# Sun Fire X4170 M2 and X4270 M2 Servers

Installation Guide

Part No.: E27205-02
January 2012

Please
Recycle

Adobe PostScript

# Contents

# Using This Documentation

This guide contains procedures for installing Oracle's Sun Fire X4170 M2 and X4270 M2 Servers into a rack. The guide also includes instructions for connecting cables, devices, and power cords; connecting to Oracle Integrated Lights Out Manager (Oracle ILOM); powering on the server; and installing or configuring an operating system.

This guide is intended for system administrators, network administrators, and service technicians who have an understanding of server systems.

## Product Information

For information about Sun Fire X4170 M2 and X4270 M2 Servers, go to the following web sites:

- http://www.oracle.com/goto/x4170m2
- http://www.oracle.com/goto/x4270m2

At these sites, you can find links and navigate to the following information and downloads:

- Product information and specifications
- Supported operating systems
- Software and firmware downloads

# Software Downloads

To download the latest product software, go to http://support.oracle.com/

# Related Documentation

| Documentation | Links |
|---|---|
| All Oracle products | http://www.oracle.com/documentation |
| Sun Fire X4170 M2 documentation | http://www.oracle.com/pls/topic/lookup?ctx=E19762-01 |
| Sun Fire X4270 M2 documentation | http://www.oracle.com/pls/topic/lookup?ctx=E19245-01 |
| Oracle Integrated Lights Out Manager (Oracle ILOM) 3.0 documentation | http://www.oracle.com/pls/topic/lookup?ctx=ilom30 |
| Oracle Hardware Management Pack documentation | http://www.oracle.com/pls/topic/lookup?ctx=ohmp |

# Feedback

Provide feedback about this documentation at:

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

# Support and Accessibility

| Description | Links |
| --- | --- |
| Access electronic support through My Oracle Support | http://support.oracle.com<br><br>For hearing impaired:<br>http://www.oracle.com/accessibility/support.html |
| Learn about Oracle's commitment to accessibility | http://www.oracle.com/us/corporate/accessibility/index.html |

CHAPTER 1

# Preparing to Install the Sun Fire X4170 M2 and X4270 M2 Servers

This chapter describes Oracle's Sun Fire X4170 M2 and X4270 M2 Servers hardware and the information you need to know before you begin to install the servers into a rack. It includes the following topics:



## Tools and Equipment Needed

To install the system, you need the following tools:

- No. 2 Phillips screwdriver
- ESD mat and grounding strap
- Pencil, stylus, or other pointed device, for pushing front panel buttons

You also need a system console device, such as one of the following:

- Sun workstation
- ASCII terminal
- Terminal server
- Patch panel connected to a terminal server

# Server Installation Task Checklist

TABLE 1-1 summarizes an ordered list of tasks that you must perform to properly install the server.

**TABLE 1-1** Installation Task Checklist

| Step | Task Description | For Instructions, See: |
|---|---|---|
| 1 | Unpack the server and any optional components ordered for the server from the shipping containers. | "Opening the Box" on page 3 |
| 2 | If applicable, install optional server components prior to installing the server into the rack. | • *Sun Fire X4170 M2 Server Service Manual*<br>• *Sun Fire X4270 M2 Server Service Manual* |
| 3 | Install the server into a rack. | Chapter 2 |
| 4 | Connect cables and power cords to the server. | Chapter 3 |
| 5 | Connect to Oracle ILOM and apply main power to the server. | Chapter 4 |
| 6 | Get information about supported operating systems and available preinstalled operating systems. | Chapter 5 |
| 7 | If applicable, configure the factory-installed Oracle Solaris Operating System image shipped on one of the storage drives. | Chapter 6 |
| 8 | If applicable, configure the factory-installed Oracle VM image shipped on one of the storage drives. | Chapter 7 |
| 9 | If applicable, install one of the supported operating systems:<br>• Oracle Linux<br>• Red Hat Enterprise Linux (RHEL)<br>• SUSE Linux Enterprise Server (SLES)<br>• Oracle Solaris 10 Operating System<br>• Oracle VM<br>• VMware ESX/ESXi<br>• Microsoft Windows Server 2008 or 2008 R2 Operating Systems | • *Sun Fire X4170 M2 and X4270 M2 Servers Installation Guide for Linux, Virtual Machine Software, and Oracle Solaris Operating Systems*<br>• *Sun Fire X4170 M2 and X4270 M2 Servers Installation Guide for Windows Operating Systems* |

# ESD Precautions

Electronic equipment is susceptible to damage by static electricity. Use a grounded antistatic wrist strap, foot strap, or equivalent safety equipment to prevent electrostatic damage (ESD) when you install or service the server.

**Caution –** To protect electronic components from electrostatic damage, which can permanently disable the system or require repair by Oracle service technicians, place components on an antistatic surface, such as an antistatic discharge mat, an antistatic bag, or a disposable antistatic mat. Wear an antistatic grounding strap connected to a metal surface on the chassis when you work on system components.

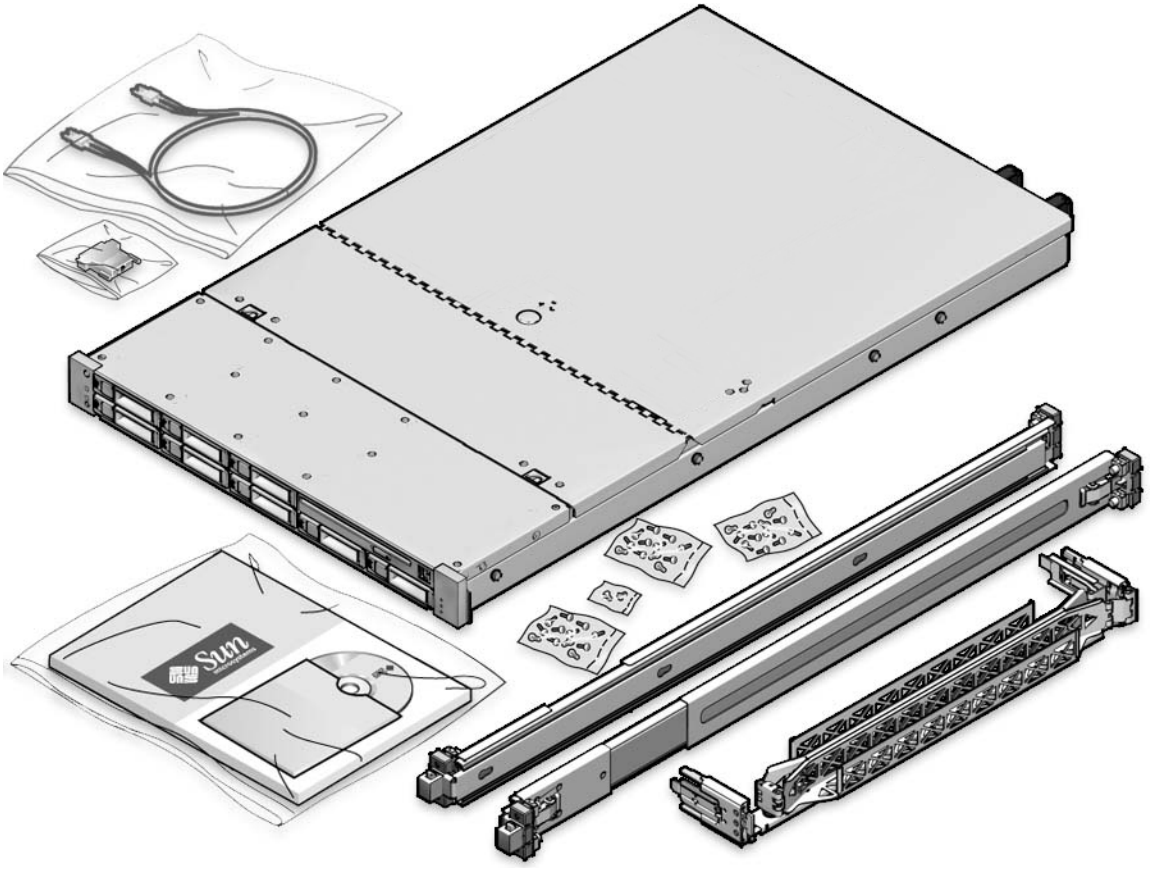
# Opening the Box

Carefully open the shipping box.

## Unpacking

Unpack all server components from the packing cartons. FIGURE 1-1 shows the packing contents:

**FIGURE 1-1** Unpacking the Box



# Package Contents Inventory

The following items should be packaged with the Sun Fire X4170 M2 and X4270 M2 Servers:

- Sun Fire 4170 M2 or X4270 M2 Server
- Power cord, packaged separately with country kit
- (Optional) Sun Fire X4170 M2 and X4270 M2 Servers Documentation and Media Kit, including the following:
  - *Sun Fire X4170 M2 and X4270 M2 Servers Installation Guide* (this document)
  - License and safety documentation
  - Tools and Drivers DVD (includes drivers and additional software), Oracle Hardware Installation Assistant CD, and Oracle VTS CD

- (Optional) Rackmount kit containing rack rails and installation instructions

## Options

Power cables are packaged separately from the other items.

Standard server components are installed at the factory. However, ordered options such as additional memory or PCI Express cards are shipped separately. If possible, install optional components before installing the server in a rack. For instructions for installing server options, see the *Sun Fire X4170 M2 Server Service Manual* or the *Sun Fire X4270 M2 Server Service Manual*.

# Server Description

This section shows the front and back of the Sun Fire X4170 M2 and X4270 M2 Servers.

## Front Panel Features

FIGURE 1-2 shows the Sun Fire X4170 M2 Server front panel and describes its components.

**FIGURE 1-2** Sun Fire X4170 M2 Server Front Panel

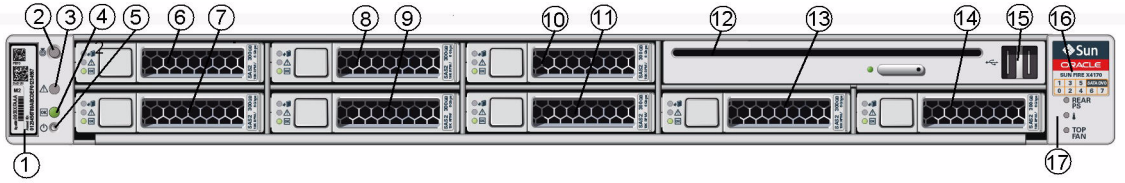



**Figure Legend**

| | | | |
|---|---|---|---|
| **1** | Product Serial Number (PSN) label and Radio Frequency Identification (RFID) tag | **10** | Hard disk drive 4 (optional) |
| **2** | Locator LED/Locator button: white | **11** | Hard disk drive 5 (optional) |
| **3** | Service Action Required LED: amber | **12** | DVD drive (optional) |
| **4** | Power/OK LED: green | **13** | Hard disk drive 6 (optional) |
| **5** | Power button | **14** | Hard disk drive 7 (optional) |
| **6** | Hard disk drive 1 (optional) | **15** | USB 2.0 ports (2) |

**Figure Legend** *(Continued)*

| | | | |
|---|---|---|---|
| **7** | Hard disk drive 0 (optional) | **16** | Disk configuration label |
| **8** | Hard disk drive 3 (optional) | **17** | Power Supply Service Action Required LED: amber |
| **9** | Hard disk drive 2 (optional) | | |

The Sun Fire X4270 M2 Server can optionally be configured with 12 or 24 storage drives. FIGURE 1-3 shows the 12 storage drive configuration. FIGURE 1-4 shows the 24 storage drive configuration.

**FIGURE 1-3** Sun Fire X4270 M2 Server Front Panel (With 12 Storage Drives)


**Figure Legend**

| | | | |
|---|---|---|---|
| **1** | Product Serial Number (PSN) label and Radio Frequency Identification (RFID) tag | **12** | Hard disk drive 6 (optional) |
| **2** | Power button | **13** | Hard disk drive 7 (optional) |
| **3** | Locator LED/Locator button: white | **14** | Hard disk drive 8 (optional) |
| **4** | Service Action Required LED (System Level): amber | **15** | Hard disk drive 9 (optional) |
| **5** | Power/OK LED: green | **16** | Hard disk drive 10 (optional) |
| **6** | Hard disk drive 2 (optional) | **17** | Hard disk drive 11 (optional) |
| **7** | Hard disk drive 1 (optional) | **18** | Fan Module Service Action Required LED: amber |
| **8** | Hard disk drive 0 (optional) | **19** | Power Supply Service Action Required LED: amber |
| **9** | Hard disk drive 3 (optional) | **20** | System Overtemperature LED: amber |
| **10** | Hard disk drive 4 (optional) | **21** | USB 2.0 ports (2) |
| **11** | Hard disk drive 5 (optional) | **22** | Disk configuration label |

**Note –** In FIGURE 1-4, the storage drives are numbered 0 to 23 from left to right.

**FIGURE 1-4** Sun Fire X4270 M2 Server Front Panel (With 24 Storage Drives)

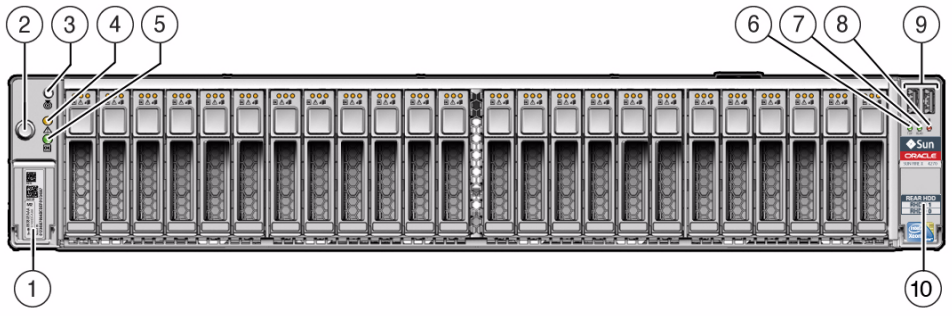



**Figure Legend**

| | | | |
|---|---|---|---|
| **1** | Product Serial Number (PSN) label and Radio Frequency Identification (RFID) tab | **6** | Fan Module Service Action Required LED: amber |
| **2** | Power button | **7** | Power Supply Service Action Required LED: amber |
| **3** | Locator LED/Locator button: white | **8** | System Overtemperature LED: amber |
| **4** | Service Action Required LED (System Level): amber | **9** | USB 2.0 ports (2) |
| **5** | Power/OK LED: green | **10** | Disk configuration label |

# Back Panel

FIGURE 1-5 shows the Sun Fire X4170 M2 Server back panel and describes its components.

**FIGURE 1-5** Sun Fire X4170 M2 Server Back Panel

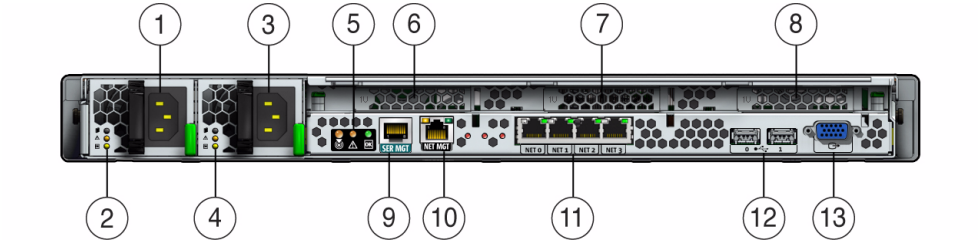



**Figure Legend**

| | | | |
|---|---|---|---|
| **1** | Power supply unit 0 connector | **8** | PCI Express Module slot (2) |
| **2** | Power supply unit 0 status indicator LEDs:<br>Power Supply OK: green<br>Power Supply Fail: amber<br>AC OK: green | **9** | Serial management (SER MGT)/RJ-45 serial port |
| **3** | Power supply unit 1 connector | **10** | Service processor (SP) network management (NET MGT) port |
| **4** | Power supply unit 1 status indicator LEDs:<br>Power Supply OK: green<br>Power Supply Fail: amber<br>AC OK: green | **11** | Gigabit Ethernet ports NET 0, 1, 2, 3 |
| **5** | System status LEDs:<br>Power: green<br>Attention: amber<br>Locate: white | **12** | USB 2.0 ports (0, 1) |
| **6** | PCI Express Module slot (0) | **13** | HD15 video connector (analog VGA) |
| **7** | PCI Express Module slot (1) | | |

FIGURE 1-6 shows the Sun Fire X4270 M2 Server back panel without rear mounted storage drives. FIGURE 1-7 shows the Sun Fire X4270 M2 Server back panel with rear mounted storage drives.

**FIGURE 1-6** Sun Fire X4270 M2 Server Back Panel (Without Rear Boot Drives)

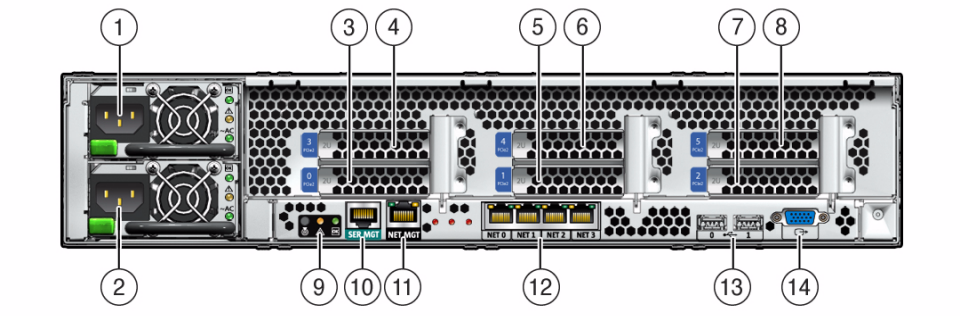



**Figure Legend**

| | | | |
|---|---|---|---|
| **1** | Power supply unit 1 (PSU1) | **8** | PCI Express Module slot (5) (filler panel shown) |
| **2** | Power supply unit 0 (PSU0) | **9** | System status LEDs:<br>Power: green<br>Attention: amber<br>Locate: white |
| **3** | PCI Express Module slot (0) (filler panel shown) | **10** | Serial management (SER MGT)/RJ-45 serial port |
| **4** | PCI Express Module slot (3) (filler panel shown) | **11** | Service processor (SP) network management (NET MGT) port |
| **5** | PCI Express Module slot (1) (filler panel shown) | **12** | Gigabit Ethernet ports NET 0, 1, 2, 3 |
| **6** | PCI Express Module slot (4) (filler panel shown) | **13** | USB 2.0 ports (0, 1) |
| **7** | PCI Express Module slot (2) (filler panel shown) | **14** | HD15 video connector (analog VGA) |

**FIGURE 1-7** Sun Fire X4270 M2 Server Back Panel (With Rear Boot Drives)

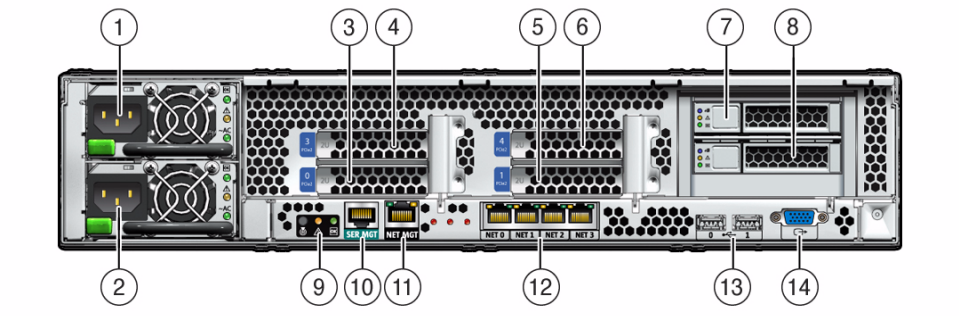



**Figure Legend**

| | | | |
|---|---|---|---|
| **1** | Power supply unit 1 (PSU1) | **8** | Boot disk drive 0 |
| **2** | Power supply unit 0 (PSU0) | **9** | System status LEDs:<br>Power: green<br>Attention: amber<br>Locate: white |
| **3** | PCIe Slot 0 (filler panel shown) | **10** | Serial management (SER MGT)/RJ-45 serial port |
| **4** | PCIe Slot 3 (filler panel shown) | **11** | Service processor (SP) network management (NET MGT) port |
| **5** | PCIe Slot 1 (filler panel shown) | **12** | Gigabit Ethernet ports NET 0, 1, 2, 3 |
| **6** | PCIe Slot 4 (filler panel shown) | **13** | USB 2.0 ports (0, 1) |
| **7** | Boot disk drive 1 | **14** | HD15 video connector (analog VGA) |

# Server Supported Components

This section describes the components that are supported in the Sun Fire X4170 M2 and X4270 M2 Servers.

## Sun Fire X4170 M2 Server Supported Components

The following table describes the components of the Sun Fire X4170 M2 Server.

**TABLE 1-2** Sun Fire X4170 M2 Server Components

| Component | Sun Fire X4170 M2 Server |
|---|---|
| CPU | One or two quad-core (2.4-GHz) or six-core (2.26-GHz or 2.93-GHz) processors with three integrated DDR3 memory controllers per processor. The following CPUs are supported:<br>• 95 Watts<br>• 80 Watts<br>• 60 Watts |
| Memory | Nine DDR3 DIMMs per processor for a maximum of 18 DDR3 DIMMs and a maximum of 144 GB of memory |
| Storage devices | • Up to six 2.5-inch SATA hard drive devices (HDDs) or four solid-state drives (SSDs)<br>• Up to eight 2.5-inch SAS/SATA HDDs or four SSDs with the optional Hardware RAID controller<br>• DVD-RW drive |
| USB ports | Two front, two rear, and one internal (for a USB drive) |
| PCI Express 2.0 I/O slots | Three low-profile PCIe Gen2 slots (one x16 and two x8) |
| PCI Express I/O cards | For a list of I/O cards that are customer-orderable options, go to the following web site and navigate to the appropriate page: |
| Ethernet ports | Four Gigabit Ethernet (GbE) ports on rear panel<br>Each Network Interface Card (NIC) supports I/O Acceleration Technology 3 (IOAT3) |
| Service processor (SP) | Uses the SP subsystem<br>Includes the Baseboard Management Controller (BMC), which supports the industry-standard IPMI feature set<br>Supports remote KVMS over IP<br>Includes serial port<br>Supports Ethernet access to SP through a dedicated 10/100BaseT management port and optionally through one of the host GbE ports (sideband management) |
| Power supplies | Up to two hot-pluggable power supplies |
| Cooling fans | Redundant hot-pluggable fans |
| Management software | Oracle Integrated Lights Out Manager 3.0 |

# Sun Fire X4270 M2 Server Supported Components

The following table describes the components of the Sun Fire X4270 M2 Server.

**TABLE 1-3** Sun Fire X4270 M2 Server Components

| Component | Sun Fire X4270 M2 Server |
|---|---|
| CPU | One or two quad-core (2.4-GHz) or six-core (2.93-GHz or 3.33-GHz) processors with three integrated DDR3 memory controllers per processor. The following CPUs are supported:<br>• 130 Watts<br>• 95 Watts<br>• 80 Watts |
| Memory | Nine DDR3 DIMMs per processor for a maximum of 18 DDR3 DIMMs and a maximum of 144 GB of memory |
| Storage devices | • Up to twelve 3.5-inch SAS/SATA HDDs with the optional Hardware RAID controller<br>• Up to twenty-four 2.5-inch SAS/SATA HDDs with the optional Hardware RAID controller<br>• Up to two optional rear-located (using PCIe slots 2 and 5) 2.5-inch SATA HDDs. These disks are for boot purposes only. |
| USB ports | Two front, two rear, and one internal (for a USB drive) |
| PCI Express 2.0 I/O slots | Six x8 low-profile PCIe Gen2 slots |
| PCI Express I/O cards | For a list of I/O cards that are customer-orderable options, go to the following web site and navigate to the appropriate page: |
| Ethernet ports | Four Gigabit Ethernet (GbE) ports on rear panel<br>Each Network Interface Card (NIC) supports I/O Acceleration Technology 3 (IOAT3) |
| Service processor (SP) | Uses the SP subsystem<br>Includes the Baseboard Management Controller (BMC), which supports the industry-standard IPMI feature set<br>Supports remote KVMS over IP<br>Includes a serial port<br>Supports Ethernet access to SP through a dedicated 10/100BaseT management port and optionally through one of the host GbE ports (sideband management) |
| Power supplies | Up to two hot-pluggable power supplies |
| Cooling fans | Redundant hot-pluggable fans |
| Management software | Oracle Integrated Lights Out Manager 3.0 |

# Server Specifications

## Physical Specifications

TABLE 1-4 lists the physical specifications for the Sun Fire X4170 M2 and X4270 M2 Servers.

**TABLE 1-4** Servers Physical Specifications

| Parameter | Sun Fire X4170 M2 Server | Sun Fire X4270 M2 Server |
|---|---|---|
| Height | 1.7 inches/43.4 mm | 3.4 inches/87.1 mm |
| Width | 16.85 inches/425.4 mm | 16.8 inches/425.4 mm |
| Depth | 27.0 inches/685.8 mm | 30.0 inches/762.0 mm |
| Weight | 36 lbs/16.3 kg | 65 lbs/29.5 kg |

## Electrical Specifications

TABLE 1-5 lists the electrical specifications for the Sun Fire X4170 M2 and X4270 M2 Servers.

**Note –** The power dissipation numbers listed in the following table are the maximum rated power numbers for the power supply used in these servers. The numbers are not a rating of the actual power consumption of the system. For up-to-date information on power consumption, go to the following web sites and navigate to the appropriate pages: `http://www.oracle.com/goto/x4170m2` and `http://www.oracle.com/goto/x4270m2`.

**TABLE 1-5** Servers Electrical Specifications

| Parameter | Value |
|---|---|
| **Sun Fire X4170 M2 Server** | |
| **Input** | |
| Nominal frequencies | 50/60 Hz |
| Nominal voltage range | 100-120/200-240 VAC |

**TABLE 1-5** Servers Electrical Specifications *(Continued)*

| Parameter | Value |
|---|---|
| Maximum current AC RMS | 9.0 amps Max |
| AC operating range | 90-264 VAC |
| **Output** | |
| 3.3 VDC STBY | 3.6A |
| +12 VDC | 62.3 A |
| **Power dissipation** | |
| Max power consumption | 873 W |
| Max heat output | 2977 BTU/hr |
| **Volt-Ampere rating** | 891 VA @ 240 VAC, 0.98 P.F. |
| **Sun Fire X4270 M2 Server** | |
| **Input** | |
| Nominal frequencies | 50/60 Hz |
| Nominal voltage range | 100 VAC, 110-127 VAC, 200-240 VAC |
| Maximum current AC RMS | 13.0 amps Max |
| AC operating range | 90-264 VAC |
| **Output** | |
| 3.3 VDC STBY | 3.0 A |
| +12 VDC | 86.7 A |
| **Power dissipation** | |
| Max power consumption | 1235.3 W |
| Max heat output | 4212 BTU/hr |
| **Volt-Ampere rating** | 1261 VA @ 240 VAC, 0.98 P.F. |

# Environmental Requirements

TABLE 1-6 lists the environmental requirements for the Sun Fire X4170 M2 and X4270 M2 Servers.

**TABLE 1-6** Servers Environmental Requirements

| Parameter | Value |
|---|---|
| Operating temperature (single, non-rack system) | 5° C to 35° C (41° F to 95° F) |
| Non-operating temperature (single, non-rack system) | -40° C to 70° C (-40° F to 158° F) |
| Operating humidity (single, non-rack system) | 10% to 90% relative humidity, non-condensing |
| Non-operating humidity (single, non-rack system) | Up to 93% relative humidity, non-condensing |
| Altitude (operating) (single, non-rack system) | • **For the Sun Fire X4170 M2 Server:** Up to 3000 m, maximum ambient temperature is derated by 1 degree C per 300 m above 900 m<br>• **For the Sun Fire X4270 M2 Server:** Up to 3048 m, maximum ambient temperature is derated by 1 degree C per 300 m above 900 m |
| Altitude (non-operating) (single, non-rack system) | Up to 12,000 m |

# Managing Your Server

After you have installed your server, you have several different options for managing it depending on your situation.

- Managing a single server

  Your server can be managed with a wide variety of system management tools. For more information on the single system management tools, see the information at http://www.sun.com/systemmanagement/managementtools.jsphttp://www.oracle.com/goto/system-management

  - Oracle Hardware Installation Assistant is an application that you can use for initial server configuration. This application helps you to update firmware (ILOM firmware, BIOS, and RAID controller software) and to automate installation of a Linux or Windows operating system. For more details, see the *Oracle Hardware Installation 2.5 User's Guide for x86 Servers* at: http://www.oracle.com/pls/topic/lookup?ctx=hia

- Oracle Integrated Lights Out Manager (Oracle ILOM) is built-in software and hardware that you can use to monitor the status and configuration of your server. For more information, see:
  Oracle Integrated Lights Out Manager (Oracle ILOM) 3.0 Documentation Library at: http://www.oracle.com/pls/topic/lookup?ctx=ilom30
  *Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for Sun Fire X4170 M2 and X4270 M2 Servers* at:
  http://www.oracle.com/pls/topic/lookup?ctx=E19762-01 or
  http://www.oracle.com/pls/topic/lookup?ctx=E19245-01

- Managing Multiple Servers
  - If your server is one of many x86 and SPARC servers that you want to manage from a single interface, you can use the Oracle Enterprise Manager Ops Center. For more details, see
    http://www.oracle.com/in/products/enterprise-manager-opscenter-044497-en-in.html

CHAPTER 2

# Installing the Server Into a Rack With Slide-Rails

This chapter describes how to place the server into a rack using the rail assembly in the rackmount kit. Perform these procedures if the rail assembly is purchased.

This chapter includes the following topics:



**Note –** In this guide, the term rack means either an open rack or a closed cabinet.

## Before You Begin

Read the following overview and see the service label on the top cover before you begin to install the server into a rack.

## Server Installation Process Overview

To install your server into a four-post rack using the slide-rail and cable management arm options, see the following sections to perform the tasks in the order listed.

1. "Rack Compatibility" on page 18
2. "Disassembling Slide-Rails" on page 20
3. "Installing the Mounting Brackets Onto the Server" on page 22
4. "Installing the Cable Management Arm on the Sun Fire X4170 M2 Server" on page 30 or "Installing the Cable Management Arm on the Sun Fire X4270 M2 Server" on page 36
5. "Verifying Operation of the Slide-Rails and CMA" on page 44
6. "Back Panel Connectors" on page 45

## Rail Assemblies

The server might include either tool-less or bolt-on rail assemblies in rackmount kits. Instructions for both types are included in this chapter.

## Service Label

Refer to the service label on the server top cover for instructions on how to install your server into a four-post rack, using the slide-rail and cable management arm options. The service label includes instructions for both tool-less and bolt-on rail assemblies.

# Rack Compatibility

Check that your rack is compatible with the slide-rail and cable management arm (CMA) options. The optional slide-rails are compatible with a wide range of equipment racks that meet the following standards.

**TABLE 2-1** Rack Compatibility

| Item | Requirement |
|---|---|
| Structure | Four-post rack (mounting at both front and rear). Two-post racks are not compatible. |
| Rack horizontal opening and unit vertical pitch | Conforms to ANSI/EIA 310-D-1992 or IEC 60927 standards. |
| Distance between front and rear mounting planes | Minimum 610 mm and maximum 915 mm (24 inches to 36 inches). |
| Clearance depth in front of front mounting plane | Distance to front cabinet door is at least 25.4 mm (1 inch). |
| Clearance depth behind front mounting plane | Distance to rear cabinet door is at least 800 mm (31.5 inches) with the cable management arm, or 700 mm (27.5 inches) without the cable management arm. |
| Clearance width between front and rear mounting planes | Distance between structural supports and cable troughs is at least 456 mm (18 inches). |
| Server dimensions | Depth: (not including PSU handle): 685.80 mm (27.0 inches)<br>Width: (not including ears): 425.45 mm (16.75 inches)<br>Height: Sun Fire X4170 M2 Server: 43.43 mm (1.71 inches), Sun Fire X4270 M2 Server: 87.12 mm (3.43 inches) |

**Caution –** Always load equipment into a rack from the bottom up so that the rack will not become top-heavy and tip over. Deploy your rack's anti-tip bar to prevent the rack from tipping during equipment installation.

**Caution – Elevated Operating Ambient Temperature**: If the server is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment might be greater than room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified for the server. For server environmental requirements, see "Environmental Requirements" on page 15.

**Caution – Reduced Air Flow**: Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

**Caution – Mechanical Loading**: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

**Caution – Circuit Overloading:** Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over-current protection and supply wiring. Appropriate consideration of equipment nameplate power ratings should be used when addressing this concern.

**Caution – Reliable Earthing:** Reliable earthing of rackmounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (for example, use of power strips).

**Caution –** Slide-rail mounted equipment is not to be used as a shelf or a work space.

# Disassembling Slide-Rails

Complete one of the following procedures before installation:

- "Disassemble Bolt-On Slide-Rails" on page 20
- "Disassemble Tool-less Slide-Rails" on page 21

## ▼ Disassemble Bolt-On Slide-Rails

To remove the mounting brackets from the bolt-on slide-rail assemblies:

1. **Unpack the slide-rails.**
2. **Locate the slide-rail lock at the front of one of the slide-rail assemblies (**FIGURE 2-1**).**
3. **Squeeze and hold the tabs at the top and bottom of the lock while you pull the mounting bracket out of the slide-rail assembly until it reaches the stop (**FIGURE 2-1**).**

4. **Push the mounting bracket release button toward the front of the mounting bracket (FIGURE 2-1), and simultaneously withdraw the mounting bracket from the slide-rail assembly.**

5. **Repeat for the remaining slide-rail assembly.**

**FIGURE 2-1** Disassembling the Bolt-On Slide-Rail Before Installation

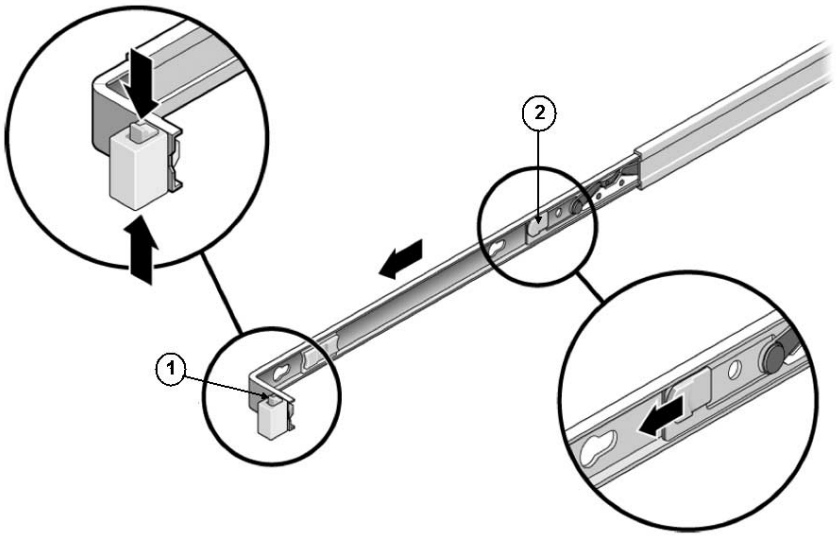



**Figure Legend**

| | |
|---|---|
| **1** | Slide-rail lock |
| **2** | Mounting bracket release button |

# ▼ Disassemble Tool-less Slide-Rails

To remove the mounting brackets from the tool-less slide-rail assemblies:

- **Refer to the installation card included with the rackmount kit for instructions on removing the mounting brackets from the tool-less slide-rail assemblies.**

# Installing the Mounting Brackets Onto the Server

You must install the mounting brackets onto the server before you can rackmount the server.

## ▼ Install Mounting Brackets

To install the mounting brackets onto the sides of the server:

1. **Position a mounting bracket against the chassis so that the slide-rail lock is at the server front, and the four keyed openings on the mounting bracket are aligned with the four locating pins on the side of the chassis (**FIGURE 2-2**).**

**FIGURE 2-2** Aligning the Mounting Bracket With the Server Chassis

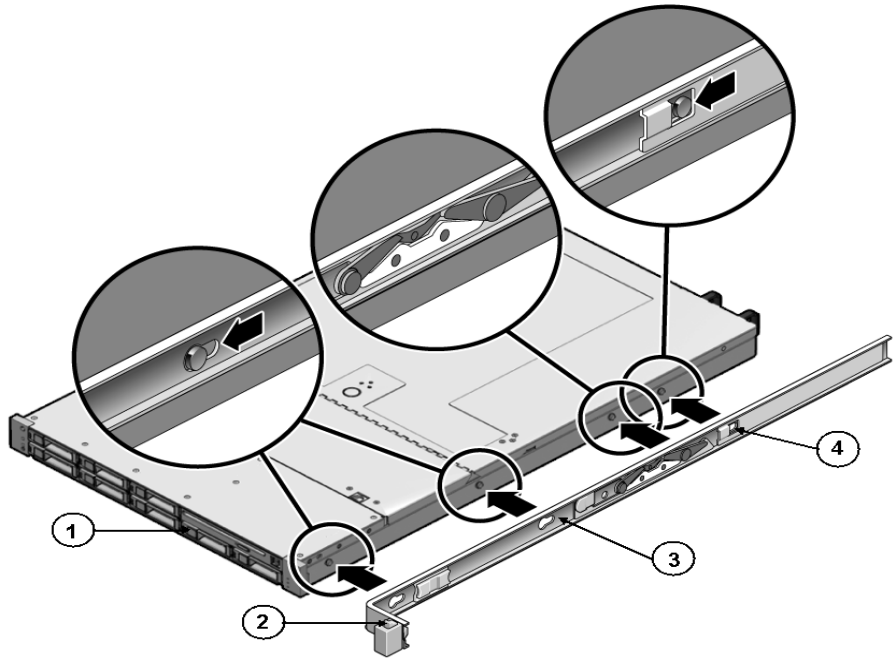



**Figure Legend**

| | |
|---|---|
| **1** | Chassis front |
| **2** | Slide-rail lock |
| **3** | Mounting bracket |
| **4** | Mounting bracket clip |

2. **With the heads of the four chassis locating pins protruding though the four keyed openings in the mounting bracket, pull the mounting bracket toward the front of the chassis until the mounting bracket clip locks into place with an audible click (**FIGURE 2-2**).**

3. **Verify that the rear locating pin has engaged the mounting bracket clip (**FIGURE 2-2**).**

4. **Repeat to install the remaining mounting bracket on the other side of the server.**

# Attaching the Slide-Rail Assemblies to the Rack

Complete one of the following procedures to attach the slide-rail assemblies to the rack:

- "Attach Bolt-On Slide-Rail Assemblies" on page 24
- "Attach Tool-less Slide-Rail Assemblies" on page 27

## ▼ Attach Bolt-On Slide-Rail Assemblies

To attach bolt-on slide-rail assemblies to the rack:

1. **Position a slide-rail assembly in your rack so that the brackets at each end of the slide-rail assembly are on the outside of the front and rear rack posts (**FIGURE 2-3**).**

2. **Attach the slide-rail assembly to the rack posts, but do *not* tighten the screws completely.**

   Choose one of the following methods to attach the slide-rails. The method you use varies, depending on the type of rack:

   - If your rack has threaded mounting holes in the rack posts, first determine whether the threads are metric or standard, then insert the correct mounting screws through the slide-rail brackets and into the threaded holes.
   - If your rack does not have threaded mounting holes, insert the mounting screws through both the slide-rail brackets and rack posts, then secure them with the caged nuts.

**FIGURE 2-3** Attaching Slide-Rail Assembly to Rack Post

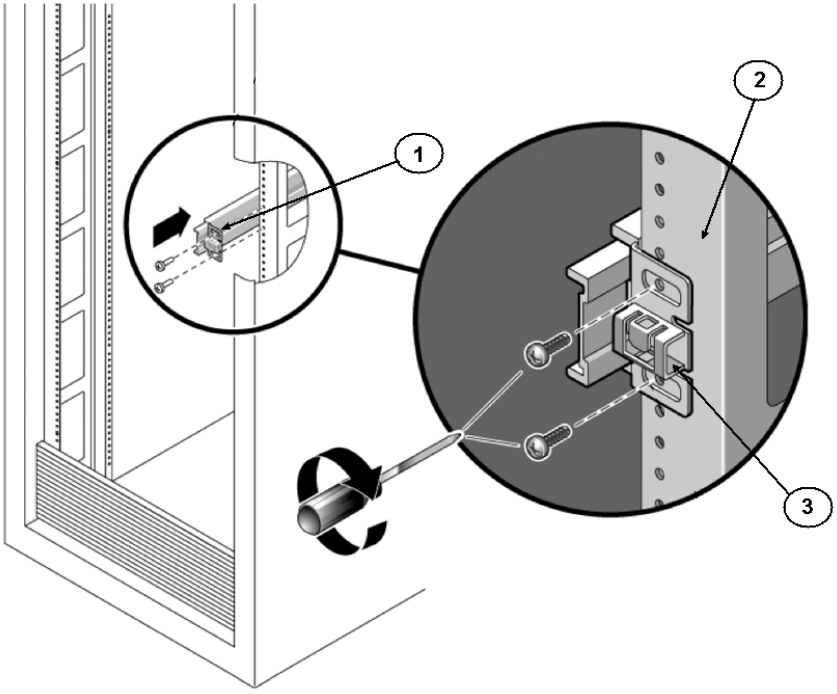



**Figure Legend**

| | |
|---|---|
| **1** | Slide-rail assembly |
| **2** | Rack post |
| **3** | Slide-rail assembly bracket on outside of rack post |

3. **Repeat** Step 1 **and** Step 2 **for the remaining slide-rail assembly.**

4. **From the front of the rack, set the proper width of the rails using the spacer (**FIGURE 2-4**).**

**FIGURE 2-4** Setting the Rail Width

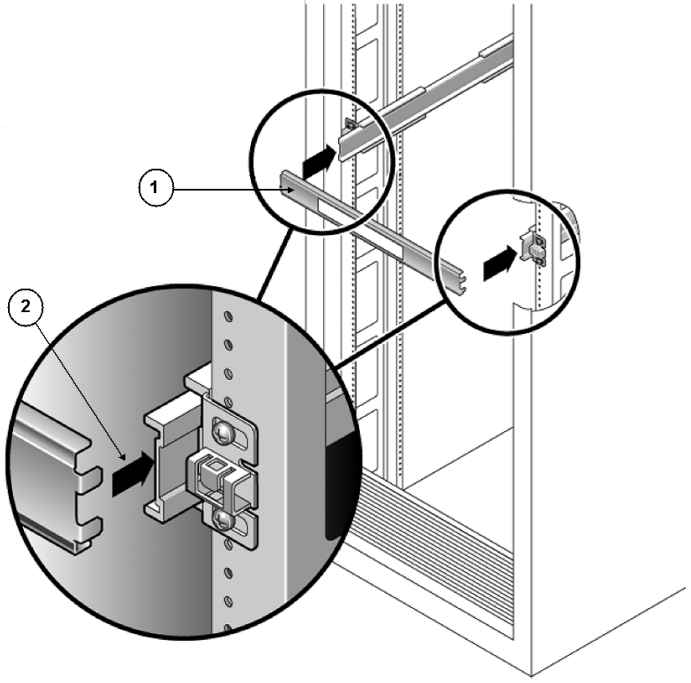
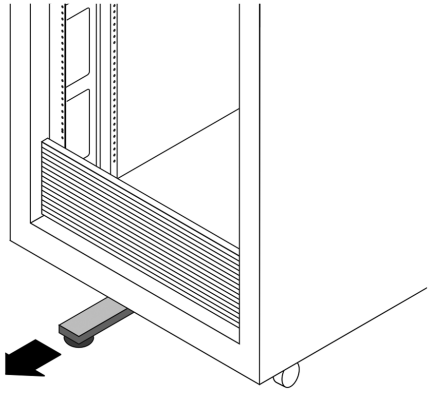



**Figure Legend**

| | |
|---|---|
| **1** | Rail-width spacer |
| **2** | Attaching the spacer to the rails |

5. **Tighten the screws on both brackets (**FIGURE 2-4**).**
6. **Remove the spacer and confirm that the rails are attached tightly to the rack.**
7. **Repeat** Step 4 **through** Step 6 **for the side-rail assembly at the rear of the rack.**
8. **If available, extend the anti-tip bar at the bottom of the rack (**FIGURE 2-5**).**

**FIGURE 2-5** Extending the Anti-tip Bar



**Caution –** If your rack does not have an anti-tip bar, the rack could tip over.

### ▼ Attach Tool-less Slide-Rail Assemblies

To attach tool-less slide-rail assemblies to the rack:

- **Refer to the installation card included with the rackmount kit for instructions on attaching tool-less slide-rail assemblies to the rack.**

## Installing the Server Into the Slide-Rail Assemblies

Use this procedure to install the server chassis, with mounting brackets, into the slide-rail assemblies that are mounted to the rack.

**Caution –** This procedure requires a minimum of two people because of the weight of the server. Attempting this procedure alone could result in equipment damage or personal injury.

**Caution –** Always load equipment into a rack from the bottom up so that the rack will not become top-heavy and tip over. Extend your rack's anti-tip bar to prevent the rack from tipping during equipment installation.

## ▼ Install Server Into the Slide-Rail Assemblies

1. **Push the slide-rails into the slide-rail assemblies in the rack as far as possible.**
2. **Position the server so that the rear ends of the mounting brackets are aligned with the slide-rail assemblies that are mounted in the rack (**FIGURE 2-6**).**
3. **Insert the mounting brackets into the slide-rails, then push the server into the rack until the mounting brackets encounter the slide-rail stops (approximately 12 inches, or 30 cm).**

**FIGURE 2-6** Inserting the Server With Mounting Brackets Into the Slide-Rails

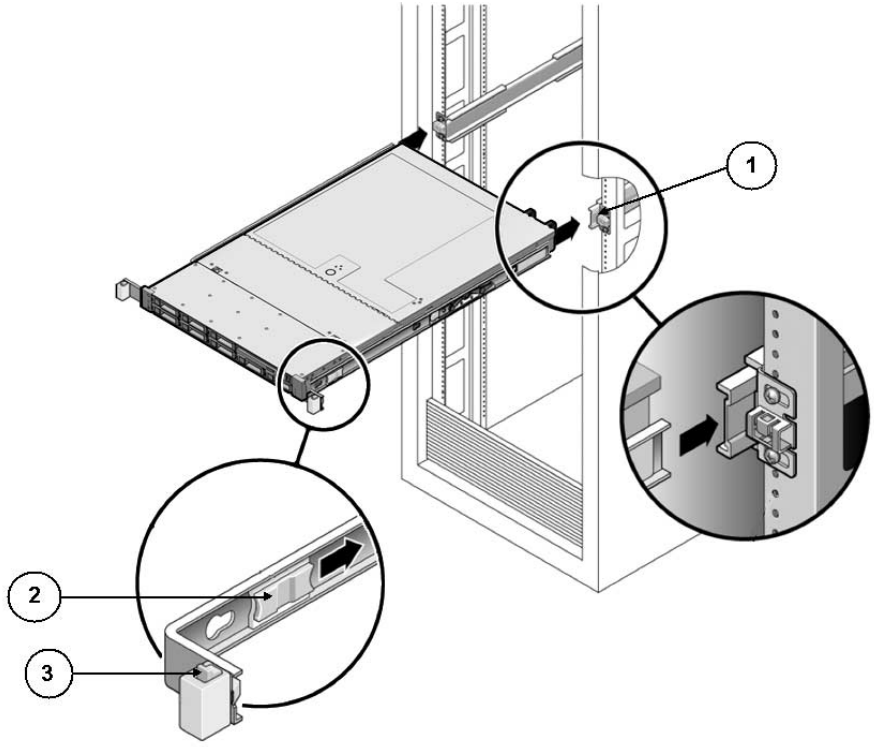


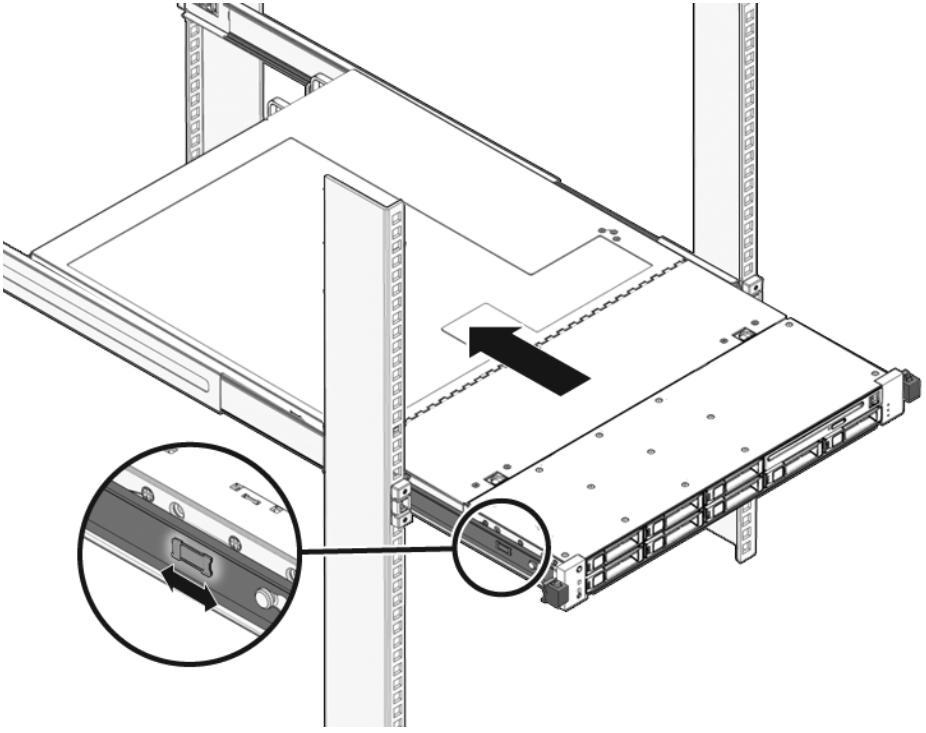

**Figure Legend**

| | |
|---|---|
| **1** | Inserting mounting bracket into slide rail |
| **2** | Slide-rail release button |
| **3** | Slide-rail lock |

4. **Simultaneously push and hold the slide-rail release buttons on each mounting bracket while you push the server into the rack (**FIGURE 2-6**). Continue pushing until the slide-rail locks (on the front of the mounting brackets) engage the slide-rail assemblies (**FIGURE 2-7**).**

   You will hear an audible click.

**FIGURE 2-7** Sliding the Server Back Into the Rack



**Caution –** Verify that the server is securely mounted in the rack and that the slide-rail locks are engaged with the mounting brackets before continuing.

# Installing the Cable Management Arm on the Sun Fire X4170 M2 Server

The cable management arm (CMA) is an optional assembly that you can use to route the server cables in the rack.

## ▼ Install Cable Management Arm

Use this procedure to install the optional CMA.

1. **Unpack the CMA parts.**
2. **Take the CMA to the back of the equipment rack and ensure that you have adequate room to work around the back of the server.**

---

**Note –** References to “left” or “right” in this procedure assume that you are facing the back of the equipment rack.

---

3. **Remove the tape to separate the parts of the CMA.**

   The CMA rail extension might be taped to the CMA arm.

4. **Attach the CMA rail extension into the left slide-rail until the extension locks into place with an audible click (**FIGURE 2-8**).**

**FIGURE 2-8** Inserting the CMA Rail Extension Into the Back of the Left Slide-Rail

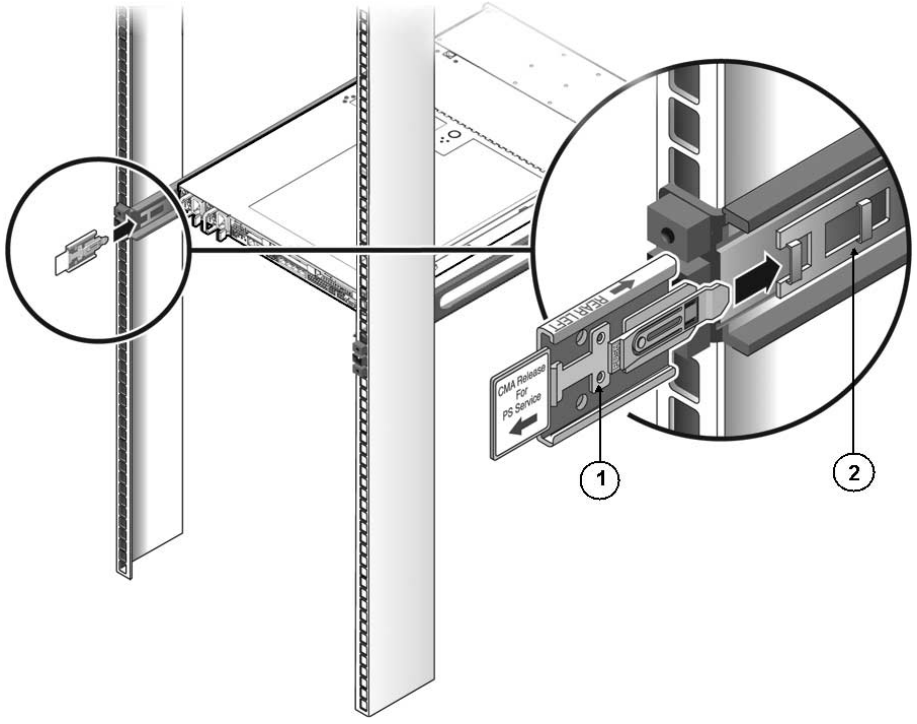
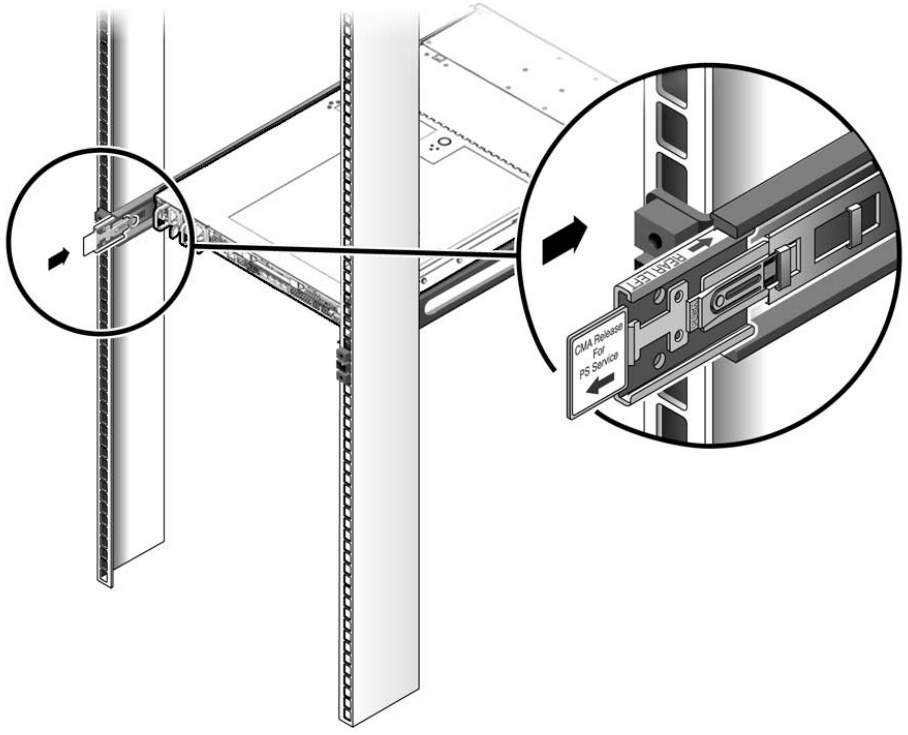



**Figure Legend**

| | |
|---|---|
| **1** | CMA rail extension |
| **2** | Left slide-rail |

5. **Verify that the CMA rail extension engages the slide-rail (**FIGURE 2-9**).**

**FIGURE 2-9** Engaging the CMA Rail Extension With the Left Slide-Rail




**Note –** Support the CMA in the remaining installation steps. Do not allow the arm to hang by its own weight until it is secured by all three attachment points.

6. **Insert the CMA's mounting bracket connector into the right slide-rail until the connector locks into place with an audible click (**FIGURE 2-10**).**

**FIGURE 2-10** Inserting the CMA Mounting Bracket Into the Back of the Right Slide-Rail

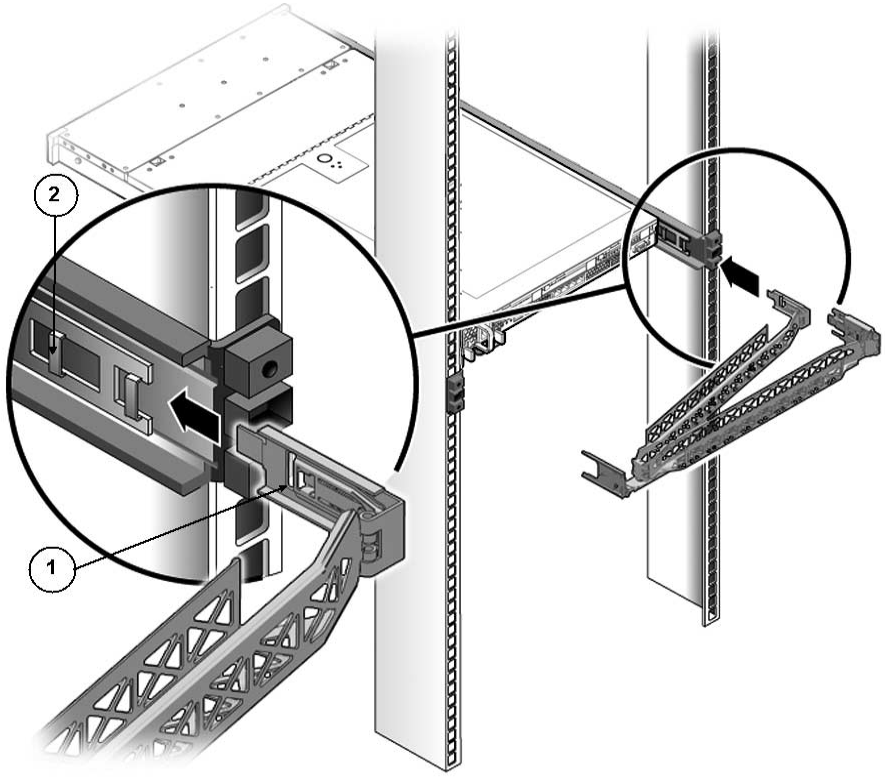



**Figure Legend**

| | |
|---|---|
| **1** | CMA mounting bracket |
| **2** | Right slide-rail |

**7. Insert the right CMA slide-rail connector into the right slide-rail assembly until the connector locks into place with an audible click (FIGURE 2-11).**

**FIGURE 2-11** Inserting CMA Slide-Rail Connector Into the Back of the Right Slide-Rail

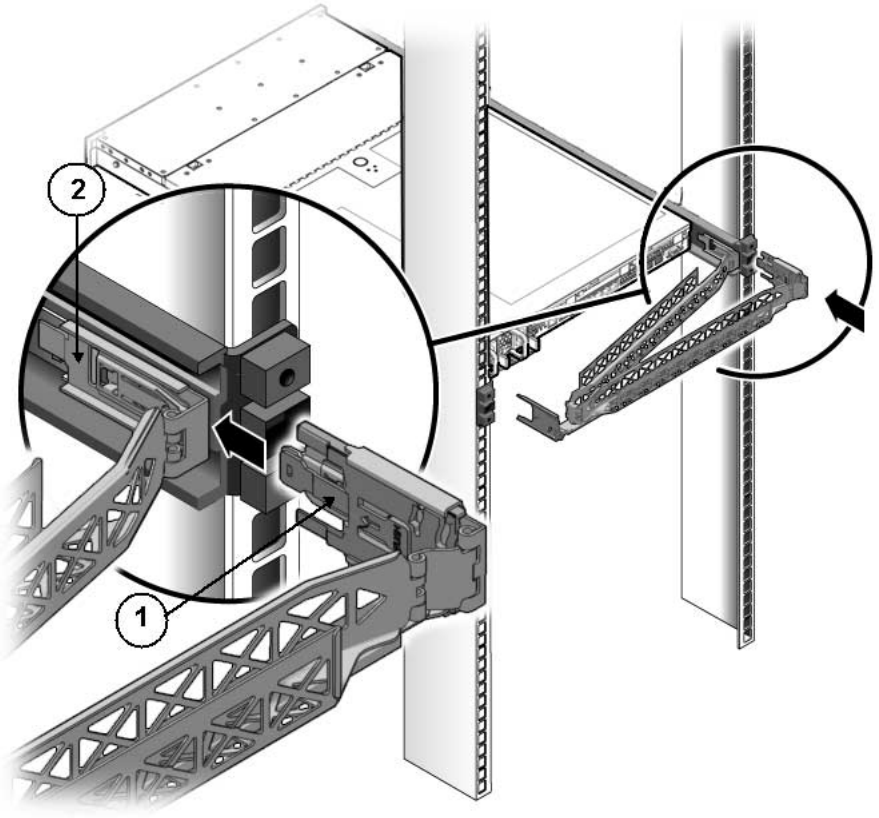



**Figure Legend**

| | |
|---|---|
| **1** | CMA slide-rail connector |
| **2** | Right slide-rail |

8. **Insert the left CMA slide-rail connector into the rail extension on the left slide-rail assembly until the connector locks into place with an audible click (**FIGURE 2-12**).**

**FIGURE 2-12** Connecting the CMA to the Rail Extension Connector

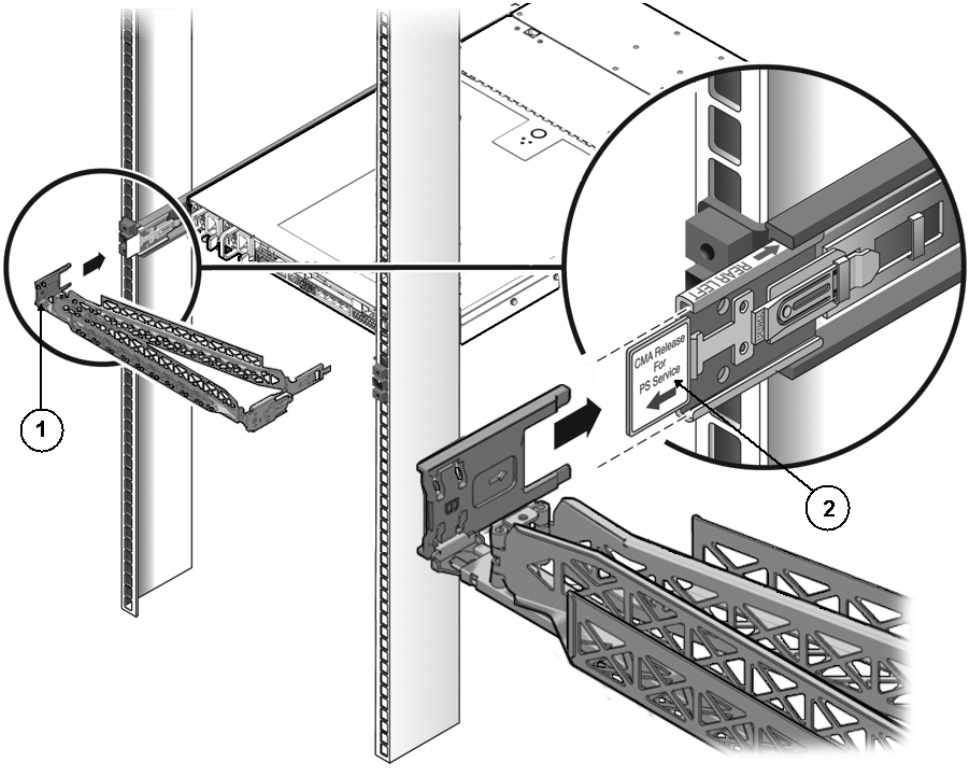



**Figure Legend**

| | |
|---|---|
| **1** | CMA extension arm (on left slide-rail) |
| **2** | CMA extension |

**9. Install and route cables to your server, as required.**

**Note –** Instructions for installing the server cables are provided in "Back Panel Connectors" on page 45.

**10. Attach the cable hook and loop straps to the CMA, and press them into place to secure the cables (**FIGURE 2-13**).**

For best results, place three cable straps, evenly spaced, on the rear-facing side of the CMA and three cable straps on the side of the CMA nearest the server.

**FIGURE 2-13** Installing CMA Cable Straps

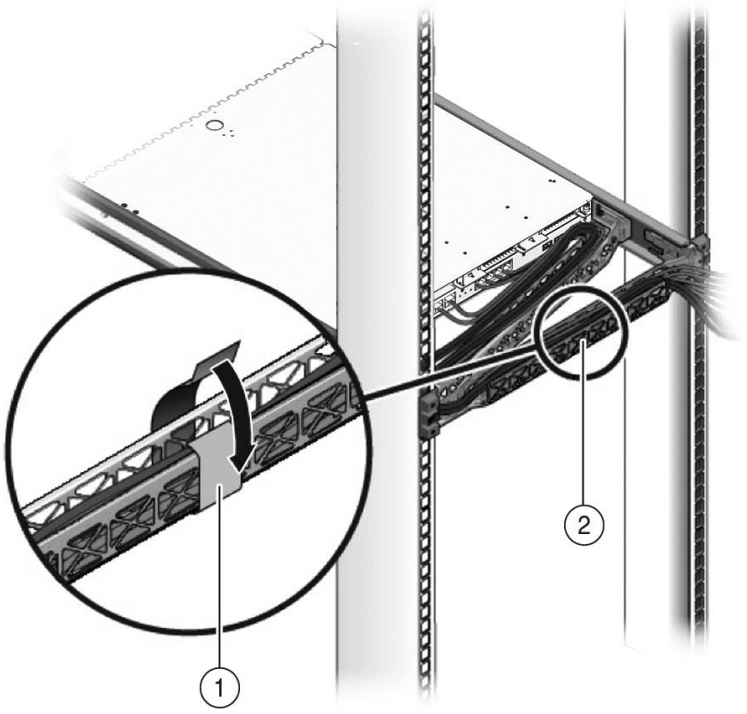



**Figure Legend**

| | |
|---|---|
| **1** | CMA cable strap |
| **2** | CMA arm |

# Installing the Cable Management Arm on the Sun Fire X4270 M2 Server

The cable management arm (CMA) is an optional assembly that you can use to route the server cables in the rack.

## ▼ Install Cable Management Arm

Use this procedure to install the optional CMA.

1. **Unpack the CMA parts.**

2. **Take the CMA to the back of the equipment rack and ensure that you have adequate room to work around the back of the server.**

---

**Note –** References to “left” or “right” in this procedure assume that you are facing the back of the equipment rack.

---

3. **Remove the tape to separate the parts of the CMA.**

   The CMA rail extension might be taped to the CMA arm.

4. **Attach the CMA rail extension into the left slide-rail until the extension locks into place with an audible click (**FIGURE 2-14**).**

**FIGURE 2-14** Inserting the CMA Rail Extension Into the Back of the Left Slide-Rail

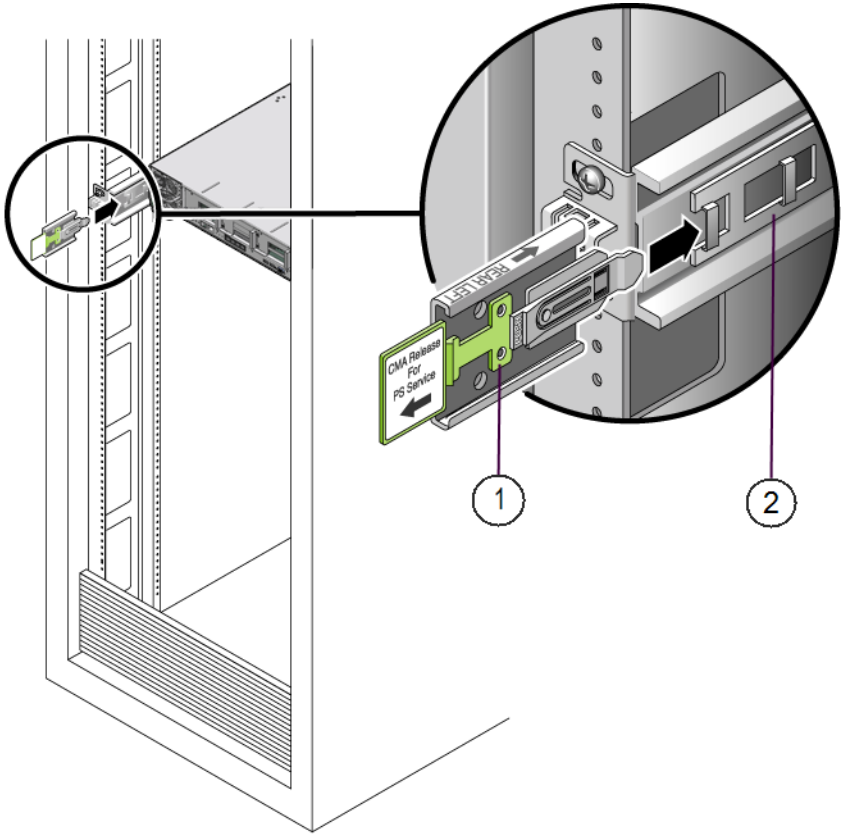
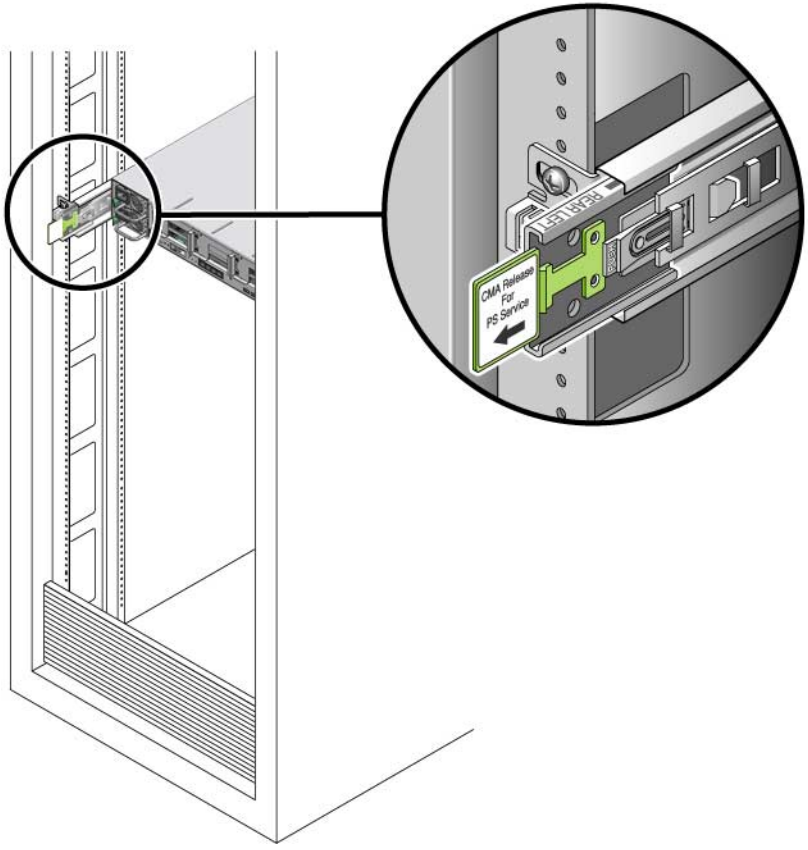



**Figure Legend**

| | |
|---|---|
| **1** | CMA rail extension |
| **2** | Left slide-rail |

**5. Verify that the CMA rail extension engages the slide-rail (FIGURE 2-15).**

**FIGURE 2-15** Engaging the CMA Rail Extension With the Left Slide-Rail




**Note –** Support the CMA in the remaining installation steps. Do not allow the arm to hang by its own weight until it is secured by all three attachment points.

6. **Insert the CMA's mounting bracket connector into the right slide-rail until the connector locks into place with an audible click (**FIGURE 2-16**).**

**FIGURE 2-16** Inserting the CMA Mounting Bracket Into the Back of the Right Slide-Rail

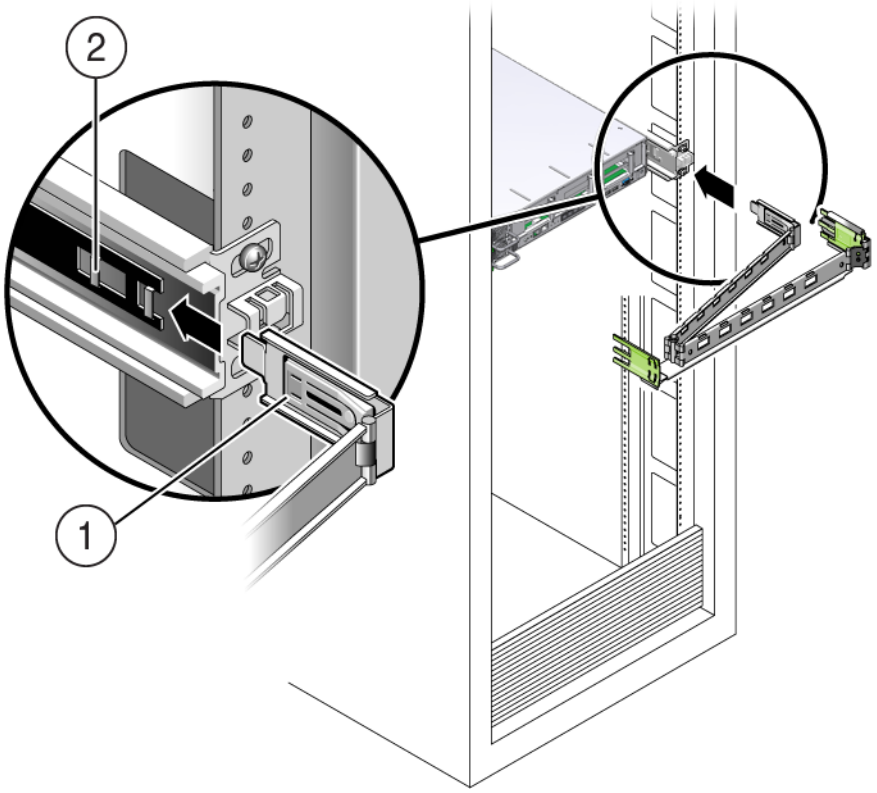



**Figure Legend**

| | |
|---|---|
| **1** | CMA mounting bracket |
| **2** | Right slide-rail |

**7. Insert the right CMA slide-rail connector into the right slide-rail assembly until the connector locks into place with an audible click (FIGURE 2-17).**

**FIGURE 2-17** Inserting CMA Slide-Rail Connector Into the Back of the Right Slide-Rail

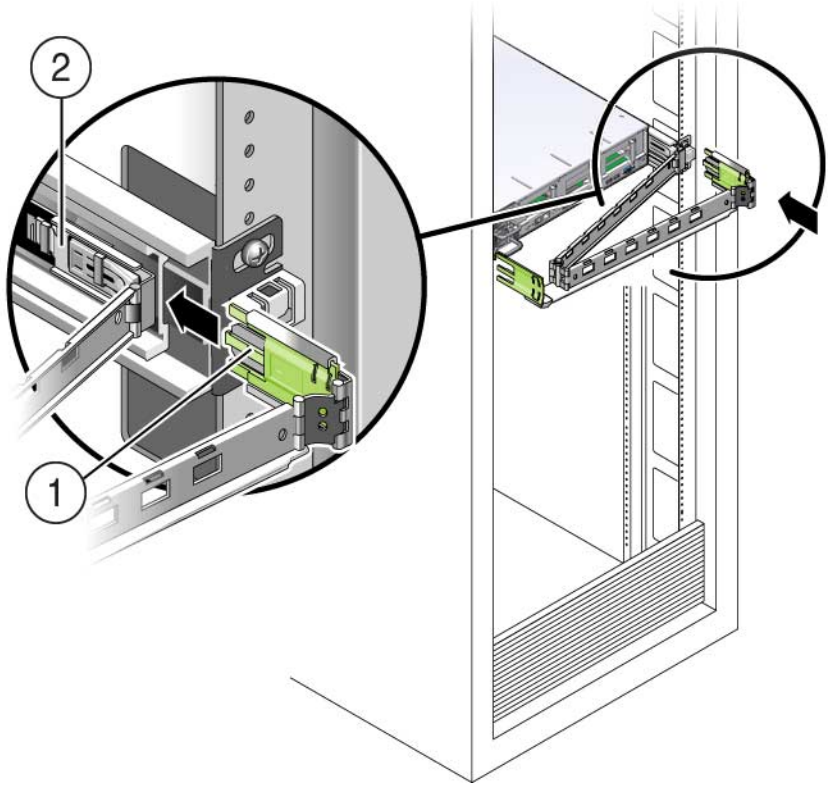



**Figure Legend**

| | |
|---|---|
| **1** | CMA slide-rail connector |
| **2** | Right slide-rail |

8. **Insert the left CMA slide-rail connector into the rail extension on the left slide-rail assembly until the connector locks into place with an audible click (**FIGURE 2-18**).**

**FIGURE 2-18** Connecting the CMA to the Rail Extension Connector

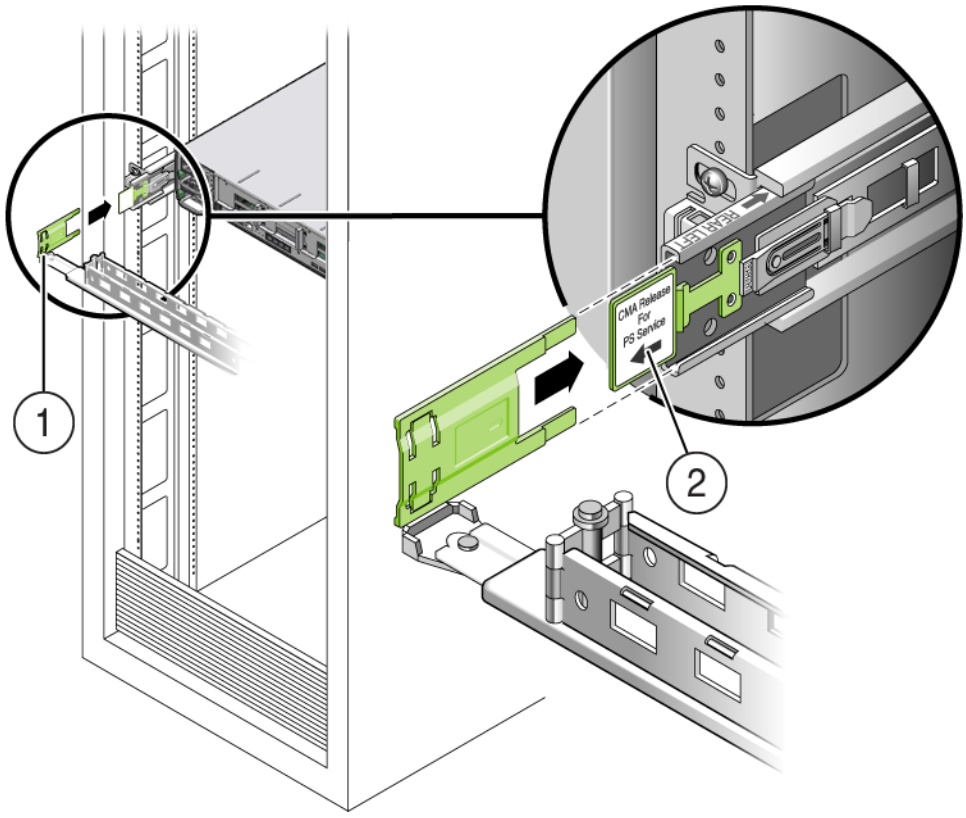



**Figure Legend**

| | |
|---|---|
| **1** | CMA extension arm (on left slide-rail) |
| **2** | CMA extension |

**9. Install and route cables to your server, as required.**

**Note –** Instructions for installing the server cables are provided in "Back Panel Connectors" on page 45.

**10. If required, attach the cable hangers to the CMA, and snap them into place to secure the cables (**FIGURE 2-19**).**

**Note –** Cable hangers are preinstalled on the CMA. Perform the procedure in this step if you need to reinstall cable hangers on the CMA.

For best results, place three cable hangers, evenly spaced, on the rear-facing side of the CMA and three cable hangers on the side of the CMA nearest the server.

**FIGURE 2-19** Installing CMA Cable Hangers

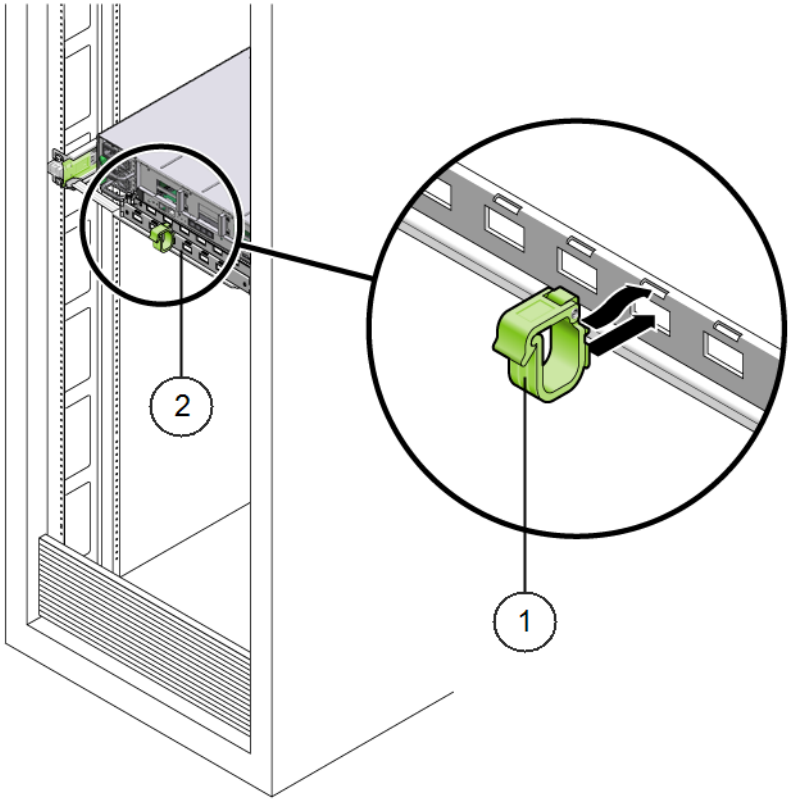



**Figure Legend**

| | |
|---|---|
| **1** | CMA cable hanger |
| **2** | CMA arm |

# Verifying Operation of the Slide-Rails and CMA

Use the following procedure to ensure that the slide-rails and CMA are operating correctly.

## ▼ Verify Operation of Slide-Rails and CMA

**Note –** Two people are recommended for this procedure: one to move the server in and out of the rack, and one to observe the cables and CMA.

1. **Slowly pull the server out of the rack until the slide-rails reach their stops.**
2. **Inspect the attached cables for any binding or kinks.**
3. **Verify that the CMA extends fully from the slide-rails.**
4. **Push the server back into the rack, as described in the following sub-steps.**

   When the server is fully extended, you must release two sets of slide-rail stops to return the server to the rack:

   a. **The first set of stops are levers, located on the inside of each slide-rail, just behind the back panel of the server. These levers are labeled "PUSH." Push in both levers simultaneously and slide the server toward the rack.**

      The server will slide in approximately 18 inches (46 cm) and stop.

      Verify that the cables and the CMA retract without binding before you continue.

   b. **The second set of stops are the slide-rail release buttons, located near the front of each mounting bracket (**FIGURE 2-7**). Simultaneously push or pull both of the slide-rail release buttons, and push the server completely into the rack until both slide-rail locks engage.**

5. **Adjust the cable straps and CMA, as required.**

CHAPTER 3

# Attaching Cables and Power Cords

This chapter describes how to connect cables and power on the server for the first time. It includes the following topics:



## Back Panel Connectors

FIGURE 3-1 shows and describes the locations of the Sun Fire X4170 M2 Server back panel connectors.

**FIGURE 3-1** Sun Fire X4170 M2 Server Back Panel Connectors

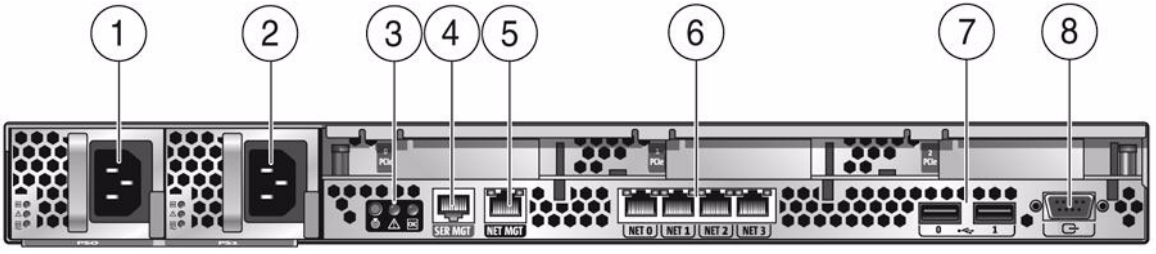



**Figure Legend**

| | | | |
|---|---|---|---|
| **1** | Power supply unit 0 connector | **5** | Service processor (SP) network management (NET MGT) Ethernet port |

**Figure Legend** *(Continued)*

| | | | |
|---|---|---|---|
| **2** | Power supply unit 1 connector | **6** | Gigabit Ethernet ports NET 0, 1, 2, 3 |
| **3** | System status LEDs | **7** | USB 2.0 ports (0, 1) |
| **4** | Serial management (SER MGT)/RJ-45 serial port | **8** | HD15 video connector (analog VGA) |

FIGURE 3-2 shows and describes the locations of the Sun Fire X4270 M2 Server back panel connectors.

**FIGURE 3-2** Sun Fire X4270 M2 Server Back Panel Connectors

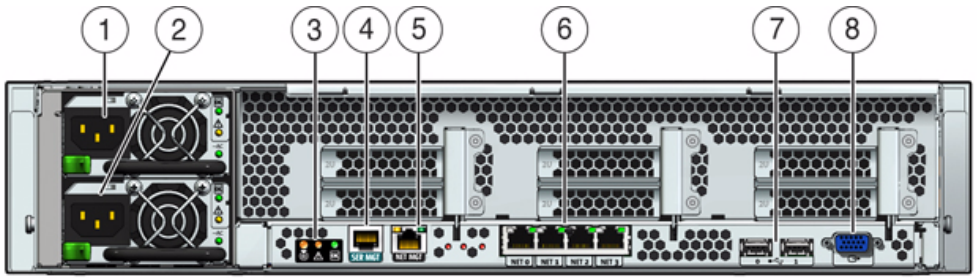



**Figure Legend**

| | | | |
|---|---|---|---|
| **1** | Power supply unit 1 connector | **5** | Service processor (SP) network management (NET MGT) Ethernet port |
| **2** | Power supply unit 0 connector | **6** | Gigabit Ethernet ports NET 0, 1, 2, 3 |
| **3** | System status LEDs | **7** | USB 2.0 ports (0, 1) |
| **4** | Serial management (SER MGT)/RJ-45 serial port | **8** | HD15 video connector (analog VGA) |

# Attaching Cables to the Server

Use this procedure to attach cables to the server.

## ▼ Cable the Server

Connect external cables to the server in the following order. Refer to FIGURE 3-1 and FIGURE 3-2.

1. **Connect an Ethernet cable to the Gigabit Ethernet (NET) connectors as needed for OS support [6].**

2. **If you plan to interact with the system console directly, connect any external devices, such as mouse and keyboard to the server's USB connectors [7] and/or a monitor to the HD15 video connector [8].**

3. **If you plan to connect to Oracle Integrated Lights Out Manager (Oracle ILOM) software over the network, connect an Ethernet cable to the Ethernet port labeled NET MGT [5].**

   See "Log In to Oracle ILOM Using an Ethernet Connection" on page 51 for information about connecting to ILOM over the network.

4. **If you plan to access the Oracle ILOM command-line interface (CLI) using the serial management port, connect a serial null modem cable to the RJ-45 serial port labeled SER MGT [4].**

   See "Log In to Oracle ILOM Using a Serial Connection" on page 50 for information about connecting to ILOM from a serial console.

# Connecting Power Cords to the Server

Use this procedure to connect power cords to the server. When the power cords are connected, the server will be in standby power mode.

## ▼ Connect the Power Cords

1. **Connect two grounded server power cords to grounded electrical outlets.**

2. **Connect the two server power cords to the AC connectors on the back panel of the server (**FIGURE 3-1 **and** FIGURE 3-2 **[1, 2]).**

   When power is connected, the server boots into standby power mode. In standby power mode, the Power/OK LED on the front panel (see FIGURE 1-2, FIGURE 1-3 and FIGURE 1-4) flashes in a Standby Blink pattern (0.1 seconds on, 2.9 seconds off), indicating that the service processor (SP) is working. Note that the server is not initialized or powered on yet.

---

**Note –** Do not apply main power to the rest of the server until you are ready to install and configure a platform operating system. At this point, power is supplied only to the SP board and the power supply fans.

---

CHAPTER 4

# Connecting to Oracle ILOM and Applying Main Power to the Server

This chapter describes how to access the Oracle Integrated Lights Out Manager (Oracle ILOM) command-line interface (CLI) to manage the server. It also describes how to apply main power to the server.

This chapter contains the following topics:



**Note –** This chapter describes how to connect to the Oracle ILOM command-line interface (CLI). Oracle ILOM is also available as a web interface (BUI). For instructions on using the web interface, and for complete instructions on using ILOM, refer to the Oracle Integrated Lights Out Manager (Oracle ILOM) 3.0 Documentation Library.

## Connecting to Oracle ILOM

This section describes how to configure the IP address for the server using Oracle Integrated Lights Out Manager (OracleILOM). It contains the following topics:

## Network Defaults

The Sun Fire X4170 M2 and X4270 M2 Servers support dual-stack IPv4 and IPv6 settings, which enable Oracle ILOM to fully operate in an IPv4 and IPv6 network environment. For IPv4 configurations, DHCP is enabled by default, allowing a DHCP server on the network to automatically assign network settings to the server. For IPv6 configurations, IPv6 stateless auto-configuration is enabled by default, allowing an IPv6 router on the network to assign the network settings. In a typical configuration, you will accept these settings assigned by the DHCP server or IPv6 router.

---

**Note –** To determine the IP address or host name assigned by the DHCP server, use the network tools provided with the DHCP server or IPv6 router.

---

The procedures in this section enable you to test that the assigned settings are working correctly and to establish a connection to Oracle ILOM locally and remotely. To log in locally, see "Log In to Oracle ILOM Using a Serial Connection" on page 50. To log in remotely, use the IP address, hostname, or IPv6 local link name assigned to the server SP and follow the instructions in "Log In to Oracle ILOM Using an Ethernet Connection" on page 51.

## ▼ Log In to Oracle ILOM Using a Serial Connection

This procedure does not require that you know the IP address of the sever SP. It does require that you have an Oracle ILOM Administrator account.

---

**Note –** The default Oracle ILOM Administrator account shipped with the server is `root` and its password is `changeme`. If this default Administrator account has since been changed, contact your system administrator for an Oracle ILOM user account with administrator privileges.

---

1. **Verify that your serial console connection to the server is secure and operational.**
2. **Ensure that the following serial communication settings are configured:**
   - 8N1: eight data bits, no parity, one stop bit
   - 9600 baud
   - Disable hardware flow control (CTS/RTS)

3. **Press Enter to establish a connection between your serial console and Oracle ILOM.**

   A login prompt to Oracle ILOM appears.

4. **Log in to the Oracle ILOM command-line interface (CLI) using an Administrator account.**

   Oracle ILOM displays a default command prompt (->), indicating that you have successfully logged in to Oracle ILOM.

## ▼ Log In to Oracle ILOM Using an Ethernet Connection

This procedure requires that you have an Oracle ILOM Administrator account and that you know the IP address or hostname of the server SP.

---

**Note –** The default Oracle ILOM Administrator account shipped with the server is `root` and its password is `changeme`. If this default Administrator account has since been changed, contact your system administrator for an Oracle ILOM user account with Administrator privileges.

---

1. **Using a secure shell (SSH) session, log in to Oracle ILOM by specifying your Administrator account user name and the IP address of the server SP.**

   For example:

   **`ssh -1`** *username host*

   or

   **`ssh`** *username***`@`***host*

   Where host is either the IP address of the server SP or a hostname (when using DNS).

   The Oracle ILOM password prompt appears.

2. **Type a password for the Administrator account.**

   For example:

   ```
   ssh root@192.168.25.25
   root@192.168.25.25's password: changeme
   ```

   Oracle ILOM displays a default command prompt (->), indicating that you have successfully logged in to Oracle ILOM.

# ▼ Modify Network Settings

If you want to modify the network settings currently configured for the server, use the following procedure.

---

**Note –** You can also change network settings using the BIOS Setup Utility. For instructions on using the BIOS Setup Utility, see the *Sun Fire X4170 M2 Server Service Manual* or the *Sun Fire X4270 M2 Server Service Manual*.

---

1. **Log in to Oracle ILOM using one of the methods in** "Log In to Oracle ILOM Using a Serial Connection" on page 50 **or** "Log In to Oracle ILOM Using an Ethernet Connection" on page 51**.**

---

**Note –** If you log in to Oracle ILOM using an Ethernet connection, after you modify the network settings, your connection will be terminated, and you will have to log back in using the new settings.

---

2. **Perform the network configuration instructions that apply to your network environment, then test the network settings:**
   - To view or configure IPv4 network settings, perform Step 3 to Step 4.
   - To view or configure IPv6 network settings, perform Step 5 to Step 8.
   - To test the IPv4 or IPv6 network settings, see "Test IPv4 or IPv6 Network Configuration" on page 56.
3. **For IPv4 network configurations, use the** `cd` **command to navigate to the** `/network` **directory:**

   -> **`cd /SP/network`**
4. **Do one of the following:**
   - If you have a DHCP server on the network, type the following command to view the settings assigned to the server by the DHCP server:

     -> **`show /SP/network`**
   - If there is no DHCP server, or if you want to assign settings, use the `set` command to assign values for the properties listed in the following table. For example:

     -> **`set /SP/network/ pendingipdiscovery=static`**

     -> **`set /SP/network/ pendingipaddress=`**10.8.183.106

     -> **`set /SP/network/ pendingipnetmask=`**255.255.255.0

     -> **`set /SP/network/ pendingipgateway=`**10.8.183.254

     -> **`set /SP/network/ commitpending=true`**

| Property | Set Property Value | Description |
|---|---|---|
| state | set state=enabled | The network state is enabled by default. |
| pendingipdiscovery | set pendingipdiscovery=static | To enable a static network configuration, set pendingipdiscovery to static.<br>By default, pendingipdiscovery is set to dhcp. |
| pendingipaddress<br>pendingipnetmask<br>pendingipgateway | set pendingipaddress=<*ip_address*><br>pendingipnetmask=<*netmask*><br>pendingipgateway=<*gateway*> | To assign multiple static network settings, type the set command followed by the pending command for each property value (IP address, netmask, and gateway), then type the static value that you want to assign. |
| commitpending= | set commitpending=true | Type set commitpending=true to commit changes. |

**Note –** If you are logged in to Oracle ILOM using an Ethernet connection, when you set commitpending to true to commit the changes to the network settings, your Oracle ILOM connection will be terminated and you will have to log back in using the new settings.

5. **For IPv6 network configurations, use the** cd **command to navigate to the** /network/ipv6 **directory:**

   -> **cd SP/network/ipv6**

6. **Type the** show **command to view the IPv6 network settings configured on the device.**

   For example, see the following sample output values for the IPv6 properties on a server SP device.

```
-> show
/SP/network/ipv6
Targets:

Properties:
```

```
  state = enabled
  autoconfig = stateless
  dhcpv6_server_duid = (none)
  link_local_ipaddress = fe80::214:4fff:feca:5f7e/64
  static_ipaddress = ::/128
  ipgateway = fe80::211:5dff:febe:5000/128
  pending_static_ipaddress = ::/128
  dynamic_ipaddress_1 fec0:a:8:b7:214:4fff:feca:5f7e/64

Commands:
  cd
  show
```

7. **To configure an IPv6 auto-configuration option, use the `set` command to specify the following auto-configuration property values:**

| Property | Set Property Value | Description |
|---|---|---|
| `state` | `set state=enabled` | The IPv6 network state is enabled by default. To enable an IPv6 auto-configuration option this state must be set to enabled. |
| `autoconfig` | `set autoconfig=<`*value*`>` | Specify this command followed by the autoconfiguration value you want to set.<br>Options include:<br>• `stateless` (default setting)<br>Automatically assigns IP address learned from IPv6 network router.<br>• `dhcpv6_stateless`<br>Automatically assigns DNS information learned from the DHCP server.<br>• `dhcpv6_stateful`<br>Automatically assigns the IPv6 address learned from the DHCPv6 server.<br>• `disable`<br>Disables all auto-configuration property values and sets the read-only property value for link local address |

**Note –** The IPv6 configuration options take affect after they are set. You do not need to commit these changes under the `/network` target.

**Note –** You can enable the `stateless` auto-configuration option to run at the same time as when the option for `dhcpv6_stateless` is enabled or as when the option for `dhcpv6_stateful` is enabled. However, the auto-configuration options for `dhcpv6_stateless` and `dhcpv6_stateful` should not be enabled to run at the same time

**8. To set a static IPv6 address, complete these steps:**

**a. Specify the following property types:**

| Property | Set Property Value | Description |
|---|---|---|
| `state` | `set state=enabled` | The IPv6 network state is enabled by default. To enable a static IP address this state must be set to enabled. |
| `pendingipaddress` | `set pending_static_ipaddress =`*<ip6_address>/<subnet mask length in bits>* | Type this command followed by the property value for the static IPv6 address and net mask that you want to assign to the device.<br>IPv6 address example:`fec0:a:8:b7:214:4fff:feca:5f7e/64` |

**b. Commit the pending IPv6 static network parameters by typing the following command:**

-> **`set commitpending=true`**

**Note –** Network settings are considered pending until you commit them. Assigning a new static IP address to the device will end all active Oracle ILOM sessions to the device. To log back in to Oracle ILOM, you will need to create a new session using the newly assigned IP address.

**9. Test the IPv4 or IPv6 network configuration from Oracle ILOM using the Network Test Tools (Ping and Ping6).**

For details, see "Test IPv4 or IPv6 Network Configuration" on page 56.

# ▼ Test IPv4 or IPv6 Network Configuration

1. **At the Oracle ILOM CLI prompt, type the** `show` **command to view the network** `test` **targets and properties.**

   For example, see the following output the shows the test target properties.

```
-> show
/SP/network/test
Targets:

Properties:
 ping = (Cannot show property)
 ping6 = (Cannot show property)

Commands:
 cd
 set
 show
```

2. **Use the** `set ping` **or** `set ping6` **command to send a network test from the device to a specified network destination:**

| Property | Set Property Value | Description |
|---|---|---|
| `ping` | `set ping=`<*IPv4_address*> | Type the `set ping=` command at the command prompt followed by the IPv4 test destination address.<br>For example:<br>`-> set ping=10.8.183.106`<br>`Ping of 10.8.183.106 succeeded` |
| `ping6` | `set ping6=`<*IPv6_address*> | Type the `set ping6=` command followed by the IPv6 test destination address.<br>For example:`-> set ping6= fe80::211:5dff:febe:5000`<br>`Ping of fe80::211:5dff:febe:5000 succeeded` |

# ▼ Exit Oracle ILOM

- **To end an Oracle ILOM session, at the CLI prompt, type** `exit`**.**

# Applying Main Power to the Server

After you have verified that you can connect to Oracle ILOM and are ready to install or configure an operating system, apply main power to the server.

## ▼ Apply Main Power to the Server

1. **Verify that the Power/OK LED on the front panel of the server is in the standby power mode.**

   In standby power mode, the OK/Power LED illuminates in a standby blink pattern (0.1 seconds on, 2.9 seconds off), indicating that the SP is working.

2. **Press the Power button on the server's front panel to apply main power to the server.**

## ▼ Power Off From Main Power

- **To remove main power from the server, use one of the following two methods:**
  - **Graceful shutdown** – Momentarily press and release the Power button on the front panel. This causes Advanced Configuration and Power Interface (ACPI)-enabled operating systems to perform an orderly shutdown. Servers not running ACPI-enabled operating systems will shut down to standby power mode immediately.
  - **Emergency shutdown** – Press and hold the Power button for at least four seconds until the main power is off and the server enters standby power mode. When the main power is off, the Power/OK LED on the front panel flashes, indicating that the server is in standby power mode.

**Caution –** To completely power off the server, you must disconnect the AC power cords from the AC inlets of the power supplies on the back panel of the server.

CHAPTER 5

# Installing or Configuring an Operating System

You can either install an operating system or, if the server was shipped with a preinstalled operating system, you can configure that preinstalled system.

This chapter includes the following topics:



## Installing an Operating System

TABLE 5-1 lists the operating systems supported on the Sun Fire X4170 M2 and X4270 M2 Servers at the time of publication of this document, along with information about where to get instructions for installing each operating system.

For an up-to-date list of the latest operating systems supported on the Sun Fire X4170 M2 and X4270 M2 Servers, go to the following web sites and navigate to the appropriate page:

- http://www.oracle.com/goto/x4170m2
- http://www.oracle.com/goto/x4270m2

**TABLE 5-1** Supported Operating Systems

| Operating System | Supported Version | For More Information, See: |
|---|---|---|
| Oracle Solaris | • Oracle Solaris 10 10/09, Oracle Solaris 10 9/10, and Oracle 10 8/11 | • *Sun Fire X4170 M2 and X4270 M2 Servers Installation Guide for Linux, Virtual Machine Software, and Oracle Solaris Operating Systems* |
| Linux | • Oracle Linux 5.5, 5.6, 5.7, 6.0, and 6.1 (64-bit)<br>• Red Hat Enterprise Linux (RHEL) 5.5, 5.6, 5.7, 6.0, and 6.1 (64-bit)<br>• SUSE Linux Enterprise Server (SLES) 10 SP3 and SP4 (64-bit)<br>• SLES 11 (64-bit)<br>• SLES 11 SP1 (64- bit) | • *Sun Fire X4170 M2 and X4270 M2 Servers Installation Guide for Linux, Virtual Machine Software, and Oracle Solaris Operating Systems* |
| Virtual Machine Software | • Oracle VM 2.2.1, 2.2.2, and 3.0.1<br>• VMware ESX and ESXi 4.0 Update 2 and 4.1 | • *Sun Fire X4170 M2 and X4270 M2 Servers Installation Guide for Linux, Virtual Machine Software, and Oracle Solaris Operating Systems* |
| Windows | Microsoft Windows Server 2008 SP2 (64-bit)<br>Microsoft Windows Server 2008 R2, SP1<br>Microsoft Windows Server 2008 R2 | • *Sun Fire X4170 M2 and X4270 M2 Servers Installation Guide for Windows Operating Systems* |

# Configuring a Preinstalled Operating System

If your server was shipped with an operating system preinstalled, you must configure that operating system before you can use it on the server. TABLE 5-2 lists the preinstalled operating systems available for the Sun Fire X4170 M2 and X4270 M2 Servers at the time of publication of this document, along with information about where to get instructions for configuring each preinstalled operating system.

For an up-to-date list of the latest operating systems supported on the Sun Fire X4170 M2 and X4270 M2 Servers, go to the following web sites and navigate to the appropriate page:

- http://www.oracle.com/goto/x4170m2

- http://www.oracle.com/goto/x4270m2

**TABLE 5-2** Preinstalled Operating Systems Available for the Sun Fire X4170 M2 and X4270 M2 Servers

| Operating System | For Configuration Information, See: |
|---|---|
| Oracle Solaris | Chapter 6 of this guide |
| Virtual Machine Software | Chapter 7 of this guide |

CHAPTER 6

# Configuring the Preinstalled Solaris 10 Operating System

This chapter explains the steps for configuring the Oracle Solaris 10 Operating System (OS) that is preinstalled on server, if ordered.

**Note –** Unlike with SPARC systems, you will *not* see the output of the preinstalled Solaris 10 image through a monitor when you power on the server. You will see the BIOS power-on self-test (POST) and other boot information output.

This chapter includes the following topics:



## Configuration Worksheet

Before you begin configuring the operating system, use the configuration worksheet in TABLE 6-1 to gather the information that you will need. You need to collect only the information that applies to your application of the system.

**TABLE 6-1** Worksheet for Operating System Configuration

| Information for Installation | | Description or Example | Your Answers: Defaults (*) |
|---|---|---|---|
| Language | | Select from the list of available languages for the OS. | English* |
| Locale | | Select your geographic region from the list of available locales. | |
| Terminal | | Select the type of terminal that you are using from the list of available terminal types. | |
| Network connection | | Is the system connected to a network? | • Networked<br>• Non-networked* |
| DHCP | | Can the system use Dynamic Host Configuration Protocol (DHCP) to configure its network interfaces? | • Yes<br>• No* |
| If you are not using DHCP, note the network address: | IP address | If you are not using DHCP, supply the IP address for the system.<br>Example: `129.200.9.1` | |
| | Subnet | If you are not using DHCP, is the system part of a subnet?<br>If yes, what is the netmask of the subnet?<br>Example: `255.255.0.0` | 255.255.0.0* |
| | IPv6 | Do you want to enable IPv6 on this machine? | • Yes<br>• No* |
| Host name | | Choose a host name for the system. | |
| Kerberos | | Do you want to configure Kerberos security on this machine?<br>If yes, gather this information:<br>Default realm:<br>Administration server:<br>First KDC:<br>(Optional) Additional KDCs: | • Yes<br>• No* |

**TABLE 6-1** Worksheet for Operating System Configuration *(Continued)*

| Information for Installation | | Description or Example | Your Answers: Defaults (*) |
|---|---|---|---|
| Name service | Name service | If applicable, which name service should this system use? | • NIS+<br>• NIS<br>• DNS<br>• LDAP<br>• None* |
| | Domain name | Provide the name of the domain in which the system resides. | |
| | NIS+ and NIS | *If you chose NIS+ or NIS*, do you want to specify a name server, or let the installation program find one? | • Specify One<br>• Find One* |
| | DNS | *If you chose DNS*, provide IP addresses for the DNS server. You must enter at least one IP address, but you can enter up to three addresses.<br>You can also enter a list of domains to search when a DNS query is made.<br>Search domain:<br>Search domain:<br>Search domain: | |
| | LDAP | *If you chose LDAP*, provide the following information about your LDAP profile:<br>Profile name:<br>Profile server:<br>If you specify a proxy credential level in your LDAP profile, gather the following information:<br>Proxy-bind distinguished name:<br>Proxy-bind password: | |

**TABLE 6-1** Worksheet for Operating System Configuration *(Continued)*

| Information for Installation | Description or Example | Your Answers: Defaults (*) |
|---|---|---|
| Default route | Do you want to specify a default route IP address, or let the OS installation program find one?<br>The default route provides a bridge that forwards traffic between two physical networks. An IP address is a unique number that identifies each host on a network.<br>You have the following choices:<br>• You can specify the IP address. An `/etc/defaultrouter` file is created with the specified IP address. When the system is rebooted, the specified IP address becomes the default route.<br>• You can let the OS installation program detect an IP address. However, the system must be on a subnet that has a router that advertises itself by using the Internet Control Message Protocol (ICMP) for router discovery. If you are using the command-line interface, the software detects an IP address when the system is booted.<br>• You can select None if you do not have a router or do not want the software to detect an IP address at this time. The software automatically tries to detect an IP address on reboot. | • Specify One<br>• Detect One<br>• None* |
| Time zone | How do you want to specify your default time zone? | • Geographic region*<br>• Offset from GM<br>• Time zone file |
| Root password | Choose a root password for the system. | |

# Configuring Server RAID Drives

Configuring server RAID drives is not a supported feature of the preinstalled version of the Solaris 10 OS, as the preinstalled OS will be erased during RAID migration. If you want to configure your server drives in a RAID, refer to the following documents for instructions on configuring RAID and installing the Solaris 10 OS.

- *LSI MegaRAID SAS Software User's Guide*, which is available at: `http://www.lsi.com/http://www.lsi.com/support/sun`

- *Sun Fire X4170 M2 and X4270 M2 Servers Installation Guide for Linux, Virtual Machine Software, and Oracle Solaris Operating Systems*, which is available at:

  http://www.oracle.com/pls/topic/lookup?ctx=E19762-01

  http://www.oracle.com/pls/topic/lookup?ctx=E19245-01

# Configuring the Preinstalled Oracle Solaris 10 Operating System

After you have completed the configuration worksheet, use the following procedure to configure the preinstalled Oracle Solaris software.

## ▼ Configure Oracle Solaris 10 OS

1. **If you are not already logged in to Oracle ILOM, log in either locally from a serial connection, or remotely from an Ethernet connection.**

   See "Log In to Oracle ILOM Using a Serial Connection" on page 50 or "Log In to Oracle ILOM Using an Ethernet Connection" on page 51.

2. **If main power has not yet been applied to the server, apply main power.**

   See "Apply Main Power to the Server" on page 57.

3. **From the Oracle ILOM prompt, type the following command and answer the prompt:**

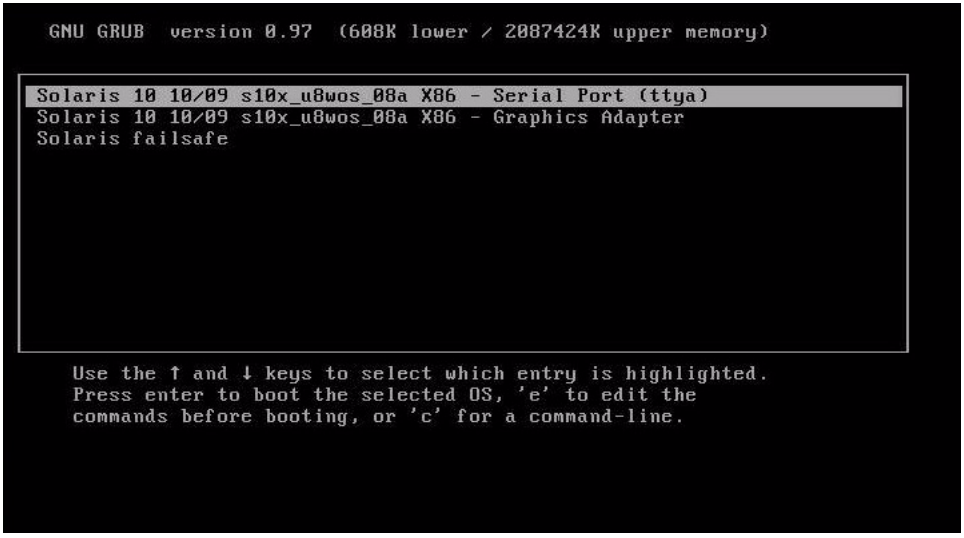
   -> **start /SP/console**

   ```
   Are you sure you want to start /SP/console (y/n)? y
   Serial console started.
   ```

   The GRUB menu appears.

   From the GRUB menu (FIGURE 6-1), you can choose whether you want to continue to direct the display to the serial port, or whether you want to direct the display to a device connected to the video port.

**FIGURE 6-1** GRUB Menu Screen for Preinstalled Oracle Solaris




4. **Use the up and down arrow keys to select the display option.**
   - To display output to the serial port, choose the following option:

     `Solaris 10 10/09 s10x_u8wos_u08a X86 - Serial Port (tty)`
   - To display output to the video port, choose the following option:

     `Solaris 10 10/09 s10x_u8wos_u08a X86 - Graphics Adapter`

     If you choose to display output to the video port, you must connect a device to the VGA connector on the server and then complete the configuration from that device. See Chapter 3 for information about attaching devices to the server.

---

**Note –** By default, the system displays the output to the serial port. If you do not select an option on the GRUB menu, after 10 seconds, the GRUB menu is no longer available, and the system continues with the output directed to the serial port.

---

5. **Follow the Oracle Solaris 10 on-screen prompts to configure the software.**

   Use the information gathered in "Configuration Worksheet" on page 63 to help you enter the system and network information as you are prompted.

   The screens that are displayed will vary, depending on the method that you chose for assigning network information to the server (DHCP or static IP address).

   After you have entered the system configuration information, the server completes the boot process and displays the Oracle Solaris login prompt.

# Oracle Solaris 10 Operating System User Information

This section provides pointers to information about the Oracle Solaris 10 Operating System.

## Oracle Solaris 10 User Documentation

Oracle Solaris 10 OS documentation is available from the Oracle web site at:
http://www.oracle.com/technetwork/server-storage/solaris10/overview/index.html

- Select the Documentation tab, then select Product Documentation.
- See the *Sun Fire X4170 M2 and X4270 M2 Servers Product Notes* for patch and other late-breaking information. For patches and instructions, go to the My Oracle Support web site and navigate to the appropriate page:
  http://support.oracle.com

Solaris 10 documentation is also available on the Solaris Documentation DVD included with your Solaris OS software.

# Using the Oracle Solaris Installation Program

The Oracle Solaris Installation Program on the Oracle Solaris 10 OS DVD can be run with a graphical user interface (GUI) or as an interactive text installer in a remote console. The Oracle Solaris Device Configuration Assistant is included in the Oracle Solaris Installation Program.

Follow the instructions for *x86-based* systems, not *SPARC-based* systems. For more information, see the Oracle Solaris 10 Release and Installation Collection for the version of the Oracle Solaris 10 Operating System you have installed. Documentation is available at:

http://www.oracle.com/technetwork/server-storage/solaris10/documentation/index.html

After you configure the preinstalled Solaris OS, the Solaris Installation Program reboots the system and prompts you to log in.

# Reinstalling the Oracle Solaris Operating System

If you want to reinstall the Oracle Solaris OS or install a different version of the Oracle Solaris OS, refer to the *Oracle Solaris 10 Installation Guide: Basic Installations*.

## Download the Solaris Operating System

You can download software for the Solaris OS and patches from the following sites:

- To download the Solaris 10 Operating System, go to:

  `http://www.oracle.com/technetwork/server-storage/solaris10/downloads/index.html`

- To download Solaris patches, go to the My Oracle Support web site at:

  `http://support.oracle.com`

CHAPTER 7

# Configuring the Preinstalled Oracle VM Software

This chapter explains the steps for configuring the Oracle VM software that is preinstalled on the server, if ordered.

This chapter includes the following topics:



## Configuration Worksheets

Before you begin configuring the Oracle VM software, use the worksheets in this section to gather the information you will need.

### Oracle VM Server Configuration

Use TABLE 7-2 to collect the information you will need to configure the Oracle VM Server portion of the preinstalled Oracle VM software.

**TABLE 7-1** Worksheet for Oracle VM Server Configuration

| Information for Configuration | | Description or Example | Your Answers |
|---|---|---|---|
| Oracle VM Server passwords | Root | Choose a root password; there are no restrictions on the characters or length. | |
| | Oracle VM agent | Choose an Oracle VM agent password; password must be at least six characters. | |
| Network interface | | Supply the interface to be used to manage the server. | |
| Network configuration | Static IP address | Supply the IP address for the server. A static IP address is required.<br>Example: 172.16.9.1 | |
| | Netmask | If the server is part of a subnet, supply the netmask of the subnet.<br>Example: 255.255.0.0 | |
| | Gateway | If the server is accessed via a gateway, supply the IP address of the gateway. | |
| | DNS server | Supply the IP address for the domain name server (DNS). One (and only one) DNS is required. | |
| Hostname | | Supply the fully qualified domain name for the server.<br>Example: foo.oracle.com | |

# Oracle VM Manager Configuration

The Oracle VM software preinstalled on your server includes optional Oracle Linux VM Manager software.

If you already have an Oracle VM Manager installed on your network, it is not necessary to deploy the Oracle Linux VM Manager, since you can register the new Oracle VM Server to the existing VM Manager. In this case, when the installation script asks `Deploy Oracle VM Manager virtual machine?`, enter **`n`** (no). It is not necessary to fill out the worksheet in TABLE 7-2.

However, if you do not currently have an Oracle VM Manager in your configuration, enter **y** (yes) in response to the question about deploying a VM Manager, and then configure the Oracle VM Manager by responding to the on-screen prompts. Use TABLE 7-2 to collect the information you will need to configure the Oracle VM Manager.

---

**Note –** If you do not install the Oracle VM Manager and you do not already have an existing Oracle VM Manager as part of your configuration, you will be unable to use the Oracle VM Server software.

---

**TABLE 7-2** Worksheet for Oracle VM Manager Configuration

| Information for Configuration | | Description or Example | Your Answers |
|---|---|---|---|
| Oracle VM agent password | | The Oracle VM agent password you entered during configuration of the Oracle VM Server. | |
| Network configuration | Static IP address | Supply the IP address for the server. A static IP address is required.<br>Example: 172.16.9.1 | |
| | Netmask | If the system is part of a subnet, supply the netmask of the subnet.<br>Example: 255.255.0.0 | |
| | Gateway | If the server is accessed via a gateway, supply the IP address of the gateway. | |
| | DNS server | Supply the IP address for the domain name server (DNS). One (and only one) DNS is required. | |
| | Hostname | Supply the fully qualified domain name for the server.<br>Example: foo.oracle.com | |
| Oracle VM Manager passwords | database account | Choose a password for the database account; there are no restrictions on the characters or length. | |
| | OVS | Choose a password for the OVS; there are no restrictions on the characters or length. | |
| | oc4jadmin | Choose a password for oc4jadmin; there are no restrictions on the characters or length. | |

**TABLE 7-2** Worksheet for Oracle VM Manager Configuration *(Continued)*

| Information for Configuration | | Description or Example | Your Answers |
|---|---|---|---|
| | Web Service keystore | Choose a password for Web Service keystore; there are no restrictions on the characters or length. | |
| HTTPS | Enable HTTPS access for Oracle VM Manager? | Do you want the Oracle VM Manager to be accessible from HTTPS? | Yes (Default)<br>No |
| Default admin password | Password for default admin account | Choose a password for the default admin account; there are no restrictions on the characters or length. | |
| SMTP server | Outgoing mail server hostname | Supply hostname of the SMTP server the system should use to send outgoing email. | |
| Email | Email for default admin account | Enter an email address for the default admin account. If you use the Forget Password feature, Oracle VM sends new passwords to this address. | |
| Server pool | | Enter name of server pool; there are no restrictions on the characters or length. | |

# Configuring the Preinstalled Oracle VM Software

After you have completed the configuration worksheets, use the following procedure to configure the preinstalled Oracle VM software.

## ▼ Configure Oracle VM

1. **If you are not already logged in to Oracle ILOM, log in locally from a serial connection or remotely using an Ethernet connection.**

   See "Log In to Oracle ILOM Using a Serial Connection" on page 50 or "Log In to Oracle ILOM Using an Ethernet Connection" on page 51.

2. **If main power has not yet been applied to the server, apply main power.**

   See "Apply Main Power to the Server" on page 57.

3. **From the Oracle ILOM prompt, type the following command and answer the prompt:**

   -> **start /SP/console**

   Are you sure you want to start /SP/console (y/n)? **y**

   Serial console started.

   The GRUB menu (FIGURE 7-1) appears.

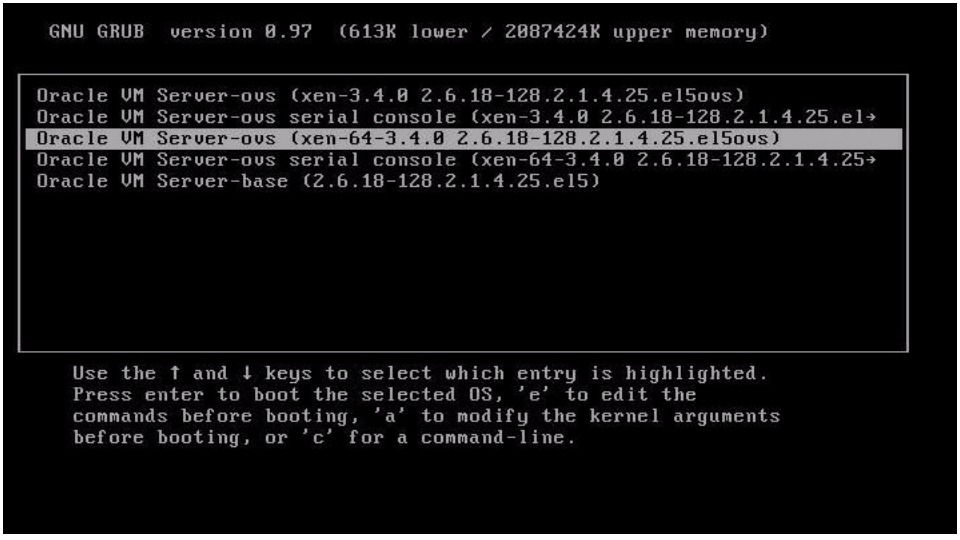
   From the GRUB menu, you can choose whether you want to continue to direct the display to the serial port, or whether you want to direct the display to a device connected to the video port.

---

**Note –** If you do not press a key within five seconds, the GRUB menu disappears from the screen and the display is by default directed to the serial port. To pause at the GRUB menu, press any key other than Enter. Then select the option you want to use and Press Enter to continue.

---

**FIGURE 7-1** GRUB Menu Screen for Preinstalled Oracle VM




4. **Use the up and down arrow keys to select the display option.**

---

**Note –** The first two options and the last option listed on the screen are not supported.

---

- To display output to the video port, select the third option on the list and press Enter:

  ```
  Oracle VM Server - ovs (xen-64-3.4.0 2.6.18-
  128.2.1.4.25.eI5ovs)
  ```

  If you choose this option, you must connect a device to the video connector on the server.

- To display output to the serial port, select the fourth option on the list and press Enter:

  ```
  Oracle VM Server - ovs serial console (xen-64-3.4.0 2.6.18-
  128.2.1.4.25 ->
  ```

  This is the default option. If you do not select an option on the GRUB menu, after five seconds, the GRUB menu is no longer available and the system continues with the output directed to the serial port.

5. **Follow the Oracle VM on-screen prompts to configure the Oracle VM Server portion of the software.**

   Use the information you entered in the Oracle VM Server worksheet in TABLE 7-1 to respond to the prompts.

   After you have configured the Oracle VM Server portion of the software, the following prompt is displayed:

   ```
   Deploy Oracle VM Manager virtual machine?
   ```

6. **Do one of the following:**

   - If you already have an Oracle VM Manager as part of your configuration, enter **n**.

     You can register the new Oracle VM Server to the existing Oracle VM Manager.

   - If you do not currently have an Oracle VM Manager as part of your configuration, enter **y** to install the Oracle VM Manager and then follow the on-screen prompts to configure the Oracle VM Manager.

     Use the information you entered in the Oracle VM Manager worksheet in TABLE 7-2 to respond to the prompts.

---

**Note –** If you do not install the Oracle VM Manager and you do not already have an existing Oracle VM Manager as part of your configuration, you will be unable to use the Oracle VM Server software.

---

After you have responded to all the prompts for system information, the server completes the boot process and displays the Oracle VM login prompt.

# Using Oracle VM

For complete information about using Oracle VM, refer to the Oracle VM documentation available at the following location:

http://www.oracle.com/technetwork/documentation/vm.096300.html

The following information should help you get started:

- Either two or three VMs are installed on the server as part of the preinstalled software configuration process, as follows:
  - Oracle Solaris
  - Oracle Linux
  - Oracle VM Manager (installed only if you selected it during the installation procedure)
- The default root password for the Oracle Linux VM is `ovsroot`. You configure the root password for the Oracle Solaris VM as part of the Oracle Solaris installation procedure.
- The default console password for all three VMs is `oracle`.

If you installed the Oracle VM Manger, it will be booted and running at the end of the configuration process. The other two VMs will be powered off. Before booting those VMs, use Oracle VM Manager to edit the configuration of the VM and select which interface to use. FIGURE 7-2 and FIGURE 7-3 show an example of the Oracle VM Manager screens used to select the interface for a VM.

**FIGURE 7-2** Configuring the Virtual Machine

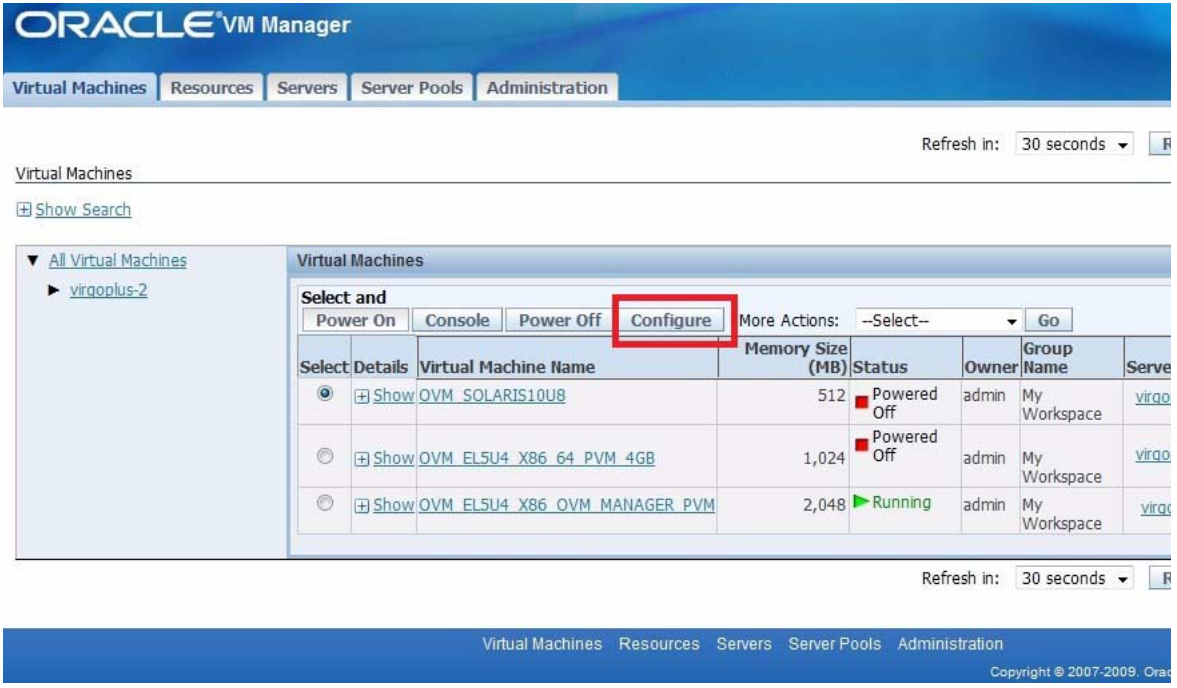
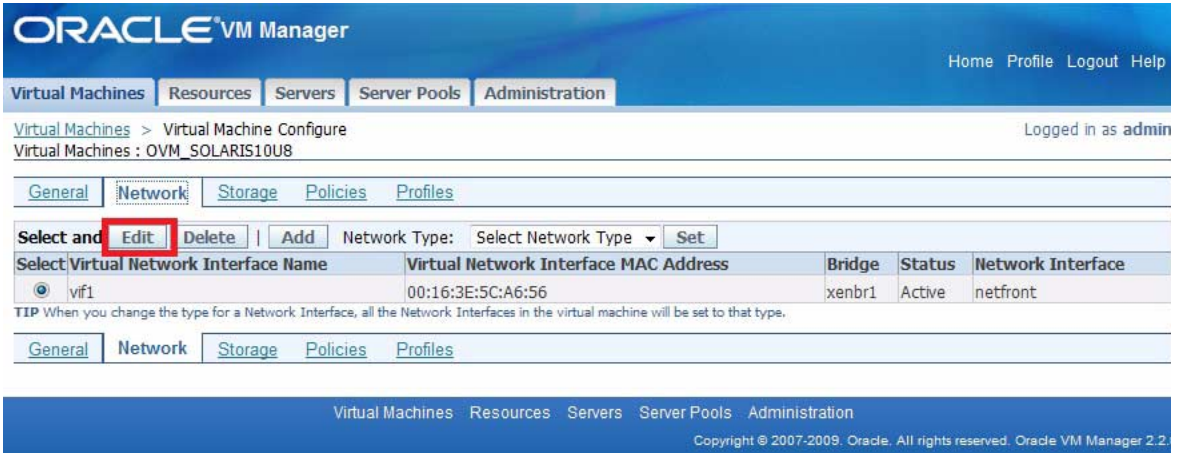



**FIGURE 7-3** Selecting an Interface



CHAPTER 8

# If You Need Help

This chapter describes troubleshooting information and how to troubleshoot server problems. Support contacts are also included.

This chapter includes the following topics:



## Setup Troubleshooting

This section contains information to help you troubleshoot minor server problems.

If you experience problems while setting up your server, refer to the troubleshooting information in TABLE 8-1.

**TABLE 8-1** Troubleshooting Procedures

| Problem | Possible Solution |
|---|---|
| Server powers on, but the monitor does not. | • Is the monitor turned on?<br>• Is the monitor power cord connected to a wall outlet?<br>• Is the monitor power cord connected to the monitor?<br>• Does the wall outlet have power? Test by plugging in another device. |
| CD or DVD does not eject from the media tray when you press the Eject button. | • Move the mouse or press any key on the keyboard. The drive might be in low power mode.<br>• Use the utility software installed on your server to eject the CD.<br>• Ensure that the media in the device is not in use and is not mounted by the operating system. |

**TABLE 8-1** Troubleshooting Procedures *(Continued)*

| Problem | Possible Solution |
|---|---|
| No video is displayed on the monitor screen. | • Is the monitor cable attached to the video connector?<br>• Does the monitor work when connected to another system?<br>• If you have another monitor, does it work when connected to the original system?<br>• If, after POST and BIOS are complete, you no longer see video output on your monitor and see only a flashing cursor, check the configuration of the operating system to determine whether it is configured to redirect its output exclusively over the serial line. |
| Server does not power on when the front panel Power button is pressed. | Keep notes on the following situations in case you need to call for service:<br>• Is the Power/OK LED flashing or constantly illuminated on the front of the system? (Ensure that the power cord is connected to the system and to a grounded power receptacle.)<br>• Does the wall outlet have power? Test by plugging in another device.<br>• Does the monitor sync within five minutes after power on? (The green LED on the monitor stops flashing and remains illuminated.)<br>• Has the system fully booted the Oracle ILOM SP? (Note that the system will block Power button presses until the Oracle ILOM SP is fully booted.) |
| Keyboard or mouse does not respond to actions. | • Verify that the mouse and keyboard cables are connected to the USB 2.0 connectors on the server.<br>• Verify that the server is powered-on and the front Power/OK LED is illuminated. |
| Server appears to be in standby power mode, but the Power/OK LED does not blink. | The Power/OK LED only blinks when all server components are in standby power mode. A tape drive might be connected to your server. Because tape drives do not enter standby power mode, the Power/OK LED does not blink. |
| Hung or frozen server: No response from mouse or keyboard or any application. | Try to access your system from a different server on the network:<br>1. On another system, type: **`ping`** *IP_address_of_server*.<br>2. If a response is returned, then try logging in to the server using either `telnet`, `ssh`, or `rlogin`.<br>3. If you successfully log in, list the running processes using the **`ps`** command.<br>4. Kill any processes that appear unresponsive or should not be running, by using the **`kill`** *process_ID* command.<br>5. Check the responsiveness of the server after each process is killed.<br>If the this procedure does not work, power cycle the server:<br>1. Press the Power/OK button to power off the server and wait 20 to 30 seconds.<br>2. Press the Power/OK button again to power on the system. |

**Note –** For additional troubleshooting information, see the *Sun Fire X4170 M2 Server Service Manual*, the *Sun Fire X4270 M2 Server Service Manual*, and the *Oracle x86 Servers Diagnostics Guide*.

# Locate the Server Serial Number

You might need to have your server's serial number when you ask for service on your system. Record this number for future use. Use one of the following methods to locate your server's serial number:

- See the RFID label that is located on the left side of the server's front panel. This label contains the server's serial number. For an illustration of the server's front panel, see "Server Description" on page 5.
- Locate the yellow Customer Information Sheet (CIS) attached to your server packaging. This sheet includes the serial number.
- From Oracle ILOM, enter the `show /SYS` command or go to the System Information tab in the Oracle ILOM browser interface.

Use TABLE 8-2 to collect information that you might need to communicate to with support personnel.

**TABLE 8-2** System Information Needed for Support

| System Configuration Information Needed | Your Information |
|---|---|
| Service contract number | |
| System model | |
| Operating environment | |
| System serial number | |
| Peripherals attached to the system | |
| Email address and phone number for you and a secondary contact<br>Street address where the system is located | |
| Administrator password | |
| Summary of the problem and the work being done when the problem occurred | |
| Other useful information | |

**TABLE 8-2** System Information Needed for Support *(Continued)*

| System Configuration Information Needed | Your Information |
|---|---|
| IP address | |
| Server name (system host name) | |
| Network or internet domain name | |
| Proxy server configuration | |

# Index

## U