipmiflash	e2fsprogs glibc krb5-libs zlib
ipmitool	e2fsprogs glibc krb5-libs ncurses readline zlib
mstflint	libgcc glibc libstdc++ zlib
oracle-hmp-hwmgmt	glibc libxml2 zlib e2fsprogs libaio krb5-libs net-snmp oracle-hmp-libs
oracle-hmp-snmp	glibc net-snmp oracle-hmp-hwmgmt
oracle-hmp-tools	e2fsprogs glibc libaio krb5-libs libxml2 zlib oracle-hmp-libs
oracle-hmp-tools-biosconfig	glibc
oracle-hmp-tools-ubiosconfig	e2fsprogs glibc libaio krb5-libs libxml2 zlib oracle-hmp-libs

Component	Dependencies
oracle-hmp-libs	glibc zlib libaio e2fsprogs krb5-libs libxml2 libgcc libstdc++ OpenIPMI

The following table shows the package dependencies for Hardware Management Pack components on a server running Oracle Enterprise Linux 5.x or Red Hat Enterprise Linux 5.x.

Component	Dependencies
elxocmcore	glibc libnl elxocmcore libgcc libhbaapi-devel libstdc++ openssl libselinux libsepol tcp_wrappers bzip2-libs elfutils-libelf net-snmp-libs nspr popt rpm-libs lm_sensors sqlite libsysfs zlib perl e2fsprogs-libs keyutils-libs krb5-libs
ipmiflash	openssl glibc zlib
ipmitool	openssl glibc ncurses readline zlib
mstflint	glibc libgcc libstdc++ zlib
oracle-hmp-hwmgmt	glibc openssl libaio libxml2 zlib oracle-hmp-libs
oracle-hmp-libs	glibc zlib libaio openssl libxml2 libgcc libstdc++ OpenIPMI
oracle-hmp-snmp	glibc net-snmp oracle-hmp-hwmgmt
oracle-hmp-tools	openssl glibc libaio libxml2 zlib oracle-hmp-libs
oracle-hmp-tools-biosconfig	glibc
oracle-hmp-tools-ubiosconfig	openssl glibc libaio libxml2 zlib oracle-hmp-libs
QConvergeConsoleCLI(32 bit)	glibc libhbaapi-devel
QConvergeConsoleCLI(64 bit)	glibc e2fsprogs-libs libgcc keyutils-libs libselinux libsepol libhbaapi-devel krb5-libs libstdc++

The following table shows the package dependencies for Hardware Management Pack components on a server running Oracle Linux 6.x or Red Hat Enterprise Linux 6.x.

Component	Dependencies
elxocmcore	glibc libnl libgcc libhbaapi-devel libstdc++ libacl libattr bzip2-libs libcap db4 nss-softokn-freebl nspr popt libselinux tcp_wrappers-libs zlib openssl elfutils-libelf lua xz-libs net-snmp-libs nss-util rpm-libs lm_sensors-libs perl-libs
ipmiflash	glibc zlib openssl

Component	Dependencies
ipmitool	glibc ncurses-libs readline zlib openssl
mstflint	glibc libgcc zlib libstdc++
oracle-hmp-hwmgmt	glibc zlib libxml2 libaio openssl oracle-hmp-libs policycoreutils policycoreutils-python
oracle-hmp-libs	glibc zlib libaio openssl libxml2 libgcc libstdc++ OpenIPMI
oracle-hmp-snmp	glibc net-snmp oracle-hmp-hwmgmt
oracle-hmp-tools	libaio glibc zlib openssl libxml2 oracle-hmp-libs
oracle-hmp-tools-biosconfig	glibc
oracle-hmp-tools-ubiosconfig	libaio glibc zlib openssl libxml2
QConvergeConsoleCLI(32 bit)	glibc nss-softokn-freebl
QConvergeConsoleCLI(64 bit)	glibc libcom_err nss-softokn-freebl libgcc krb5-libs keyutils-libs libselinux libstdc++

The following table shows the package dependencies for Hardware Management Pack components on a server running Oracle VM 3.0.2 or Oracle VM 3.1.1.

Component	Dependencies
elxocmcore	glibc libnl elxocmcore libgcc libhbaapi-devel libstdc++ openssl libselinux libsepol tcp_wrappers bzip2-libs elfutils-libelf net-snmp-libs nspr popt rpm-libs lm_sensors sqlite libsystfs zlib perl e2fsprogs-libs keyutils-libs krb5-libs
ipmiflash	openssl glibc zlib
ipmitool	openssl glibc ncurses readline zlib
mstflint	glibc libgcc libstdc++ zlib
oracle-hmp-hwmgmt	glibc openssl libaio libxml2 zlib oracle-hmp-libs lm_sensors net-snmp net-snmp-libs perl
oracle-hmp-snmp	glibc net-snmp oracle-hmp-hwmgmt lm_sensors net-snmp net-snmp-libs perl
oracle-hmp-libs	glibc zlib libaio openssl libxml2 libgcc libstdc++
oracle-hmp-tools	openssl glibc libaio libxml2 zlib oracle-hmp-libs
oracle-hmp-tools-biosconfig	glibc
oracle-hmp-tools-ubiosconfig	openssl glibc libaio libxml2 zlib oracle-hmp-libs

Component	Dependencies
QConvergeConsoleCLI	glibc e2fsprogs-libs libgcc keyutils-libs libselinux libsepol krb5-libs libstdc++

Note – The required `lm_sensors`, `net-snmp`, `net-snmp-libs`, and `perl` packages are available from the Oracle Linux 5 x86 64 installation media.

The following table shows the package dependencies for Hardware Management Pack components on a server running Oracle VM 3.2.1.

Component	Dependencies
elxocmcore	glibc libnl elxocmcore libgcc libhbaapi-devel libstdc++ openssl libselinux libsepol tcp_wrappers bzip2-libs elfutils-libelf net-snmp-libs nspr popt rpm-libs lm_sensors sqlite libsysfs zlib perl e2fsprogs-libs keyutils-libs krb5-libs
ipmiflash	openssl glibc zlib
ipmitool	openssl glibc ncurses readline zlib
mstflint	glibc libgcc libstdc++ zlib
oracle-hmp-hwmgmt	glibc openssl libaio libxml2 zlib oracle-hmp-libs
oracle-hmp-snmp	glibc net-snmp oracle-hmp-hwmgmt
oracle-hmp-libs	glibc zlib libaio openssl libxml2 libgcc libstdc++
oracle-hmp-tools	openssl glibc libaio libxml2 zlib oracle-hmp-libs
oracle-hmp-tools-biosconfig	glibc
oracle-hmp-tools-ubiosconfig	openssl glibc libaio libxml2 zlib oracle-hmp-libs
QConvergeConsoleCLI	glibc e2fsprogs-libs libgcc keyutils-libs libselinux libsepol krb5-libs libstdc++

The following table shows the package dependencies for Hardware Management Pack components on a server running SUSE Linux Enterprise Server 10.x.

Component	Dependencies
ipmiflash	glibc openssl
ipmitool	glibc ncurses readline openssl

Component	Dependencies
oracle-hmp-hwmgmt	glibc zlib libxml2 libaio openssl oracle-hmp-libs
oracle-hmp-libs	glibc libaio zlib openssl libxml2 libgcc libstdc++ OpenIPMI
oracle-hmp-snmp	glibc net-snmp oracle-hmp-hwmgmt
oracle-hmp-tools	glibc zlib libaio openssl libxml2 oracle-hmp-libs
oracle-hmp-tools-biosconfig	glibc
oracle-hmp-tools-ubiosconfig	glibc zlib libaio openssl libxml2 oracle-hmp-libs
QConvergeConsoleCLI	glibc libcom_err libgcc krb5 libstdc++

The following table shows the package dependencies for Hardware Management Pack components on a server running SUSE Linux Enterprise Server 11.x.

Component	Dependencies
ipmiflash	glibc zlib libopenssl0_9_8
ipmitool	glibc libncurses5 libreadline5 zlib libopenssl0_9_8
oracle-hmp-hwmgmt	glibc zlib libxml2 libaio libopenssl0_9_8 oracle-hmp-libs
oracle-hmp-libs	glibc libaio zlib libopenssl0_9_8 libxml2 libgcc43 libstdc++43 OpenIPMI
oracle-hmp-snmp	glibc net-snmp oracle-hmp-hwmgmt
oracle-hmp-tools	libaio glibc zlib libopenssl0_9_8 libxml2 oracle-hmp-libs
oracle-hmp-tools-biosconfig	glibc
oracle-hmp-tools-ubiosconfig	libaio glibc zlib libopenssl0_9_8 libxml2 oracle-hmp-libs
QConvergeConsoleCLI	glibc libcom_err2 libgcc43 keyutils-libs krb5 libstdc++43

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