

# Sun Blade X6270 M2 Server Module

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Installation Guide



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# Using This Documentation

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This guide contains procedures for installing Oracle's Sun Blade X6270 M2 Server Module into a Sun Blade 6000 Series chassis. The guide also includes instructions for connecting cables, devices, and power cords; connecting to Oracle Integrated Lights Out Manager (ILOM); powering the server module; and installing or configuring the operating system.

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## Product Information

For information about the Sun Blade X6270 M2 Server Module, go to the following web site:

<http://www.oracle.com/goto/x6270m2>

At that site, you can find links and navigate to the following information and downloads:

- Product information and specifications
- Supported operating systems
- Software and firmware downloads
- Supported option cards
- Supported Network Express Modules
- External storage options

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# Software Downloads

To download the latest product software, go to the following web site:

<http://www.oracle.com/us/products/servers-storage/servers/blades/index.html>

At that site, click the Download Drivers and Firmware link. Navigate to your server page, then select the appropriate firmware image to download.

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# Related Documentation

The documents listed in the following table are available online at:

<http://docs.sun.com/app/docs/prod/blade.x6270m2#hic>

| <b>Title</b>   | <b>Content</b>   | <b>Part Number</b> | <b>Format</b>               |
|--|--|--------------------|-----------------------------|
| <i>Sun Blade X6270 M2 Server Module Product Notes</i>  | Late-breaking information about the server module  | 821-0496           | PDF<br>HTML                 |
| <i>Sun Blade X6270 M2 Server Module Getting Started Guide</i>  | Basic installation information for setting up the server module                                  | 821-0494           | PDF<br>Print                |
| <i>Sun Blade X6270 M2 Server Module Installation Guide</i>   | Detailed installation information for setting up the server module                               | 821-0495           | PDF<br>HTML<br>Print option |
| <i>Sun Blade X6270 M2 Server Module Installation Guide for Linux, Virtual Machine Software, and Oracle Solaris Operating Systems</i> | Installation instructions for the Linux, Oracle VM, VMware, and Oracle Solaris operating systems | 821-0497           | PDF<br>HTML                 |
| <i>Sun Blade X6270 M2 Server Module Installation Guide for Windows Operating Systems</i>   | Installation instructions for the Windows Server operating systems                               | 821-0498           | PDF<br>HTML                 |



| <b>Title</b>  | <b>Content</b>   | <b>Part Number</b>   | <b>Format</b> |
|---|--|--|---------------|
| <i>Sun Installation Assistant 2.3 through 2.4 User's Guide for x64 Systems</i> (The Sun Installation Assistant is now called the Oracle Hardware Installation Assistant.) | Instructions for using the Oracle Hardware Installation Assistant to install the Windows or Linux operating system | 821-0694   | PDF<br>HTML   |
| <i>Sun Blade X6270 M2 Server Module Service Manual</i>  | Information and procedures for maintaining and upgrading the server module   | 821-0499   | PDF<br>HTML   |
| <i>SAS-1/SAS-2 Compatibility Upgrade Guide</i>  | Details on obtaining SAS-1/SAS-2 firmware revisions and performing the upgrade                                     | 821-1800   | PDF<br>HTML   |
| <i>Sun Server CLI Tools and IPMItool 2.0 User's Guide</i>   | Information about how to install, configure, and work with CLI tools and IPMItool                                  | 821-1600   | PDF<br>HTML   |
| <i>Oracle x86 Servers Diagnostics Guide</i>   | Information about how to use the diagnostic software tools provided with x86 servers                               | 820-6750   | PDF<br>HTML   |
| <i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Documentation Collection</i> (formerly called <i>Sun Integrated Lights Out Manager Documentation Collection</i> )      | Documents covering ILOM features and tasks that are common to servers and server modules that support ILOM 3.0     | 820-7329<br>820-5523<br>820-6410<br>820-6411<br>820-6412<br>820-6413 | PDF<br>HTML   |
| <i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for Sun Blade X6270 M2 Server Module</i>  | ILOM information that is specific to the Sun Blade X6270 M2 Server Module  | 821-0501   | PDF<br>HTML   |
| <i>Sun Blade X6270 M2 Server Module Safety and Compliance Manual</i>  | Hardware safety and compliance information for the server module   | 821-0500   | PDF           |
| <i>Important Safety Information for Sun Hardware Systems</i>  | Multilingual hardware safety and compliance information for all Sun hardware systems                               | 821-1590   | Print         |

Translated versions of some of these documents are available at the web site listed above this table. English documentation is revised more frequently and might be more up-to-date than the translated documentation.

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# Documentation, Support, and Training

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| Function      | URL   |
|---------------|---|
| Documentation | <a href="http://docs.sun.com">http://docs.sun.com</a>                   |
| Support       | <a href="http://www.sun.com/support/">http://www.sun.com/support/</a>   |
| Training      | <a href="http://www.sun.com/training/">http://www.sun.com/training/</a> |

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# Typographic Conventions

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| Typeface*        | Meaning  | Examples   |
|------------------|--|--|
| AaBbCc123        | The names of commands, files, and directories; on-screen computer output   | Edit your <code>.login</code> file.<br>Use <code>ls -a</code> to list all files.<br>% You have mail.   |
| <b>AaBbCc123</b> | What you type, when contrasted with on-screen computer output  | % <b>su</b><br>Password:   |
| <i>AaBbCc123</i> | Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values. | Read Chapter 6 in the <i>User's Guide</i> .<br>These are called <i>class</i> options.<br>You <i>must</i> be superuser to do this.<br>To delete a file, type <code>rm filename</code> . |

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\* The settings on your browser might differ from these settings.

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# Documentation Comments

You can submit comments about this document by clicking the Feedback[+] link at:

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Please include the title and part number of your document with your feedback:

*Sun Blade X6270 M2 Server Module Installation Guide, 821-0495-13*

# Preparing to Install the Sun Blade X6270 M2 Server Module

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This chapter contains the following topics:

- [“About Your Server Module Shipment” on page 1](#)
  - [“Server Module Specifications” on page 4](#)
  - [“Server Module Installation Task Checklist” on page 6](#)
  - [“Commonly Used Terms” on page 8](#)
- 

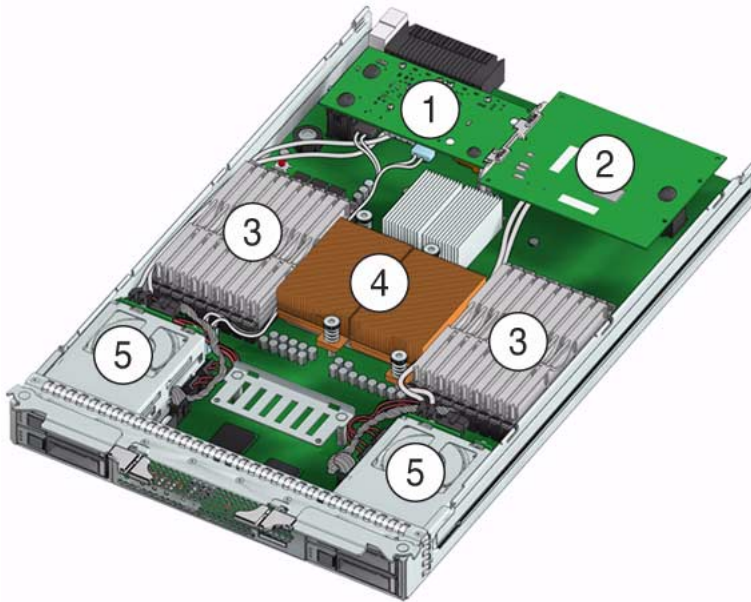
## About Your Server Module Shipment

Standard configurations for Oracle’s Sun Blade X6270 M2 Server Module are assembled at the factory and shipped ready for installation in a Sun Blade 6000 Series chassis. Optional server module components that you purchase independent of the standard configuration are shipped separately and, in most cases, should be installed prior to installing the server module into the chassis.

## Locations of Server Module Optional Components

**FIGURE 1-1** shows the locations of the Sun Blade X6270 M2 Server Module optional components that are documented in this chapter.

**FIGURE 1-1** Sun Blade X6270 M2 Server Module Option Locations



**Figure Legend** Server Module Optional Components

- 
- 1 Fabric Expansion Module (FEM) (optional component)  
**Note** - Inset shows motherboard-facing connections and replaceable components.
  - 2 Raid Expansion Module (REM) (optional component)
  - 3 DIMMs (optional components)  
**Note** - The DIMMs in [FIGURE 1-1](#) are shown populated with filler panels.
  - 4 CPUs with heatsinks (up to two CPUs can be installed)
  - 5 Storage devices (hard disk drives or solid state drives)
- 

A summary of the standard and optional components available for the Sun Blade X6270 M2 Server Module follows in [TABLE 1-1](#).

**TABLE 1-1** Sun Blade X6270 M2 Server Module Components

| X6270 M2 Server Module                     | Description   |
|--|---|
| Standard Server Components                 | <p>The following standard components are shipped on the Sun Blade X6270 M2 Server Module:</p> <ul style="list-style-type: none"><li>• Service Processor (SP) – One SP per server. SP provides remote keyboard, mouse, and video functionality, IPMI baseboard management controller (BMC) functionality, and interfaces to the chassis monitoring module (CMM). The SPs and CMM work together to form a complete server module and chassis management system.</li><li>• Indicators and Buttons – The Sun Blade X6270 M2 Server Module includes standard service indicator LEDs and buttons.</li><li>• Flexible I/O Network Connectivity – Supported I/O network connectivity can include these optional components: fabric expansion module, chassis network express modules, and chassis PCI express modules.</li><li>• Front Panel I/O Device Connection – The Sun Blade X6270 M2 Server Module front panel provides a universal connection port for attaching devices directly to the server using a dongle cable.</li></ul> |
| Preinstalled CPU and Memory Configurations | <p>Servers are typically ordered and shipped with preinstalled memory and CPU configurations. The preinstalled memory and CPU assemblies offered (and shipped) for the Sun Blade X6270 M2 Server Module include:</p> <ul style="list-style-type: none"><li>• 1 Intel Xeon Six-Core X5680, 3.33GHz, 12MB Cache, 6.40 GT/s QPI, HT, Turbo Boost, 130W with Heatsink</li><li>• 1 Intel Xeon Six-Core X5670, 2.93GHz, 12MB Cache, 6.40 GT/s QPI, HT, Turbo Boost, 95W with Heatsink</li><li>• 1 Intel Xeon Four-Core E5620, 2.40GHz, 12MB Cache, 5.86 GT/s QPI, HT, Turbo Boost, 80W with Heatsink</li></ul>  |
| Optional Components                        | <p>The following optional server module components can be ordered and shipped separately:</p> <ul style="list-style-type: none"><li>• CPU assembly options</li><li>• DDR3 memory kits</li><li>• SATA and SAS storage drives</li><li>• Dongle cable option</li><li>• Fabric Expansion Module (FEM) options</li><li>• RAID Expansion Module (REM) options</li><li>• Operating system software</li><li>• Printed documentation - <i>Sun Blade X6270 M2 Server Module Installation Guide</i> (821-0495)</li></ul> <p><b>Note</b> - Server components and their part numbers are subject to change over time. For the most up-to-date list of replaceable components for servers, go to the following URL:<br/><a href="http://oracle.com/goto/blades">http://oracle.com/goto/blades</a></p>   |

**TABLE 1-1** Sun Blade X6270 M2 Server Module Components (*Continued*)

| <b>X6270 M2 Server Module</b> | <b>Description</b>  |
|-------------------------------|---|
| Supported Operating Systems   | <p>The following operating systems are supported on the Sun Blade X6270 M2 Server Module.</p> <ul style="list-style-type: none"><li>• Oracle Enterprise Linux 5.4 (64-bit)</li><li>• Oracle VM 2.2.1</li><li>• Oracle Solaris 10 10/09 and later</li><li>• Microsoft Windows Server 2008 SP2 Datacenter (64-bit) with Hyper-V</li><li>• Microsoft Windows Server 2008 SP2 Enterprise (64-bit) with Hyper-V</li><li>• Microsoft Windows Server 2008 SP2 Standard (64-bit) with Hyper-V</li><li>• Microsoft Windows Server 2008 R2 Datacenter (64-bit) with Hyper-V</li><li>• Microsoft Windows Server 2008 R2 Enterprise (64-bit) with Hyper-V</li><li>• Microsoft Windows Server 2008 R2 Standard (64-bit) with Hyper-V</li><li>• Red Hat Enterprise Linux (RHEL) 5.4 (64-bit)</li><li>• SUSE Linux Enterprise Server (SLES) 10 SP3 (64-bit)</li><li>• SUSE Linux Enterprise Server (SLES) 11 (64-bit)</li><li>• VMware ESX and ESXi 4.0 Update 1</li></ul> |

## Server Module Specifications

### Physical Specifications

The Sun Blade X6270 M2 Server Module is 12.9 x 20.1 x 1.7 inches in a 1U form factor. The server module is designed to be installed in a Sun Blade 6000 Modular System chassis. For additional specifications regarding the Sun Blade 6000 Modular System, refer to the chassis documentation.

[TABLE 1-2](#) gives the physical specifications for the Sun Blade X6270 M2 Server Module.

**TABLE 1-2** Sun Blade X6270 M2 Server Module Physical Specifications

|        | <b>English</b> | <b>Metric</b> |
|--------|----------------|---------------|
| Height | 12.87 inches   | 327 mm        |

**TABLE 1-2** Sun Blade X6270 M2 Server Module Physical Specifications

|        | English      | Metric  |
|--------|--------------|---------|
| Width  | 1.7 inches   | 44 mm   |
| Depth  | 20.16 inches | 512 mm  |
| Weight | 17 pounds    | 7.71 kg |

## Electrical Specifications

The Sun Blade X6270 M2 Server Module connects to a Sun Blade Modular System, or *chassis*, which provides 12V main power to each server module, as well as cooling through fans. In addition to the 12V main power, the chassis provides 3.3V AUX power to each server module to power the local FRU ID EEPROM. This 3.3V AUX power enables the chassis monitoring module (CMM) to query each server module slot prior to 12V main power and 12V fan power application to validate that there is sufficient power and cooling to support the server modules installed in the chassis.

## Environmental Requirements

[TABLE 1-3](#) gives the environmental requirements for the Sun Blade X6270 M2 Server Module.

**TABLE 1-3** Sun Blade X6270 M2 Server Module Environmental Requirements

| Condition                | Requirement                                    |
|--------------------------|--|
| Operating temperature    | 5 °C to 35 °C noncondensing                    |
| Nonoperating temperature | -40 °C to 65 °C                                |
| Operating humidity       | 10% to 90% noncondensing (27 °C max. wet bulb) |
| Nonoperating humidity    | 93% noncondensing (38 °C max. wet bulb)        |
| Operating altitude       | 3048 meters at 35 °C                           |
| Nonoperating altitude    | 12,000 meters                                  |

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# Server Module Installation Task Checklist

TABLE 1-4 summarizes an ordered list of tasks that you must perform to properly install the server module into a Sun Blade 6000 Series Modular System.

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**Note** – If the Sun Blade X6270 M2 Server Module is inserted into a Sun Blade 6000 Modular System chassis that has SAS-1 Network Express Modules (NEMs), or SAS-1 NEMs and a Sun Blade 6000 Disk Module, the server module’s SAS-2 REM might hang. To prevent this problem, you need to upgrade the firmware of your SAS-1 components (SAS-NEMs and disk modules) to a firmware version that supports SAS-1/SAS-2 coexistence. This upgrade must be done before you insert the Sun Blade X6270 M2 Server Module into the chassis. At a minimum, all SAS expanders for SAS-1 NEMs and Sun Blade 6000 Disk Modules must be upgraded to firmware revision 5.04.03 to allow SAS-1/SAS-2 device coexistence in the Sun Blade 6000 Modular System chassis. See the *SAS-1/SAS-2 Compatibility Upgrade Guide* (821-1800) for details on obtaining the firmware and performing the upgrade.

---

TABLE 1-4 Installation Task Checklist

| Step | Task Description   | For Instructions, See:   |
|------|--|--|
| 1    | Unpack the Sun Blade X6270 M2 Server Module and any optional components ordered for the server from the shipping containers. | <ul style="list-style-type: none"><li>• <a href="#">Chapter 1 “About Your Server Module Shipment” on page 1</a></li></ul>                                |
| 2    | Install the server module into a powered-on Sun Blade 6000 Series chassis.   | <ul style="list-style-type: none"><li>• <a href="#">Chapter 2 “Installing and Applying Standby Power to the Server Module” on page 9</a></li></ul>       |
| 3    | Verify the power state of the server module.   | <ul style="list-style-type: none"><li>• <a href="#">Chapter 2 “Installing and Applying Standby Power to the Server Module” on page 9</a></li></ul>       |
| 4    | Connect to ILOM and apply main power to the server module.   | <ul style="list-style-type: none"><li>• <a href="#">Chapter 3 “Connecting to ILOM and Applying Main Power to the Server Module” on page 17</a></li></ul> |
| 5    | Get information about supported operating systems and available preinstalled operating systems.                              | <ul style="list-style-type: none"><li>• <a href="#">Chapter 4 “Installing or Configuring the Operating System” on page 29</a></li></ul>                  |



**TABLE 1-4** Installation Task Checklist (Continued)

| Step | Task Description  | For Instructions, See:   |
|------|---|--|
| 6    | If applicable, configure the factory-installed Oracle Solaris Operating System image shipped on the SAS or SATA storage drive.  | <ul style="list-style-type: none"> <li>• <a href="#">Chapter 5 “Configuring the Preinstalled Solaris 10 Operating System” on page 33</a></li> </ul>  |
| 7    | <p>If applicable, install one of the following operating systems:</p> <ul style="list-style-type: none"> <li>• Oracle Enterprise Linux (OEL) 5.4 and 5.5 (64-bit)</li> <li>• SUSE Linux Enterprise Server (SLES) 10 SP3 (64-bit)</li> <li>• SUSE Linux Enterprise Server (SLES) 11 (64-bit) and SLES 11 SP1</li> <li>• Red Hat Enterprise Linux Server (RHEL) 5.4 and 5.5 (64-bit)</li> <li>• Oracle Solaris 10 10/09 and later</li> <li>• Oracle VM 2.2.1</li> <li>• VMware ESX and ESXi 4.0 Update 1</li> <li>• VMware ESX and ESXi 4.1</li> <li>• Microsoft Windows Server 2008 SP2 Datacenter (64-bit) with Hyper-V</li> <li>• Microsoft Windows Server 2008 SP2 Enterprise (64-bit) with Hyper-V</li> <li>• Microsoft Windows Server 2008 SP2 Standard (64-bit) with Hyper-V</li> <li>• Microsoft Windows Server 2008 R2 Datacenter (64-bit) with Hyper-V</li> <li>• Microsoft Windows Server 2008 R2 Enterprise (64-bit) with Hyper-V</li> <li>• Microsoft Windows Server 2008 R2 Standard (64-bit) with Hyper-V</li> </ul> | <ul style="list-style-type: none"> <li>• <i>Sun Blade X6270 M2 Server Module Installation Guide for Linux, Virtual Machine Software, and Oracle Solaris Operating Systems</i> (821-0497)</li> <li>• <i>Sun Blade X6270 M2 Server Module Installation Guide for Windows Operating Systems</i> (821-0498)</li> </ul> |

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# Commonly Used Terms

The following table identifies some of the terms commonly used in this guide to describe the installation process of a server module in a Sun Blade 6000 Series chassis.

**TABLE 1-5** Commonly Used Terms

| Term          | Definition  |
|---------------|---|
| Server Module | Blade server hardware.  |
| Chassis       | Sun Blade 6000 Modular System hardware.<br>For additional information about these chassis systems, see the documentation for Sun Blade 6000 Series chassis at:<br><a href="http://docs.sun.com/app/docs/prod/blade.srvr#hic">http://docs.sun.com/app/docs/prod/blade.srvr#hic</a>   |
| CMM           | Chassis monitoring module (CMM) hardware.   |
| SP            | Embedded service processor (SP) on server module and CMM.   |
| ILOM          | Oracle Integrated Lights Out Manager (ILOM) is the embedded management software on the server module SP and CMM SP that enables you to manage your system.<br>For additional information about ILOM, refer to the <i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Documentation Collection</i> (formerly called <i>Sun Integrated Lights Out Manager Documentation Collection</i> ) at:<br><a href="http://docs.sun.com/app/docs/prod/int.lights.mgr30#hic">http://docs.sun.com/app/docs/prod/int.lights.mgr30#hic</a> |

# Installing and Applying Standby Power to the Server Module

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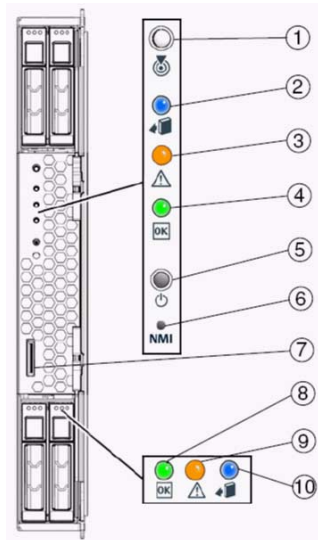
This chapter contains the following topics:

- “Server Module Front Panel Indicators, Buttons, and Port” on page 10
- “Installing the Server Module Into the Chassis” on page 11
- “Applying Standby Power to the Server Module” on page 14
- “Attaching Devices to the Server Using a Dongle Cable” on page 15

# Server Module Front Panel Indicators, Buttons, and Port

The Sun Blade X6270 M2 Server Module provides standard indicators and buttons, and a Universal Connector Port on its front panel. See [FIGURE 2-1](#) for the locations of LEDs, buttons, and port.

**FIGURE 2-1**



**Figure Legend** Server Module LEDs, Buttons, and Port

- 
- 1 Server Module Locate LED – White
  - 2 Server Module Ready to Remove LED – Blue
  - 3 Server Module Service Action Required LED – Amber
  - 4 Server Module OK/Power LED – Green (blinking or solid state)
  - 5 Server Module Power button/reset
  - 6 Non-Maskable Interrupt (NMI) button (Service only)
  - 7 Universal Connector Port (UCP), used for dongle cable
  - 8 HDD OK/Power LED – Green
  - 9 HDD Service Action Required LED – Amber
  - 10 HDD Ready to Remove LED – Blue
-

---

# Installing the Server Module Into the Chassis

Consult the following sections when installing a server module into a powered on chassis:

- “Before You Begin” on page 11
- “Install Server Module Into a Powered-On Chassis” on page 12

## Before You Begin

Prior to installing the server module into a powered-on chassis, ensure that the following requirements are met.

- Ensure that the following chassis components are installed and powered-on in the Sun Blade 6000 Series chassis.
  - Chassis monitoring module (CMM)
  - Network express modules (NEMs)
  - All required cabling to the chassis are attached.
  - The system chassis is powered-on.

For information about installing chassis components, attaching cables, and powering on the chassis, see the Sun Blade 6000 Series chassis documentation at: <http://docs.sun.com/app/docs/prod/blade.srvr#hic>

- Review the required installation tasks for properly installing and setting up the Sun Blade X6270 M2 Server Module in the Sun Blade 6000 Series chassis documentation. For more information, see [TABLE 1-4](#).

---

**Note** – If the Sun Blade X6270 M2 Server Module is inserted into a Sun Blade 6000 Modular System chassis that has SAS-1 Network Express Modules (NEMs), or SAS-1 NEMs and a Sun Blade 6000 Disk Module, the server module’s SAS-2 REM might hang. To prevent this problem, you need to upgrade the firmware of your SAS-1 components (SAS NEMs and disk modules) to a firmware version that supports SAS-1/SAS-2 coexistence. This upgrade must be done before you insert the Sun Blade X6270 M2 Server Module into the chassis. At a minimum, all SAS expanders for SAS-1 NEMs and Sun Blade 6000 Disk Modules must be upgraded to firmware revision 5.04.03 to allow SAS-1/SAS-2 device coexistence in the Sun Blade 6000 Modular System chassis. See the *SAS-1/SAS-2 Compatibility Upgrade Guide* (821-1800) for details on obtaining the firmware and performing the upgrade.

---

- If applicable, install the following optional server module components prior to installing the server module into the system chassis:

- FEM, REM, DIMMs, and CPU

For instructions, see the *Sun Blade X6270 M2 Server Module Service Manual* (821-0499).

- Use a grounded antistatic wrist strap or equivalent safety equipment to prevent electrostatic discharge (ESD) when you install the Sun Blade server module into the system chassis.



---

**Caution** – To protect electronic components from electrostatic damage, which can permanently disable the system or require repair by 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.

---

## ▼ Install Server Module Into a Powered-On Chassis

### 1. Verify that the Sun Blade 6000 Series chassis is powered-on.

When the chassis is powered-on, the fans are operating and the OK/Power LED illuminates a steady-on green light. The OK/Power LED is located on both the front and rear panels of the chassis. If the chassis is not powered-on, refer to the system chassis documentation.

### 2. In the front of the chassis, locate and remove the desired server module filler panel.

Pull the lever out and eject the filler panel.



---

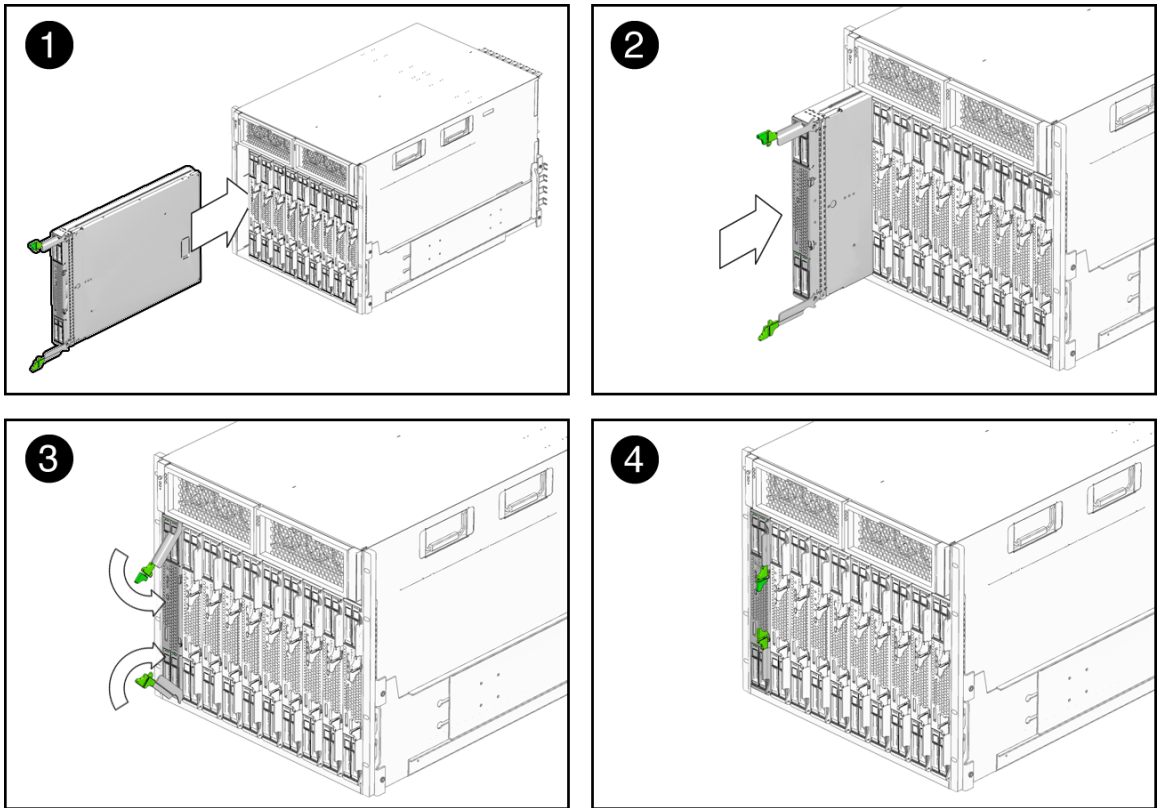
**Caution** – If you are not installing a server module into a slot, do not remove the server module filler panel from the slot. The server module filler panel is required to meet FCC standards for electromagnetic interference (EMI).

---

### 3. Position the server module vertically so that the ejectors are on the right and extend outward.

The following illustrations show the server module being inserted into the Sun Blade 6000 Modular System. See box 1 in [FIGURE 2-2](#).

**FIGURE 2-2** Inserting the Server Module Into the Chassis



- 4. Push the server module into the slot until the server module stops and is flush with the chassis.**

See Boxes 2 and 3 in [FIGURE 2-2](#).

- 5. To lock the server module into the chassis, do the following:**

- Rotate the top ejector down until it snaps into place. See Box 3 in [FIGURE 2-2](#).
- Rotate the bottom ejector up until it snaps into place. See Box 3 in [FIGURE 2-2](#).

The server module is locked in the chassis (Box 4 in [FIGURE 2-2](#)) and standby power is applied to the server module SP.

---

**Note** – The server SP can take several minutes to boot. As the server SP is booting, the server module’s OK/Power LED illuminates a slow blink (0.5 second on, 0.5 second off). After the server SP boots, the OK/Power LED illuminates a standby blink (0.1 second on, 2.9 seconds off). The standby blink state indicates that the server SP is active and the server module host (BIOS) is powered off.

---

## Applying Standby Power to the Server Module

After installing a server module into a powered-on chassis (the chassis OK/Power LED illuminates a steady-on green light), the server module SP automatically boots and standby power from the chassis power supplies is supplied directly to the server module SP. To verify that the server module is in standby mode, refer to [“Verify Standby Power State on Server” on page 2-14](#).

In standby power mode, main power is not yet applied to the server module. However, you can connect to the Oracle Integrated Lights Out Manager (ILOM). For information about connecting to ILOM and applying main power to the server module, see [“Connecting to ILOM and Applying Main Power to the Server Module” on page 17](#).

### ▼ Verify Standby Power State on Server

**1. Verify that the system chassis is powered-on.**

A steady-on green light should be visible from the chassis OK/Power LED.

If the chassis is not powered on, refer to the system chassis documentation for instructions on powering on the system chassis.

**2. Ensure that the OK/Power LED on the server module illuminates a standby blink.**

The OK/Power LED on the server module front panel illuminates a standby blink (0.1 second on, 2.9 seconds off). The standby blink indicates that the server module SP is active but the server module host is powered off.



---

**Note** – The server module OK/Power LED will be set to standby blink only when there is enough chassis power for the server module to power on. If there is not enough chassis power, the OK/Power LED will remain off until there is enough power for the server module to power on. To troubleshoot this issue, see [“Troubleshoot Server Power States” on page 27](#).

---

---

## Attaching Devices to the Server Using a Dongle Cable

Your system chassis is shipped with the following dongle cable that enables you to connect communication devices directly to the Sun Blade X6270 M2 Server Module:

- 3-Cable Dongle II (P/N 530-3936 Option #4622A). This cable provides a VGA connector, RJ-45 serial connector, and one dual USB connector.

---

**Note** – The 3-Cable Dongle II is typically provided with each Sun Blade 6000 Series chassis. Additional cables can be ordered.

---

You can use the VGA or USB connectors on the dongle cable to communicate with the server module BIOS and operating system. Or, you can use the serial connector to communicate with the server module SP.

---

**Note** – Direct management of an individual server module is through the embedded server module SP and the Oracle Integrated Lights Out Manager (ILOM). Access to the server module SP is made through the serial port or the chassis monitoring module (CMM) management network. For more information about server-level management or chassis-level management in ILOM, see the system chassis documentation or the *Oracle Integrated Lights Out Manager (ILOM) 3.0 Documentation Collection*.

---



---

**Caution** – You should use the dongle cable for configuration and service purposes. Disconnect the dongle cable from the server module after the configuration or service operation is complete to avoid damaging the cable.

---

## ▼ Attach Devices to Server Using the 3-Cable Dongle

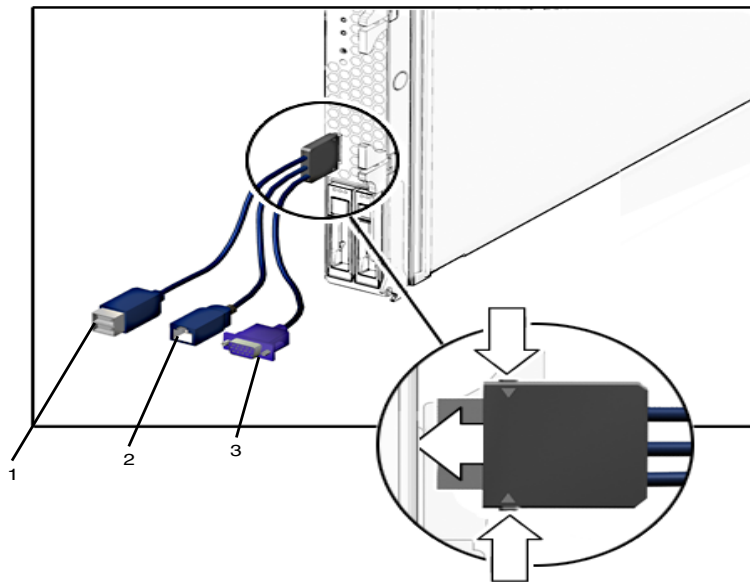
1. Insert the dongle cable into the universal connector port (UCP) on the server module front panel.

See [FIGURE 2-3](#).

2. Attach the connectors on the dongle cable to the appropriate devices.

See [FIGURE 2-3](#).

**FIGURE 2-3** Dongle Cable Connections



**Figure Legend** Dongle Cable Connectors

- 
- |   |                             |
|---|-----------------------------|
| 1 | Dual USB 2.0 connectors     |
| 2 | RJ-45 serial port connector |
| 3 | VGA video connector         |
-

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

---

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

This chapter contains the following topics:

- [“Connecting to ILOM” on page 17](#)
- [“Applying Main Power to the Server Module” on page 26](#)

---

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

---

---

## Connecting to ILOM

This section describes how to connect to ILOM. It contains the following sections:

- [“Network Defaults” on page 18](#)
- [“Log In to ILOM Using a Serial Connection” on page 18](#)
- [“Log In to ILOM Using an Ethernet Connection” on page 19](#)
- [“Modify Network Settings” on page 20](#)
- [“Test IPv4 or IPv6 Network Configuration” on page 25](#)
- [“Exit ILOM” on page 3-26](#)

# Network Defaults

The Sun Blade X6270 M2 Server Module supports dual-stack IPv4 and IPv6 settings, which enable 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 module. 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 or IPv6 router, use the network tools provided with your 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 ILOM locally and remotely. To connect locally, see [“Log In to ILOM Using a Serial Connection” on page 18](#). To connect remotely, use the IP address, hostname, or IPv6 local link name assigned to the CMM or server module SP and follow the instructions in [“Log In to ILOM Using an Ethernet Connection” on page 19](#).

## ▼ Log In to ILOM Using a Serial Connection

This procedure does not require that you know the IP address of the CMM or server module SP. It does require that you have an ILOM Administrator account.

---

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

---

1. **Connect a serial device to the server module or CMM.**
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 ILOM.**

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

```
SUNSP-<product serial number> login: root
```

```
Password: changeme
```

The ILOM CLI prompt (->) appears.

5. If you are logged in to ILOM on the CMM, navigate to the server module by typing:

```
-> cd /CH/BLn/SP
```

Where BLn represents the slot in which the server module is installed in the chassis.

## ▼ Log In to ILOM Using an Ethernet Connection

This procedure requires that you have an ILOM Administrator account and that you know the IP address, hostname, or IPv6 local link name assigned to the CMM or the server module SP.

---

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

---

1. Using a secure shell (SSH) session, log in to ILOM by specifying your Administrator account user name and the IP address, hostname, or IPv6 local link name of the CMM or server module SP.

For example:

```
ssh username@host
```

or

```
ssh -l username host
```

Where *host* is either an IPv4 or IPv6 address, an IPv6 local link name, or a DNS hostname. Be sure to enclose an IPv6 address in brackets. For example:  
[fec0:a:8:b7:214:rfff:fe01:851d]

The ILOM password prompt appears.

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

For example:

```
$ssh root@host
```

Password: **changeme**

The ILOM CLI prompt (->) appears.

**3. If you are logged in to ILOM on the CMM, start a separate CLI session on the server module by typing this command:**

```
-> start /CH/BLn/SP/cli
```

Where *BLn* represents the slot in which the server module is installed in the chassis.

## ▼ Modify Network Settings

If you want to modify the network settings currently configured for the server module, 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 Blade X6270 M2 Server Module Service Manual* (821-0499).

---

**1. Log in to ILOM using one of the methods in “Log In to ILOM Using a Serial Connection” on page 18 or “Log In to ILOM Using an Ethernet Connection” on page 19.**

---

**Note** – If you log in to 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](#) in this procedure.
- To view or configure IPv6 network settings, perform [Step 5](#) to [Step 8](#) in this procedure.
- To test the IPv4 or IPv6 network settings, see “[Test IPv4 or IPv6 Network Configuration](#)” on page 25.

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 `show` command to view the IPv4 network settings assigned to the server module by the DHCP server.
- If there is no DHCP server, or if you want to assign static IPv4 network settings, use the `set` command to assign values for the properties listed in the following table. For example:

```
->set pendingipdiscovery=static
->set pendingipaddress=10.8.183.106
->set pendingipnetmask=255.255.255.0
->set pendingipgateway=10.8.183.254
->set commitpending=true
```

| Property   | Set Property Value  | Description  |
|--|---|--|
| state  | set state=enabled   | The network state is enabled by default for IPv4.<br><b>Note</b> - To enable the static IPv4 network option the state must be set to enabled.  |
| pendingipdiscovery                                       | set pendingipdiscovery=static   | To enable a static IPv4 network configuration, you need to set the <code>pendingipdiscovery</code> property value to <code>static</code> .<br><b>Note</b> - The property value for <code>ipdiscovery</code> is set to <code>dhcp</code> by default for IPv4. |
| pendingipaddress<br>pendingipnetmask<br>pendingipgateway | set pendingipaddress=<br><ip_address> pendingipnetmask=<br><netmask> pendingipgateway=<br><gateway> | To assign multiple static network settings, type the <code>set</code> command followed by the <code>pending</code> 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 <code>set commitpending=true</code> to commit changes.  |

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   |
|-------------------------|---|---|
| <code>state</code>      | <code>set state=enabled</code>            | The IPv6 network state is enabled by default. To enable an IPv6 auto-configuration option this <code>state</code> must be set to <code>enabled</code> .   |
| <code>autoconfig</code> | <code>set autoconfig=&lt;value&gt;</code> | Specify this command followed by the <code>autoconf</code> value you want to set.<br>Options include: <ul style="list-style-type: none"><li>• <code>stateless</code> (default setting)<br/>Automatically assigns IP address learned from IPv6 network router.</li><li>• <code>dhcpv6_stateless</code><br/>Automatically assigns DNS information learned from the DHCP server.<br/>The <code>dhcpv6_stateless</code> property value is available in ILOM as of 3.0.14.</li><li>• <code>dhcpv6_stateful</code><br/>Automatically assigns the IPv6 address learned from the DHCPv6 server.<br/>The <code>dhcpv6_stateful</code> property value is available in ILOM as of 3.0.14.</li><li>• <code>disable</code><br/>Disables all auto-configuration property values and sets the read-only property value for link local address.</li></ul> |

---

**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 values:

| Property         | Set Property Value  | Description  |
|------------------|---|--|
| state            | set state= <i>enabled</i>   | The IPv6 network state is enabled by default. To enable a static IP address this state must be set to <i>enabled</i> .   |
| pendingipaddress | set<br>pending_static_ipaddress=<br><ip6_address>/<subnet mask length<br>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:<br>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 (SP or CMM) will end all active ILOM sessions to the device. To log back in to ILOM, you will need to create a new session using the newly assigned IP address.

---

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

For details, see [“Test IPv4 or IPv6 Network Configuration”](#) on page 25.

## ▼ Test IPv4 or IPv6 Network Configuration

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

For example, see the following output that shows the test target properties on a CMM device.

```
-> show

/CMM/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 <code>set ping=</code> 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 <code>set ping6=</code> command followed by the IPv6 test destination address.<br>For example:<br>-> set ping6=fe80::211:5dff:febe:5000<br>Ping of fe80::211:5dff:febe:5000 succeeded |

## ▼ Exit ILOM

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

If you are logged in to the CMM, you must exit the ILOM session on the server module first, and then type `exit` again to end the ILOM session on the CMM.

---

# Applying Main Power to the Server Module

To install an operating system or to fully operate the server module, you must apply main power to the server module host.

This section includes the following topics:

- [“Apply Main Power to Server SP and Host” on page 26](#)
- [“Power Off From Main Power” on page 27](#)
- [“Troubleshoot Server Power States” on page 27](#)

## ▼ Apply Main Power to Server SP and Host

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

In standby power state, the OK/Power LED on the front panel of the server module illuminates a standby blink (0.1 second on, 2.9 seconds off).

---

**Note** – The server power state will not be set to standby if the CMM in the chassis is not present or accessible to the server SP. The OK/Power LED on the server will remain off. In this situation, you should proceed by powering on the server as instructed below.

---

2. **Press and release the recessed Power button on the server module front panel.**

The OK/Power LED transitions from standby blink to slow blink while the host OS boots. When the host OS is booted, the LED transitions to a steady-on state.

## ▼ Power Off From Main Power

- **To power off the server module from main power mode, use one of the following two methods:**
  - **Graceful shutdown** – Press and release the Power button on the front panel. This operation will cause any Advanced Configuration and Power Interface (ACPI) enabled operating system to perform an orderly shutdown of the operating system. Servers not running ACPI-enabled operating systems will shut down to standby power mode immediately.
  - **Emergency shutdown** – Press and hold the Power button for five seconds to force main power off and to enter standby power mode.

## ▼ Troubleshoot Server Power States

Each time a server module powers on in the Sun Blade 6000 Series chassis, it queries the CMM to ensure that there is enough power available from the power supply units (PSUs) to power on the server module. If there is not enough power to power on the server module, the SP denies the server module from receiving power (standby and main). If this situation occurs, the OK/Power LED on the front panel of the server module will remain off. To troubleshoot this power issue, follow these guidelines:

1. Review the ILOM event log messages to determine whether the server module has permission to power on. An event message is recorded in the log any time there is inadequate amount of power available from the PSUs to power on the server module.

For more information about the ILOM event log or monitoring power consumption, refer to the *Oracle Integrated Lights Out Manager (ILOM) 3.0 Documentation Collection* (see [“Related Documentation” on page viii](#) for part numbers).

2. Ensure that the system chassis has the proper amount of power supplies installed to support powering on all the chassis components that are currently installed.

Refer to the system chassis documentation for information about the number of power supplies required to power on chassis components.

3. To avoid power loss, it is recommended that you use the *default* CMM power management settings in ILOM for power supplies.

For more information about power management, refer to the information about power management policy in the *Oracle Integrated Lights Out Management (ILOM) 3.0 Concepts Guide* (820-6410).

---

**Note** – When power-on permissions become available, the OK/Power LED on the front panel of the server module will illuminate a standby blink.

---

4. As needed, refer to the *Oracle x86 Server Diagnostics Guide* (820-6750) for instructions on how to run the start-up diagnostic tools provided with the Sun Blade X6270 M2 Server Module.

# Installing or Configuring the Operating System

---

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

This chapter includes the following topics:

- “Installing an Operating System” on page 29
- “Configuring a Preinstalled Operating System” on page 31

---

## Installing an Operating System

TABLE 4-1 lists the operating systems supported on the Sun Blade X6270 M2 Server Module at the time of publication of this document, along with information about where to get instructions for installing each operating system.

---

**Note** – For an up-to-date list of the operating systems supported on the Sun Blade X6270 M2 Server Module, go to the following web site and navigate to the appropriate page:

<http://www.oracle.com/goto/x6270m2>

---

**TABLE 4-1** Supported Operating Systems

| <b>Operating System</b>  | <b>Supported Version</b>   | <b>For Installation Information, See:</b>   |
|--------------------------|--|---|
| Windows                  | <ul style="list-style-type: none"><li>• Microsoft Windows Server 2008 SP2 Datacenter (64-bit) with Hyper-V</li><li>• Microsoft Windows Server 2008 SP2 Enterprise (64-bit) with Hyper-V</li><li>• Microsoft Windows Server 2008 SP2 Standard (64-bit) with Hyper-V</li><li>• Microsoft Windows Server 2008 R2 Datacenter (64-bit) with Hyper-V</li><li>• Microsoft Windows Server 2008 R2 Enterprise (64-bit) with Hyper-V</li><li>• Microsoft Windows Server 2008 R2 Standard (64-bit) with Hyper-V</li></ul> | <i>Sun Blade X6720 M2 Server Module Installation Guide for Windows Operating Systems (821-0498)</i>   |
| Linux                    | <ul style="list-style-type: none"><li>• Oracle Enterprise Linux (OEL) 5.4 and 5.5 (64-bit)</li><li>• SUSE Linux Enterprise Server (SLES) 10 SP3 (64-bit)</li><li>• SUSE Linux Enterprise Server (SLES) 11 (64-bit) and SLES 11 SP1</li><li>• Red Hat Enterprise Linux Server (RHEL) 5.4 and 5.5 (64-bit)</li></ul>   | <i>Sun Blade X6720 M2 Server Module Installation Guide for Linux, Virtual Machine Software, and Oracle Solaris Operating Systems (821-0497)</i> |
| Oracle Solaris           | <ul style="list-style-type: none"><li>• Oracle Solaris 10 10/09 and later</li></ul>  | <i>Sun Blade X6720 M2 Server Module Installation Guide for Linux, Virtual Machine Software, and Oracle Solaris Operating Systems (821-0497)</i> |
| Virtual Machine Software | <ul style="list-style-type: none"><li>• Oracle VM 2.2.1</li><li>• VMware ESX and ESXi 4.0 Update 1</li><li>• VMware ESX and ESXi 4.1</li></ul>   | <i>Sun Blade X6720 M2 Server Module Installation Guide for Linux, Virtual Machine Software, and Oracle Solaris Operating Systems (821-0497)</i> |



---

# Configuring a Preinstalled Operating System

If your server module was shipped with a preinstalled operating system, you must configure that operating system before you can use it on the server module. The Oracle Solaris 10 10/09 Operating System is available as preinstalled option. For information about configuring the preinstalled Oracle Solaris 10 10/09 Operating System, see [Chapter 5](#).

---

**Note** – For an up-to-date list of the preinstalled operating systems available for the Sun Blade X6270 M2 Server Module, go to the following web site and navigate to the appropriate page:

<http://www.oracle.com/goto/x6270m2>

---



# 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 the hard disk drive or solid state drive, if ordered. The preinstalled Solaris version is Solaris 10 10/09 or later.

---

**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” on page 33](#)
- [“Configuring Server RAID Drives” on page 36](#)
- [“Configuring the Preinstalled Solaris 10 Operating System” on page 37](#)
- [“Solaris 10 Operating System User Information” on page 39](#)
- [“Using the Solaris Installation Program” on page 39](#)
- [“Reinstalling the Solaris Operating System” on page 40](#)

---

## Configuration Worksheet

Before you begin configuring the operating system, use the worksheet in [TABLE 5-1](#) to gather the information that you will need. You only need to collect the information that applies to your application of the system.

**TABLE 5-1** Worksheet for Solaris 10 OS Configuration

| Information for Installation                         |            | Description or Example   | Your Answers:<br>Defaults (*)   |
|--|------------|--|---|
| Language   |            | Select from the list of available languages for the Solaris 10 software.   | 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?  | <ul style="list-style-type: none"> <li>• Networked</li> <li>• Non-networked*</li> </ul> |
| DHCP   |            | Can the system use Dynamic Host Configuration Protocol (DHCP) to configure its network interfaces?   | <ul style="list-style-type: none"> <li>• Yes</li> <li>• No*</li> </ul>                  |
| 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?  | <ul style="list-style-type: none"> <li>• Yes</li> <li>• No*</li> </ul>                  |
| Host name  |            | The host name chosen for your system.  |   |
| Kerberos   |            | Do you want to configure Kerberos security on this machine?<br>If yes, gather this information:<br><br><div style="text-align: right;">                     Default realm:<br/>                     Administration server:<br/>                     First KDC:<br/>                     (Optional) Additional KDCs:                 </div> | <ul style="list-style-type: none"> <li>• Yes</li> <li>• No*</li> </ul>                  |

**TABLE 5-1** Worksheet for Solaris 10 OS Configuration (*Continued*)

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

**TABLE 5-1** Worksheet for Solaris 10 OS Configuration (*Continued*)

| Information for Installation | Description or Example  | Your Answers:<br>Defaults (*)  |
|------------------------------|---|--|
| Default route                | <p>Do you want to specify a default route IP address, or let the Solaris installation program find one?</p> <p>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.</p> <p>You have the following choices:</p> <ul style="list-style-type: none"><li>• You can specify the IP address. An <code>/etc/defaultrouter</code> file is created with the specified IP address. When the system is rebooted, the specified IP address becomes the default route.</li><li>• You can let the Solaris 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.</li><li>• 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.</li></ul> | <ul style="list-style-type: none"><li>• Specify One</li><li>• Detect One</li><li>• None*</li></ul>                     |
| Time zone                    | How do you want to specify your default time zone?  | <ul style="list-style-type: none"><li>• Geographic region*</li><li>• Offset from GM</li><li>• Time zone file</li></ul> |
| Root password                | Choose a root password for the system.  |  |

---

## Configuring Server RAID Drives

Configuring server RAID drives is not a supported feature with the preinstalled version of the Solaris 10 OS. If you need to configure your drives in a RAID configuration, see the Solaris 10 OS installation instructions in the *Sun Blade X6270 M2 Server Module Installation Guide for Linux, Virtual Machine Software, and Oracle Solaris Operating Systems* (821-0497).

---

# Configuring the Preinstalled Solaris 10 Operating System

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

## ▼ Configure the Software

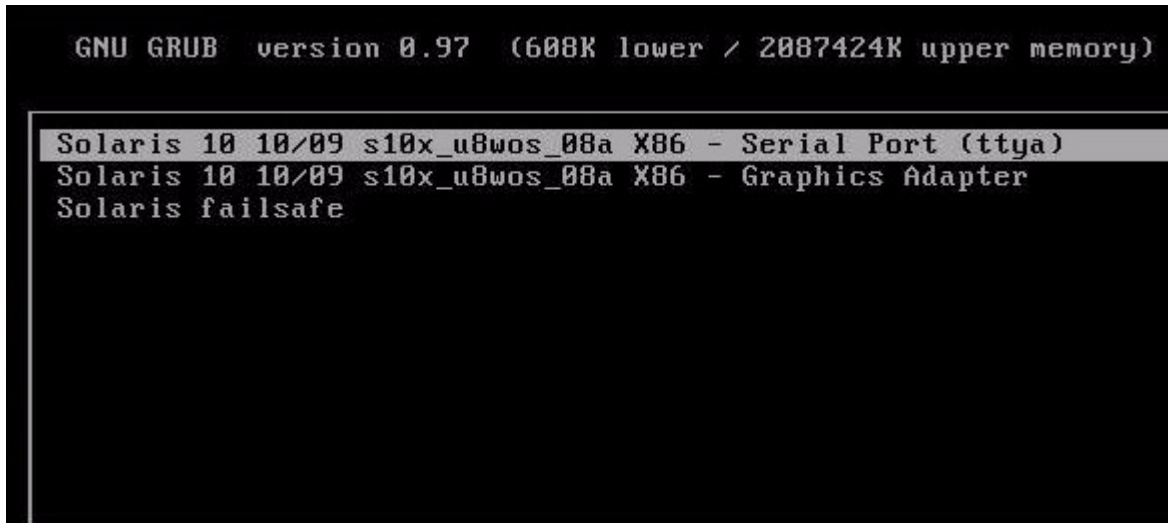
1. **If you are not already logged in to ILOM, log in either locally from a serial connection, or remotely over the network.**  
See [“Log In to ILOM Using a Serial Connection”](#) on page 18 or [“Log In to ILOM Using an Ethernet Connection”](#) on page 19.
2. **If main power has not yet been applied to the server module, apply main power.**  
See [“Applying Main Power to the Server Module”](#) on page 26.
3. **From the 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.
```

System messages appear and then the GRUB menu ([FIGURE 5-1](#)) is displayed.

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 redirect the display to a device connected to the video port.

FIGURE 5-1 GRUB Menu for Preinstalled Solaris



**4. Use the up and down arrow keys to select one of the following options:**

- 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 module's dongle cable and complete the configuration from that device. For information about connecting devices to the server module, see [“Attaching Devices to the Server Using a Dongle Cable” on page 15](#).

---

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

---

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

Use the information you entered in the [“Configuration Worksheet” on page 33](#) to respond to the prompts.

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 Solaris login prompt.



---

# Solaris 10 Operating System User Information

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

## Solaris 10 User Documentation

Solaris 10 OS documentation is available from the web at:

<http://docs.sun.com>

Select Solaris 10 to display the list of documents in the Solaris 10 Documentation Collection. Be sure to follow instructions specific to x86 systems, where they are specified.

- For the Solaris installation guides, see <http://docs.sun.com/app/docs/coll/1236.1>
- For the Solaris 10 administration guides, see <http://docs.sun.com/apps/docs/coll/47.16>
- For information about upgrading your system, see *Solaris 10 10/09 Installation Guide: Solaris Live Upgrade and Upgrade Planning*.
- For troubleshooting information, see Appendix A in *Solaris 10 10/09 Installation Guide: Custom Jumpstart and Advanced Illustrations*.
- See the *Sun Blade X6270 M2 Server Module Product Notes* for patch and other late-breaking information.

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

---

## Using the Solaris Installation Program

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

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

<http://docs.sun.com/app/docs/prod/solaris.10>

After you configure the preinstalled Solaris OS, the Solaris Installation Program reboots the system and prompts you to log in. The system displays the message of the day, indicating the preloaded software that comes with your system.

---

## Reinstalling the Solaris Operating System

If you want to reinstall the Solaris OS or to install a different version of the Solaris OS, refer to the *Solaris 10 Installation Guide: Basic Installations* (820-0176).

## Download the Solaris Operating System

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

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

<http://www.oracle.com/technetwork/server-storage/solaris/downloads/index.html>

- To download patches, go to the Oracle Support page at:

<http://support.oracle.com>

# 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” on page 41](#)
  - [“Configuring the Preinstalled Oracle VM Software” on page 44](#)
  - [“Using Oracle VM” on page 47](#)
- 

## 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 6-1](#) to collect the information you will need to configure the Oracle VM Server portion of the preinstalled Oracle VM software

**TABLE 6-1** 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>For 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 as part of your configuration, 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 6-2](#).

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 6-2](#) 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 6-2** 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 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 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.                 |                     |
|                               | 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. |                     |

**TABLE 6-2** Worksheet for Oracle VM Manager Configuration

| Information for Configuration |                                 | Description or Example   | Your Answers: |
|-------------------------------|---------------------------------|--|---------------|
| 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 ILOM, log in locally from a serial connection or remotely using an Ethernet connection.**  
See [“Log In to ILOM Using a Serial Connection”](#) on page 18 or [“Log In to ILOM Using an Ethernet Connection”](#) on page 19.
- 2. If main power has not yet been applied to the server module, apply main power.**  
See [“Applying Main Power to the Server Module”](#) on page 26.
- 3. From the 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 6-1) appears.

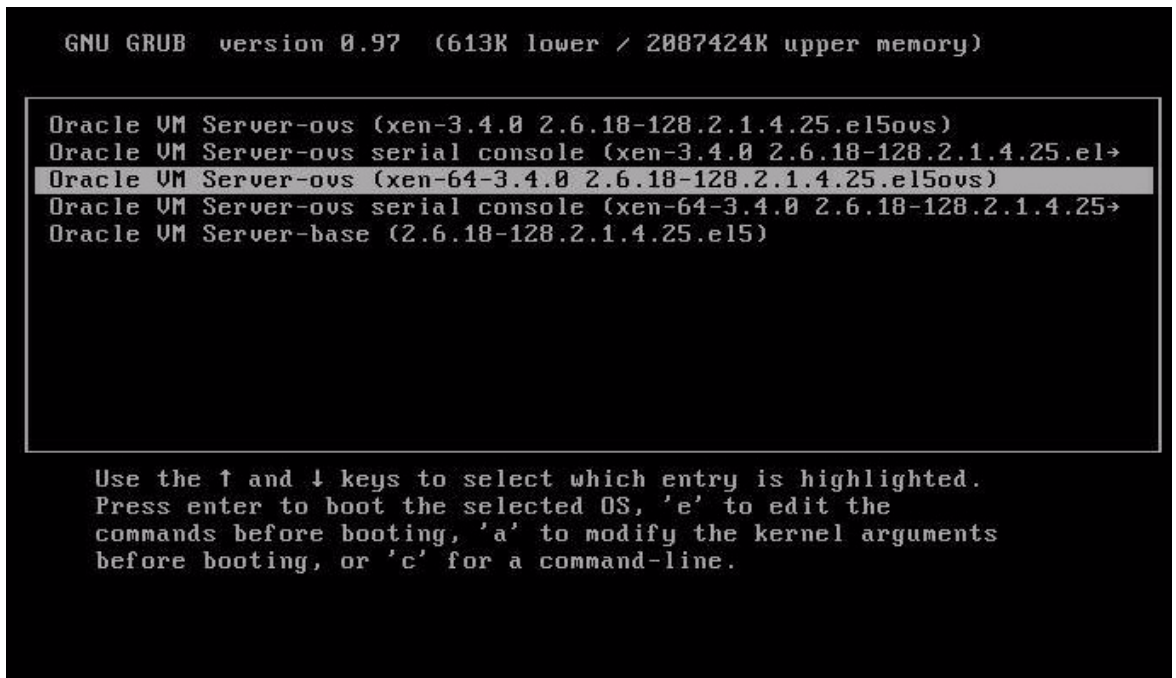
From the GRUB menu, you can choose whether you want to continue to direct the display to the serial port, or whether you want to redirect the display to a device connected to the video port.

---

**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 6-1 GRUB Menu 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 Linux 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 6-2](#) 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/technology/documentation/vm.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 Solaris installation procedure.
- The default console password for all three VMs is `oracle`.
- If you installed the Oracle VM Manager, 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 6-2](#) and [FIGURE 6-3](#) show an example of the Oracle VM Manager screens used to select the interface for a VM.

FIGURE 6-2 Configuring the Virtual Machine

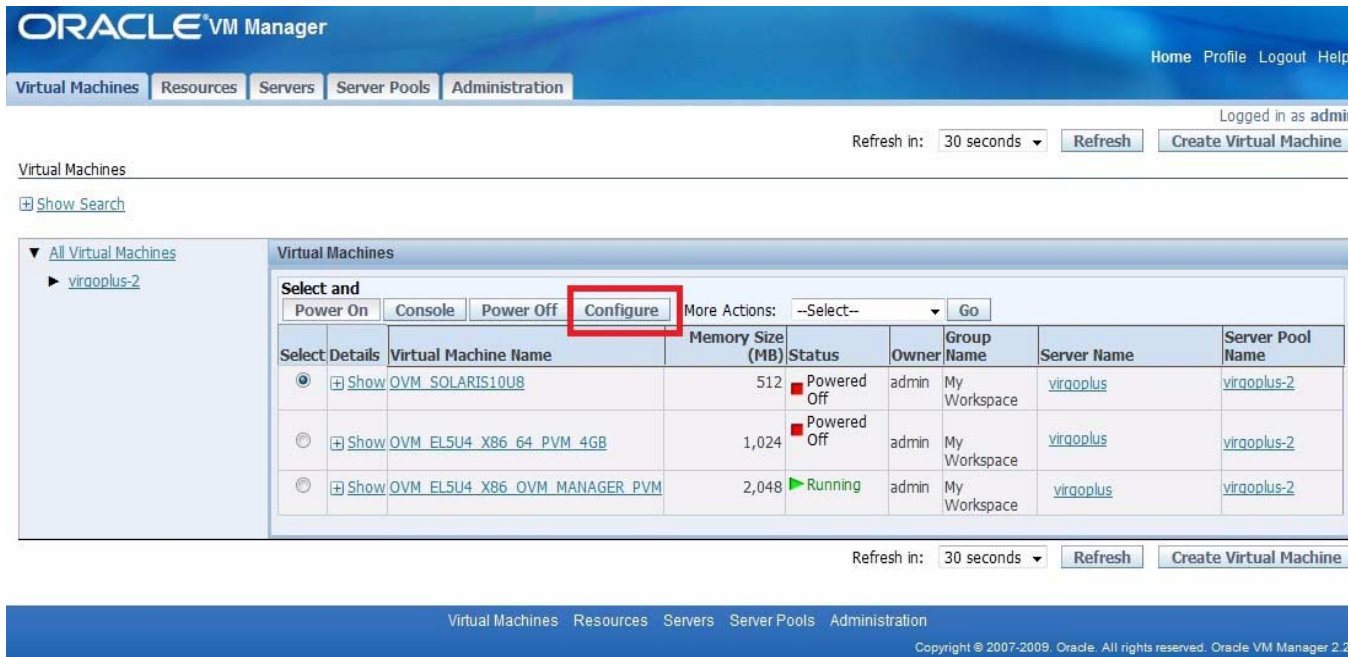
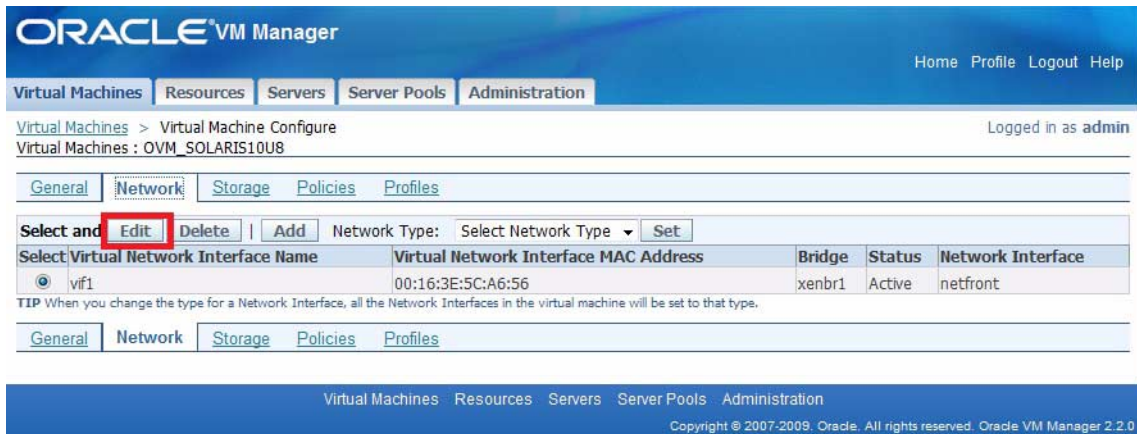


FIGURE 6-3 Selecting an Interface



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