Sun Blade X6275 M2 Server Module Installation Guide

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Using This Documentation

This section describes related documentation, submitting feedback, and a document change history.

- "Product Information Web Site" on page 5
- "Related Books" on page 5
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- "Documentation Comments" on page 8
- "Contributors" on page 8
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Product Information Web Site

For information about the Sun Blade X6275 M2 server module, go to the `http://www.oracle.com/goto/blades` page and click on your server model listed near the bottom.

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

- Product information and specifications
- Software and firmware downloads

Related Books

The following is a list of documents related to Oracle's Sun Blade X6275 M2 server module. These and additional support documents are available on the web at:

`http://download.oracle.com/docs/cd/E19962-01/`

Document Group	Document	Description
Sun Blade X6275 M2 Server Module Documentation	Sun Blade X6275 M2 Server Module Product Documentation	Integrated HTML version of all starred (*) documents, including Search and Index.
	Sun Blade X6275 M2 Server Module Getting Started Guide	Pictorial setup quick reference.
	Sun Blade X6275 M2 Server Module Installation Guide *	How to install, rack, and configure the server up to initial power-on.
	Sun Blade X6275 M2 Server Module Product Notes *	Important late-breaking information about your server.
	Sun Blade X6275 M2 Server Module Installation Guide for Oracle Solaris Operating Systems *	How to install the Oracle Solaris OS on your server.
	Sun Blade X6275 M2 Server Module Installation Guide for Linux Operating Systems *	How to install a supported Linux OS on your server.
	Sun Blade X6275 M2 Server Module Installation Guide for Windows Operating Systems *	How to install a supported version of Microsoft Windows OS on your server.
	Sun Blade X6275 M2 Server Module Installation Guide for Oracle VM Operating Systems *	How to install a supported version of Oracle VM OS on your server.
	Oracle x86 Servers Diagnostics Guide *	How to diagnose problems with your server.
	Sun Blade X6275 M2 Server Module Service Manual *	How to service and maintain your server.
	Sun Blade X6275 M2 Server Module Safety and Compliance Guide	Safety and compliance information about your server.
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Blade X6275 M2 Server Module *	Version-specific supplemental information for your server's Integrated Lights Out Manager.
Sun Disk Management Documentation	*Sun x64 Server Disk Management Overview*	Information about managing your server's storage.
x64 Servers Applications and Utilities Documentation	*Sun x64 Server Utilities Reference Manual*	How to use the available utilities included with your server.

Document Group	Document	Description
Oracle Integrated Lights Out Manager (ILOM) 3.0 Documentation	*Oracle Integrated Lights Out Manager (ILOM) 3.0 Feature Updates and Release Notes*	Information about new ILOM features.
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Getting Started Guide	Overview of ILOM 3.0.
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Concepts Guide	Conceptual information about ILOM 3.0.
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Web Interface Procedures Guide	How to use ILOM through the web interface.
	Oracle Integrated Lights Out Manager (ILOM) 3.0 CLI Procedures Guide	How to use ILOM through commands.
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Management Protocols Reference Guide	Information about management protocols.

Translated versions of some of these documents are available at the web site described previously in Simplified Chinese, Korean, Japanese, French and Spanish. English documentation is revised more frequently and might be more up-to-date than the translated documentation.

About This Documentation (PDF and HTML)

This documentation set is available in both PDF and HTML. The information is presented in topic-based format (similar to online help) and therefore does not include chapters, appendixes, or section numbering.

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

Note – The "Documentation Information" and "Index" topics do not have associated PDF.

Documentation Comments

Oracle is interested in improving the product documentation and welcomes your comments and suggestions. You can submit comments at: `http://www.oracle.com/goto/docfeedback`.

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Change History

The following lists the release history of this documentation set:

- November 2010. Initial publication.
- November 2010. Information added to the *Sun Blade X6275 M2 Server Module Product Notes* for platform software release 1.1. Added new firmware version, PC-Check 6.27s support, CRs 6994690, 6992284, 6994464.
- January 2011. Information added to the *Sun Blade X6275 M2 Installation Guide* for configuring pre-installed Oracle Solaris or Oracle VM. Information added to the *Sun Blade X6275 M2 Server Module Product Notes* for platform software release 1.2. Added new firmware version, CRs 6971164, 7009654, 7009666, 7010601. Information added to the *Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Blade X6275 M2 Server Module* for proving physical presence, reading `available_power` in ILOM.
- March 2011. Information removed from the *Sun Blade X6275 M2 Installation Guide* for configuring pre-installed Oracle Solaris OS or Oracle VM on FMod. Information removed from the *Sun Blade X6275 M2 Product Notes* on available pre-installed Oracle Solaris OS or Oracle VM on FMod.
- September 2011. Information added to the *Sun Blade X6275 M2 Server Module Product Notes* for platform software release 1.3, including new firmware version and new OS version support. Added information about BIOS hardware prefetch options to the *Sun Blade X6275 M2 Server Module Product Notes* and the *Sun Blade X6275 M2 Server Module Service Manual*. Fixed CRs 6971164 and 7009654.
- January 2012. Updated physical dimension specifications in the *Sun Blade X6275 M2 Server Module Installation Guide* and the *Sun Blade X6275 M2 Server Module Service Manual*. Added information to the *Sun Blade X6275 M2 Server Module Product Notes* for OS support for Oracle VM 3.0.1 (1GbE), 3.0.2 (1GbE) and 3.0.3 (10GbE).
- March 2012. Information corrected in the *Sun Blade X6275 M2 Installation Guide* for the number of 10 GbE ports per node. Information added to the *Sun Blade X6275 M2 Product Notes* for CR 7072665.

Overview of the Sun Blade X6275 M2 Server Module

This section provides an overview of the features of Oracle's Sun Blade X6275 M2 server module including product specifications.

- "Commonly Used Terms" on page 9
- "Product Description" on page 10
- "Product Features" on page 12
- "Specifications" on page 15
- "Server Module Front Panel and Indicators" on page 17

Commonly Used Terms

The following table identifies some of the terms commonly used in this guide.

Term	Definition
Chassis	Sun Blade 6000 modular system hardware. For additional information about the Sun Blade 6000 modular system, go to `http://download.oracle.com/docs/cd/E19938-01/index.html`.
CMM	Chassis Monitoring Module. A baseboard management controller (BMC) for the entire Sun modular system chassis.
FMod	Flash Module. A user-installable high performance solid-state storage device (similar to a DIMM) that acts like a SATA disk and uses flash memory technology for increased data access speeds.
ILOM	Oracle's Integrated Lights Out Manager (ILOM) is the embedded management software that runs on the server module node SP and CMM that enables you to manage your system. For additional information about ILOM, refer to the Integrated Lights Out Manager documentation.
NEM	Network Express Module (NEM). A networking I/O component that plugs into a Sun Blade Modular System chassis. The chassis contains two NEM slots: NEM 0 and NEM 1.

Term	Definition
Node	An independent computer that resides on the server blade (also called compute node). Each node has its own CPU, memory, I/O, and service processor. The Sun Blade X6275 M2 server module has two nodes—two separate servers on one blade.
PCIe EM	PCI Express (PCIe) ExpressModule (EM). PCIe EMs can be installed in the chassis to provide installed server blades option card expansion. Each node of the Sun Blade X6275 M2 server module has one available PCIe EM chassis slot. **Note –** For the server module, node 0 is assigned to chassis blade PCIe EM slot 1, and node 1 is assigned to chassis blade PCIe EM slot 0.
Server module	Sun Blade X6275 M2 server module hardware. The physical server blade that plugs into a Sun Blade 6000 modular system chassis.
SP	Embedded service processor (SP) on the server module. The SP is a "baseboard management controller" (BMC). Each node of the server blade has its own dedicated SP. The Sun Blade 6000 modular system chassis also has its own SP called the chassis monitoring module (CMM).

Product Description

The Sun Blade X6275 M2 server module is a dual-node high-density computing blade for cloud, middleware, and virtualized environments. The server blade's two compute nodes (Node 0 and Node 1) are housed on a single motherboard in a single blade enclosure. The server module is only supported in the Sun Blade 6000 modular system chassis.

The server is available in two models:

- The Sun Blade X6275 M2 server module with GbE (X6275M2–BB).
- The Sun Blade X6275 M2 server module with 10GbE (X6275M2–CB).

The following illustration shows the layout of the main system components:

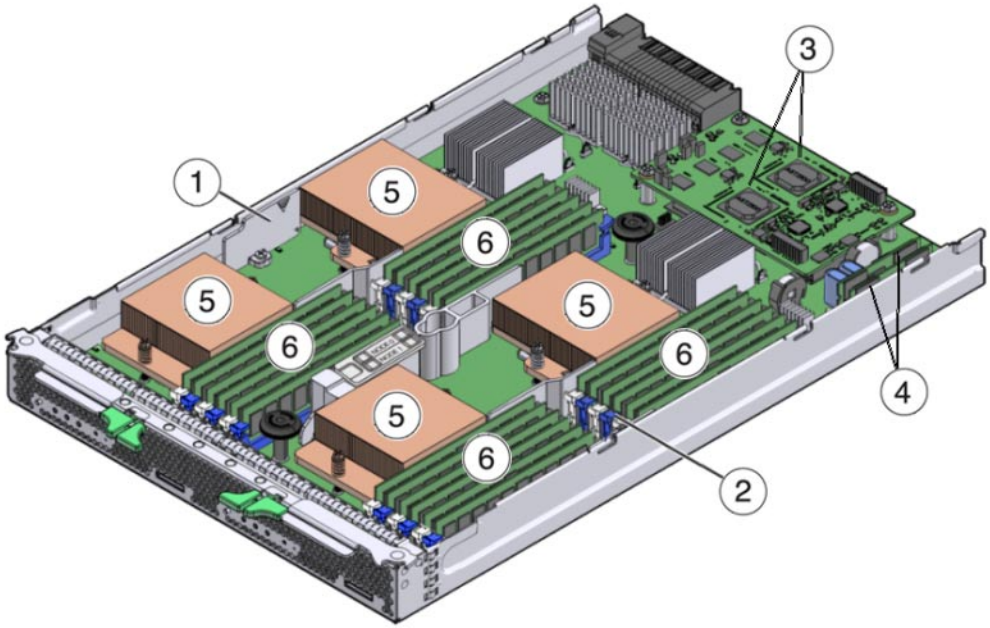


Figure Legend			
1	Node 0	2	Node 1
3	AST2100 service processors (one per node)	4	Flash modules (one per node)
5	CPUs (two per node)	6	Memory DIMMs (12 per node)

The server module is configured as follows:

- Both server module compute nodes are identical and symmetric, but are fully independent of each other. Each node supports two CPUs and 12 cores of compute density.
- Each node is based on a two-socket six-core Intel Xeon 5600 series platform that includes the Intel 5500 chipset (IOH–24D Northbridge and ICH10 Southbridge) and network I/O.
- Each node supports up to twelve low voltage DDR3 DIMMs (up to 96 GB of main memory using 8 GB DIMMs).

Note – Both nodes of the server module must be configured identically (CPUs and memory).

- The following network interfaces are available:
  - One 10/100/1000Base-T Ethernet port per node using the embedded Intel 82567 GbE controller (server module model X6275M2–BB).

—Or—

- One 10GbE ports per node using the embedded Mellanox ConnectX–2 controller and XAUI (server module model X6275M2–CB).

Note – The 10GbE signal for this model is generated by the embedded Mellanox ConnectX-2 controller, and therefore no Fabric Expansion Modules (FEM) are required. The only 10GbE NEM currently supported for this model is the Sun Blade 6000 Ethernet Switched 24p 10GbE NEM (X2073A).

- Each node has its own service processor based on the AST2100 chip providing Oracle Integrated Lights Out Management (ILOM version 3.0), and a shared 10/100 Ethernet management port.
- Each node supports the addition of an optional 24 GB Sun Flash Module (FMod), which provides fast and reliable solid-state storage and a secure local boot source for the node.

Note – Server module nodes do not support the installation of a RAID Expansion Module (REM). However, each node has one chassis PCIe EM slot available which could be used for a supported external host bus adapter (HBA) connected to external storage.

- Each node has an internal USB port (under the service processor board at the back of the blade) for the addition of an optional USB flash drive for local storage.

See Also

- "Commonly Used Terms" on page 9
- "Product Features" on page 12
- "Specifications" on page 15
- "Server Module Front Panel and Indicators" on page 17

Product Features

Feature	Description
Chassis compatibility	Sun Blade 6000 modular system with PCIe 2.0 midplane (standard with model A90–B). The minimum CMM ILOM firmware required is 3.0.10.15, included in chassis software release 3.2.

Feature	Description
Chassis midplane I/O	Depending on your server model, each node supports either a 1GbE or 10GbE interface through the chassis midplane to the NEM. **Note –** Although a supported NEM might include both 1GbE and 10GbE ports, the server module only supports one interface type. ■ One (x8) PCIe 2.0 bus connection per node to a chassis PCIe EM slot. Node 0 is assigned to chassis blade PCIe EM slot 1, node 1 is assigned to chassis blade PCIe EM slot 0. ■ One 10/100/1000Base-T Ethernet port per node with the 1GbE model (X6275M2–BB). The port for node 0 is assigned to a supported NEM in chassis slot NEM0, the port for node 1 is assigned to an supported NEM in chassis slot NEM1. ■ One 10GbE port per node with the 10GbE model (X6275M2–CB). The port for node 0 is assigned to a supported NEM in chassis slot NEM0, the port for node 1 is assigned to an supported NEM in chassis slot NEM1.
CPU	Up to four Intel Xeon Processor E5600 Series six-core processors per server module (two per node). Twelve cores per node, for a total of twenty–four cores per server module. **Note –** Both nodes of the server module must be configured identically (CPUs and memory).
Dual-node design	Two independent, symmetric compute nodes, 0 and 1, in a single blade enclosure.
Front panel I/O	Two Universal Connector Ports (UCP), one per node, are available for use with the multi-port (dongle) cable. The multi-port cable provides the following interface connections: ■ VGA graphics port. ■ RJ-45 serial management port. ■ Dual USB ports (keyboard/mouse/USB drive).
Memory	■ Twenty-four memory slots total (12 slots per compute node). Slots support up to 1333 MHz low voltage DDR3, ECC registered, DIMMs. ■ Up to 96 GB of main memory per node using 8 GB DIMMs. ■ Up to 48 GB of main memory per node using 4 GB DIMMs. ■ Up to 2 DDR3 DIMMs per channel, 3 channels per installed processor. **Note –** Both nodes of the server module must be configured identically (CPUs and memory).

Feature	Description
Network Express Module (NEM) compatibility	Each node host requires a NEM for network I/O (for more on NEM requirements see "Installation Prerequisites" on page 22). NEM SAS ports (internal or external) are not supported. The following NEMs are supported for the Sun Blade X6275 M2 with 1GbE (X6275M2–BB): ■ Sun Blade 6000 10p GbE Pass-Thru NEM (X4250A) — recommended. ■ Sun Blade 6000 Virtualized Multi-Fabric 10GbE M2 NEM (X4338A). ■ Sun Blade 6000 Virtualized Multi-Fabric 10GbE NEM (X4238). ■ Sun Blade 6000 Multi-Fabric NEM (X4212A). The following NEM is supported for the Sun Blade X6275 M2 with 10GbE (X6275M2–CB): ■ Sun Blade 6000 Ethernet Switched 24p 10GbE NEM (X2073A) — no FEMs are required for the Sun Blade X6275 M2 server module. **Note –** For the 10GbE model, the Sun Blade 6000 Ethernet Switched 24p 10GbE NEM does not provide a 1GbE interface and therefore the 1GbE interface, although present on each server node, is disabled by firmware.
Operating systems	Operating systems such as Oracle Solaris, Linux, Windows and Oracle VM are supported. For a complete list of supported OS versions for your server, refer to the "Supported Operating Systems" in *Sun Blade X6275 M2 Server Module Product Notes*.
Service Processor (SP)	Each node includes an AST2100 service processor (SP). The SP provides IPMI 2.0 compliant remote management capabilities. Each node SP features: ■ Integrated Lights Out Manager (ILOM version 3.0). ■ Local ILOM command-line access using a serial connection. ■ 10/100 management Ethernet port to midplane (shared by both node SPs). ■ Remote keyboard, video, mouse, and storage (KVMS) over IP.
Storage	■ Two internal slots for optional 24 GB SATA Sun Flash Modules (one per node). ■ Two internal ports for an optional USB 2.0 flash drive (one per node). **Note –** Server module nodes do not support the installation of a RAID Expansion Module (REM) and therefore do not support internal chassis SAS connections to blade storage. However, each node has an assigned PCIe EM slot that could be used for an HBA connecting to external storage.
Video	A maximum resolution of 1280x1024 is supported with 8 MB of video memory.

See Also

- "Commonly Used Terms" on page 9
- "Product Description" on page 10

- "Specifications" on page 15
- "Server Module Front Panel and Indicators" on page 17

Specifications

The following tables provide information on server module dimensions, electrical and environmental specifications.

Server module dimensions:

Specification	Value
Height	12.9 inches/327.2 mm
Width	1.8 inches/44.5 mm
Depth	20.1 inches/511.7 mm
Weight	Maximum: 20.6 lbs (9.4 kg), with twenty–four 4GB low voltage DDR3 DIMMs and four Intel Xeon EP processors installed

Electrical specifications:

Specification	Value
Voltage (nominal)	12V main from chassis backplane
	3.3V AUX from chassis backplane
Power (maximum)	604W (maximum operational) - with twenty-four 4 GB low voltage DDR3 DIMMs and four Intel Xeon EP processors installed

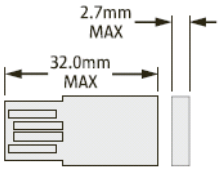
Environmental specifications:

Specification	Value
Temperature (operating)	41 to 90° F
	5 to 32° C
Temperature (storage)	-40 to 158° F
	-40 to 70° C
Humidity	10 to 90% non-condensing

Specification	Value
Operating altitude	0 to 10,000 feet (0 to 3048 meters)

Internal USB port specification:

The server module has two internal USB ports, one per node. A USB flash drive with a standard USB 2.0 interface can be obtained from third-party sources. The USB flash drive must be no larger than 2.7 mm wide and 32.0 mm long, as shown below:



See Also

- "Commonly Used Terms" on page 9
- "Product Description" on page 10
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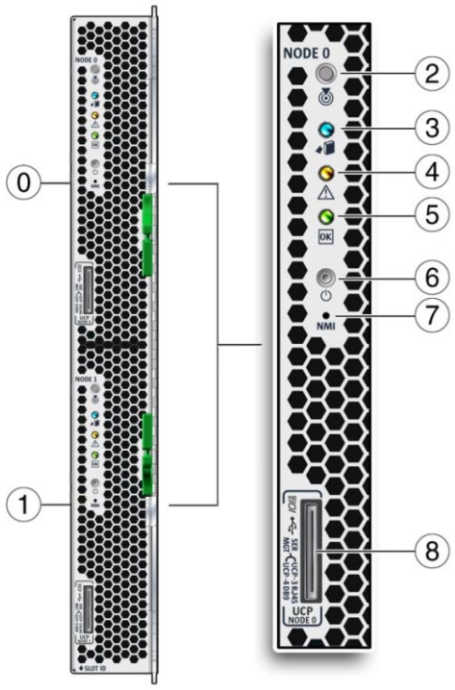
- "Server Module Front Panel and Indicators" on page 17

Server Module Front Panel and Indicators



0	Node 0.
1	Node 1.
2	Locate LED (white). Press button to identify server.
3	Ready to Remove server module LED (blue). Main power removed.
4	Service Action Required LED (amber). A fault condition has occurred.
5	OK/Power LED (green). Modes: ■ SP booting—fast blink, 0.125 second on, 0.125 second off. ■ Standby power—blink, 0.1 second on, 2.9 seconds off. ■ Host booting—slow blink, 0.5 second on, 0.5 second off. ■ Full power—steady on.
6	Power button. Press briefly to toggle the server between standby and full power. **Caution –** Pressing the Power button for more than 4 seconds when in full power initiates immediate shutdown to standby power. Can cause data loss.
7	Non-Maskable Interrupt (NMI) button. **Caution –** Service use only. Do not press unless instructed by Oracle personnel.
8	Universal Connector Port (UCP) Used for multi–port (dongle) cable.

Installing and Powering On the Server Module

This section describes how to install your server module into a Sun Blade 6000 modular system chassis.

The installation consists of the following tasks:

Step	Task	Link
1	Unpack the server module from the shipping container.	"About Your Server Module Shipment" on page 19
2	Find the server's serial number and learn where to go to access warranty support information.	"Finding the Serial Number and Accessing Warranty Support Information" on page 20
3	If applicable, install the optional server module components before you install the server module into the chassis.	"Adding Optional Components" on page 21
4	Ensure that other pre-installation steps are complete.	"Installation Prerequisites" on page 22
5	Install the server module into a powered-on chassis.	"How to Install Your Server Module" on page 23
6	Apply main power to your server module.	"How to Apply Full Power to a Server Module Node" on page 25

About Your Server Module Shipment

Standard configurations for the server module are assembled at the factory and shipped ready for installation in a Sun Blade 6000 series chassis.

Standard server components found in the packing carton include:

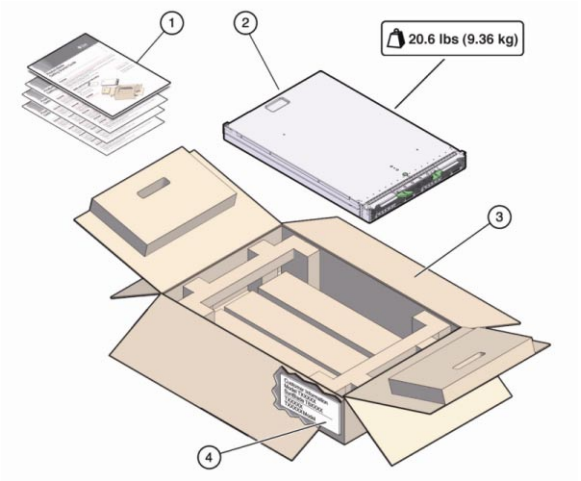


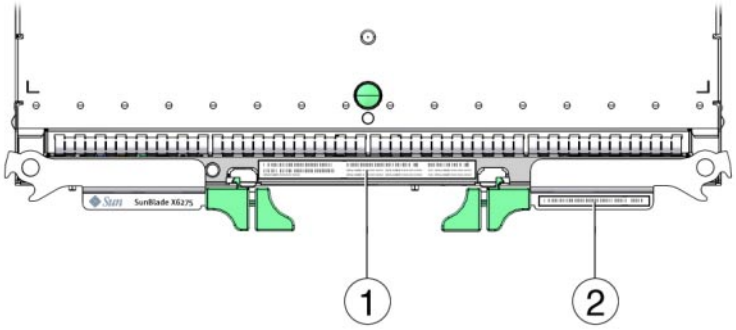
Figure Number	Description
1	Documentation
2	Server module
3	Box
4	Shipping label

See Also

- "Finding the Serial Number and Accessing Warranty Support Information" on page 20
- "Adding Optional Components" on page 21
- "Installation Prerequisites" on page 22
- "How to Install Your Server Module" on page 23

Finding the Serial Number and Accessing Warranty Support Information

If you ever need Oracle warranty support for your server module, you must have your serial number. The serial number is located on a label on the front ejector of the server module [**see 2**]. Another label, which requires server module removal, is on the top of the server module [**see 1**].



Note – The server module serial number can also be viewed from CMM ILOM. For more information about using CMM ILOM, refer to "CMM and Node ILOM Overview" on page 30.

To view support and warranty information for your product, go to: `http://www.oracle.com/us/support/index.html`

See Also

- "Adding Optional Components" on page 21
- "Installation Prerequisites" on page 22
- "How to Install Your Server Module" on page 23

Adding Optional Components

Optional server module components that you purchase independent of the standard configuration are shipped separately and, in most cases, should be installed before you install the server module into the chassis.

Note – Both nodes of the server module must be configured identically (CPUs and memory).

The following optional server module components can be ordered and purchased separately:

- CPU assembly options
- DDR3 DIMM memory kits
- Flash Modules (FMods)
- Multi–port (or dongle) cable
- Software media

Supported components and their part numbers are subject to change over time and without notice. For the most up-to-date list, go to: `https://support.oracle.com/handbook_private/`
.

Note – This site requires an Oracle web account to access.

Click the name and model of your server. On the product page that opens for the server, click **Full Components List** for a list of components.

If you ordered any options that are field-replaceable units (FRUs) or customer replaceable units (CRUs), refer to the service label on the top cover or the "Component Removal and Installation Procedures" in *Sun Blade X6275 M2 Server Module Service Manual* for installation instructions.

Note – This server is fully compliant with the Reduction of Hazardous Substances (RoHS) Directive.

See Also

- "Installation Prerequisites" on page 22
- "How to Install Your Server Module" on page 23

Installation Prerequisites

Ensure the following tasks are complete before installing your server module into the Sun Blade 6000 modular system chassis.

1. Install any optional components for the server module. See "Adding Optional Components" on page 21.
2. Ensure that the Sun Blade 6000 modular system chassis in which you will install the server module is running with supported hardware and firmware and has no faults:
   - Confirm that the chassis midplane supports PCIe 2.0 (standard with model A90–B). Refer to the *Sun Blade 6000 Modular System Product Notes* for the latest information on how to determine your midplane version.
   - The Chassis Monitoring Module (CMM) is at firmware version 3.0.10.15 (available with Sun Blade 6000 modular system software release 3.2) or later.
   - All required power and data cables to the chassis are attached.
   - The Network Expansion Module(s) (NEMs) that are supported for use with your server module have been installed in the chassis and are operating without faults. Refer to the "Supported Hardware" in *Sun Blade X6275 M2 Server Module Product Notes* for more information.

Note – For the Sun Blade X6275 M2 with 1GbE (X6275M2–BB), each node has one network port: the port for node 0 is assigned to a supported NEM in chassis slot NEM0, the port for node 1 is assigned to an supported NEM in chassis slot NEM1.

For the Sun Blade X6275 M2 with 10GbE (X6275M2–CB), each node has one network port: the port for node 0 is assigned to a supported NEM in chassis slot NEM0, the port for node 1 is assigned to an supported NEM in chassis slot NEM1.

For information about installing chassis components, attaching cables, and powering on the chassis, refer to the Sun Blade 6000 modular system chassis documentation at: `http://download.oracle.com/docs/cd/E19938-01/index.html`

3. Choose a method for connecting to each node's Integrated Lights Out Manager (ILOM) service processor (SP). These could include the following:
   - A network connection. You need a PC or workstation connected to the same network as the SP.
   - A direct node SP connection using the serial management port of an optional multi-port cable connected to the node's UCP connector on the server's front panel (refer to the "Using the Multi-Port Cable" in *Sun Blade X6275 M2 Server Module Service Manual* for details). You need a PC with terminal emulation software or ASCII terminal workstation. A terminal server can also be used.
4. Choose a method for connecting to the host console (BIOS and OS). These could include the following:
   - A network connection to the SP so that you can use ILOM to remotely redirect the host console. You need a PC or workstation connected to the same network as the SP.
   - A direct host connection through the multi-port cable connector (VGA and USB). Refer to the "Using the Multi-Port Cable" in *Sun Blade X6275 M2 Server Module Service Manual* for details.

Next Steps

- "How to Install Your Server Module" on page 23
- "Setting Up ILOM" on page 29
- "Installing a Supported OS" on page 49

▼ How to Install Your Server Module

Before You Begin Perform all steps and fulfill all requirements in "Installation Prerequisites" on page 22.

1 **Verify that the Sun Blade 6000 modular system chassis is powered-on and operating normally (without faults).**

When the chassis is powered-on, the fans are operating and the chassis OK/Power LED illuminates a steady-on green light. The OK/Power LEDs are located on both the front and back of the chassis. If the chassis is not powered on, or in a fault state, refer to your chassis documentation for information on how to remedy the issue.

2 **Locate a free blade slot in the chassis and remove slot filler panel.**

Pinch together the ends of the ejector arm handle to unlock it, rotate the lever out to the open position, and eject the filler panel.

Keep the filler panel for later use.

Caution – If you are not installing a server module into a slot, do not remove the slot filler panel. The slot filler panel is required to meet FCC standards for electromagnetic interference (EMI). Do not operate the chassis with empty slots for more than 60 seconds. Always insert a filler panel into an empty slot to reduce the possibility of chassis shutdown.

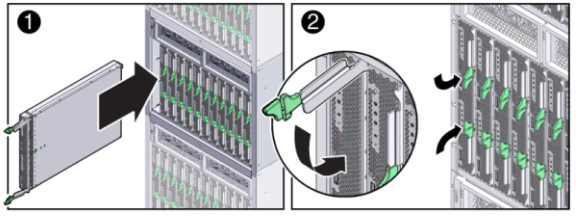
3 **Open both of the server module ejector levers and position the server module vertically so that the ejectors are on the right.**

4 **Install the server as follows:**

a. **Push the server module into the slot until the server module stops and is flush with the chassis [see 1].**

b. **Lock the server module into the chassis. Rotate the top ejector down while rotating the bottom ejector up until they both latch into place [see 2].**

The server module is now locked in the chassis.



5 **Verify that the server module's LEDs illuminate properly.**

After installing a server module into a powered-on chassis, each server module node SP automatically boots using standby power from the chassis power supplies. At this point, the chassis OK/Power LED should be steady-on green. The server module front panel indicators illuminate as follows:

- After you plug in the server module, all four server module LEDs (on each node) blink three times. This indicates that the blade has been powered on and the SP boot process has begun.
- The green OK/Power LEDs on each node blinks rapidly. This indicates that the node SP is booting (0.125 seconds on, 0.125 seconds off).
- After each node SP completes its boot cycle, the green OK/Power LEDs on each node blinks briefly once every 3 seconds indicating that the node is in standby power mode.

Tip – For front panel LED information, see to the "Server Module Front Panel and Indicators" on page 17. For additional information about server module indicators, server module removal, power procedures, and front panel cable connections, refer to the "Server Module and Components Overview" in *Sun Blade X6275 M2 Server Module Service Manual*.

---

6 **Both server nodes should be in the standby power state.**

Next Steps

- "How to Apply Full Power to a Server Module Node" on page 25
- "How to Power Off a Server Module Node" on page 26
- "Troubleshooting Server Power States" on page 26
- "Setting Up ILOM" on page 29
- "Installing a Supported OS" on page 49

▼ How to Apply Full Power to a Server Module Node

- Each node is powered on separately.
- The method described here requires you to be physically at the server. Alternatively, you can log into each node's ILOM and power-on the node remotely.

1 **Verify that the OK/Power LED on the front panel of the server module is in a standby blink state.**

The green OK/Power LEDs on each node blinks briefly once every 3 seconds indicating that the node is in standby power mode. See "Server Module Front Panel and Indicators" on page 17.

2 **Press and release the recessed Power button on the server module front panel for the node to be powered on.**

During power-on, you will see the server module front panel indicators illuminate as follows:

- The node's green OK/Power LED slowly blinks. This indicates that the node is booting (0.5 seconds on, 0.5 seconds off).
- The node's green OK/Power LED illuminates a steady-on green light. This indicates that the boot cycle is complete and the node is ready.

3 **The front panel OK/Power LED for a server module node illuminates a steady-on green to indicate that the node has successfully powered on.**

4. **Repeat Steps 1 through 3 to power on the second node.**

See Also
- "How to Power Off a Server Module Node" on page 26
- "Troubleshooting Server Power States" on page 26
- "Setting Up ILOM" on page 29
- "Installing a Supported OS" on page 49

▼ How to Power Off a Server Module Node

- Each node is powered off separately.
- The method described here requires you to be physically at the server. Alternatively, you can log into each node's ILOM and remotely power-off the node.

● **To power off the server module node from full 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 node operating system. Servers not running ACPI-enabled operating systems will shut down to standby power mode immediately.

- **Immediate shutdown. Press and hold the Power button for five seconds to force power off and to enter standby power mode.**

See Also
- "How to Apply Full Power to a Server Module Node" on page 25
- "Troubleshooting Server Power States" on page 26
- "Setting Up ILOM" on page 29
- "Installing a Supported OS" on page 49

Troubleshooting Server Power States

Each time a server module powers on in a Sun Blade 6000 modular system, it queries the CMM to ensure that there is enough power available from the power supply units (PSUs) to power on the server. If there is not enough power to power on the server module, the CMM denies the server module from receiving power (both 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:

- 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 chassis PSUs to power on a 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.

- 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.

- To avoid power loss, use the *default* CMM power management settings in ILOM for power supplies.

  For more information about power management, refer to the "Managing Power Usage and Monitoring Power Consumption" in *Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Blade X6275 M2 Server Module*.

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

- As needed, refer to the *Oracle x86 Server Diagnostics Guide* for instructions on how to run the start-up diagnostic tools provided with the server module.

Setting Up ILOM

This section describes how to access the Oracle Integrated Lights Out Manager (ILOM) for your server module and set up the service processor (SP) network configuration for each node.

The following table provides information on ILOM setup tasks:

Step	Task	Link
1	Learn about using ILOM with your server module.	"CMM and Node ILOM Overview" on page 30
2	Log in to CMM ILOM and obtain the IP address of each node SP.	Choose one of the following procedures: ■ "How to Display the ILOM IP Address Using the Web Interface" on page 33 ■ "How to Display the ILOM IP Address Using the CLI" on page 36.
3	Log in to the node ILOM.	Choose one of the following procedures: ■ "How to Log In to the ILOM Web Interface Using an Ethernet Connection" on page 38 ■ "How to Log In to the ILOM CLI Using an Ethernet Connection" on page 39 ■ "How to Log Into ILOM Using a Serial Connection" on page 40
4	Optional: Set the network configuration for the node SP. *DHCP is used by default.*	Choose one of the following procedures: ■ "How to Configure a DHCP IP Address" on page 41 ■ "How to Configure a Static IP Address" on page 42
5	Optional: Access the host console through ILOM.	"Accessing the Host Console Through ILOM" on page 43.

CMM and Node ILOM Overview

Your server supports Oracle's Integrated Lights Out Manager (ILOM) version 3.0 or later. ILOM allows you to manage both compute nodes of the Sun Blade X6275 M2 server module. This can be done using either the chassis CMM ILOM, or the server module node's ILOM service processor.

The following topics describe CMM and node ILOM:

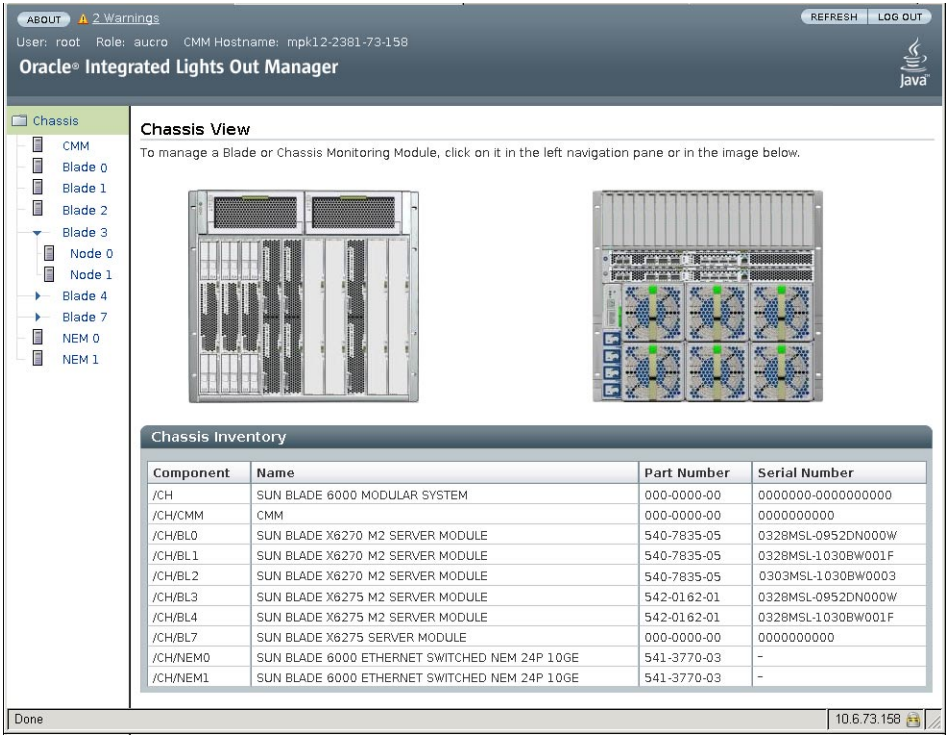
About CMM ILOM

The Sun Blade 6000 modular system chassis has its own service processor, called a Chassis Monitoring Module (CMM). CMM ILOM provides an Ethernet connection through the chassis to the service processor in each node of the server module.

The minimum CMM ILOM firmware version must be **3.0.10.15** (available with Sun Blade 6000 modular system software release 3.2) to support the Sun Blade X6275 M2 server module.

CMM ILOM software allows you to monitor and manage all of the chassis components, including installed server and storage blades.

The following illustration shows an example of the web interface when logged into the CMM ILOM. It shows the server module's two nodes under the blade in the left pane.



The following is an example of using the command-line interface (CLI) to show information about the two nodes when you are logged in to CMM ILOM. In this example, the server module installed in chassis blade slot 3:

```
-> show /CH/BL3

 /CH/BL3
    Targets:
        NODE0
        NODE1
        PRSNT
        ERR
        VPS

    Properties:
        type = Blade
        ipmi_name = BL3
        product_name = SUN BLADE X6275 M2 SERVER MODULE
        product_part_number = 542-0162-01
        product_serial_number = 0328MSL-1030BW0011
        system_identifier = mpk12-2381-72-130
        fru_name = unknown
        fru_version = FW 3.0.10.15
        fru_part_number = 542-0162-01
        fru_serial_number = 0328MSL-1030BW0011
        fru_extra_1 = FW 3.0.10.15
```

```
        fault_state = OK
        clear_fault_action = (none)

    Commands:
        cd
        set
        show

->
```

Refer to the system chassis documentation for more information at: `http://download.oracle.com/docs/cd/E19938-01`.

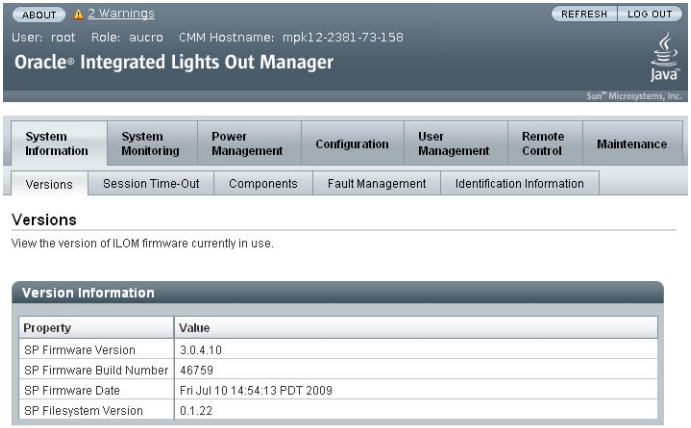
About Node ILOM

The Sun Blade X6275 M2 server module includes two service processors (SP). One for each server module compute node. ILOM provides a means to separately monitor each node.

With ILOM software, you can monitor and manage server node components, including:

- Configuring node network information
- Viewing and editing hardware configurations for the node SP
- Monitoring vital system information and viewing logged events
- Managing ILOM user accounts

The following illustration shows an example of the web interface when logged into the node ILOM. It shows details only for the node you are currently logged into.



The following is an example of using the command-line interface (CLI) to show information available when you are logged in to the node ILOM. It shows information about the node and its chassis connections.

```
-> show /SYS/MB
    Targets:
        BIOS
        CPLD
        NET0
        P0
        T_AMB_FRONT
        T_AMB_REAR

    Properties:
        type = Motherboard
        ipmi_name = MB
        fru_name = ASSY,BLADE,X6275 M2 10GB
        fru_part_number = 542-0162-01
        fru_serial_number = 0328MSL-1030BW001F
        fru_extra_1 = 03 X6275M2-10Gb
        fault_state = OK
        clear_fault_action = (none)

    Commands:
        cd
        set
        show
```

For detailed information, refer to the Oracle ILOM 3.0 documentation.

See Also

- "Obtaining the ILOM IP Address" on page 33
- "Accessing ILOM" on page 38
- "Configuring an ILOM IP Address" on page 41

Obtaining the ILOM IP Address

This topic describes ways to obtain a node's ILOM SP IP address. Although you can access each node ILOM over the network through the CMM ILOM, in order to access the node ILOM over the network directly, you need the SP IP address for the node. Choose a method of obtaining a node SP IP address:

- "How to Display the ILOM IP Address Using the Web Interface" on page 33
- "How to Display the ILOM IP Address Using the CLI" on page 36

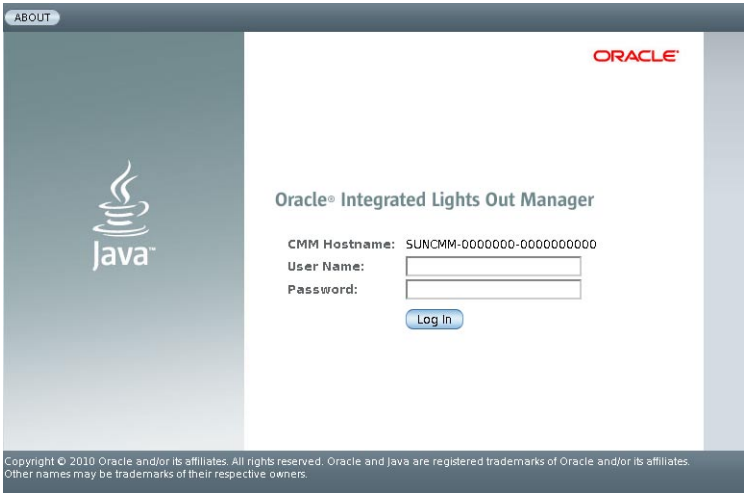
▼ How to Display the ILOM IP Address Using the Web Interface

You need to use the chassis CMM ILOM to display the network configuration for the ILOM service processor of each server node, including its IP address. This procedure also verifies that a node's ILOM is working correctly and that you can access it through the CMM ILOM.

Before You Begin The chassis CMM should already be connected to the network using its Ethernet management port, configured and operational. If not, refer to your chassis documentation before proceeding.

1 **To log in, type the IP address of the CMM ILOM in to your web browser address field (example: `http://129.144.82.26`).**

The web interface Login page appears.



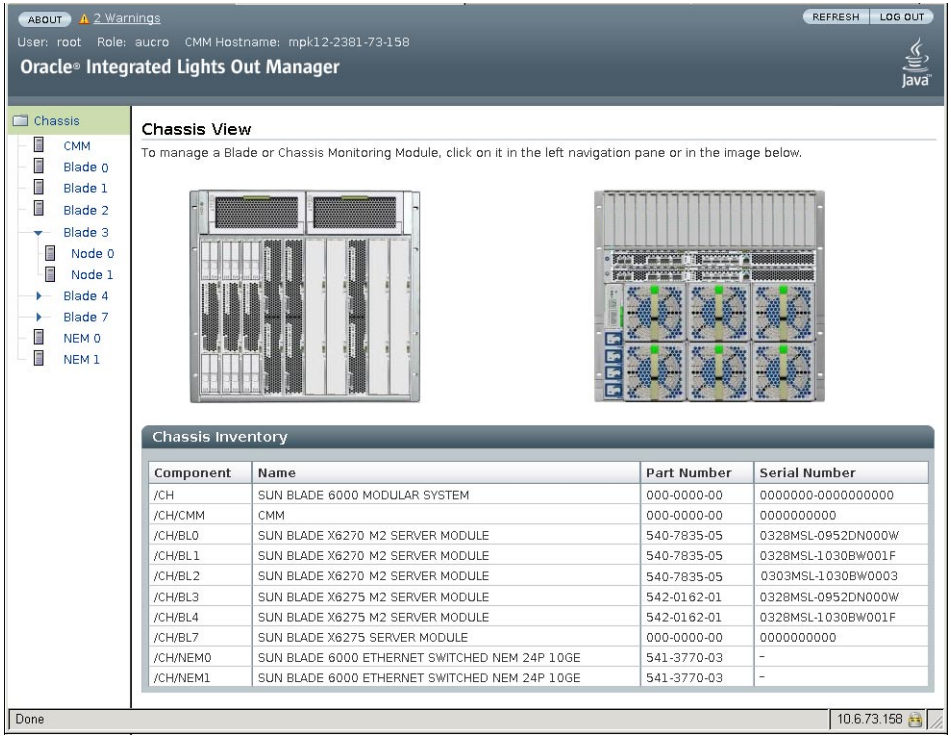
2 **Type your user name and password.**

Tip – The default ILOM administrator account user name is **`root`** and the password is **`changeme`**. If this default administrator account has been changed, contact your system administrator for an ILOM user account with administrator privileges.

---

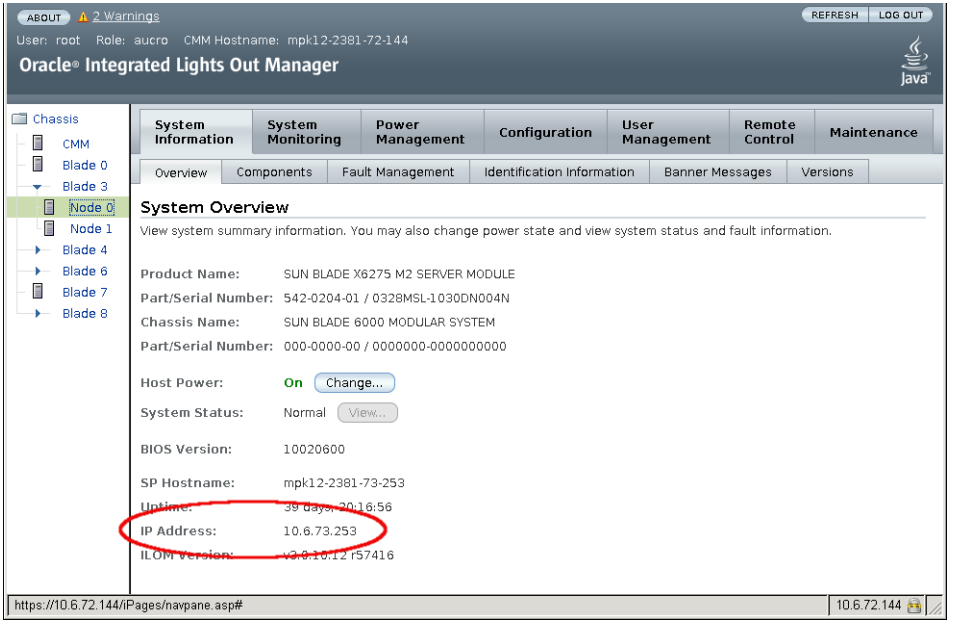
3 Click Log In.

The web interface Chassis View page appears.



4 **Select the blade and node to view from the left pane.**

The node Overview page appears.



5 **Make a note of the node's SP IP address.**

You need to know the IP address of the node SP to log in directly to the node ILOM over the network. By default, the IP address of the node SP is configured using DHCP, if you want to set a static IP address, see "Configuring an ILOM IP Address" on page 41.

6 **Repeat Step 4 to find the IP address for the server's other node SP.**

If you have already selected `Node 0`, for example, now select `Node 1` from the left pane.

▼ How to Display the ILOM IP Address Using the CLI

You need to use the chassis CMM ILOM to display the network configuration for the ILOM service processor of each server node, including its IP address. This procedure also verifies that a node's ILOM is working correctly and that you can access it through the CMM ILOM.

Before You Begin The chassis CMM should already be connected to the network using its Ethernet management port, configured and operational. If not, refer to your chassis documentation before proceeding.

1 **Open a terminal window.**

2 Log in to the chassis CMM ILOM using a secure shell (SSH) session.

For example, enter the command:

```
$ ssh username@CMMIPaddress
```

where *username* is a user account with administrator privileges and the *CMMIPaddress* is the IP address of the CMM ILOM.

Tip – The default ILOM administrator account user name is **root** and the password is **changeme**. If this default administrator account has been changed, contact your system administrator for an ILOM user account with administrator privileges.

Once you are successfully logged in to the CMM ILOM, you will see the ILOM prompt (->).

3 Enter the following command:

```
-> show /CH/BL0/NODE0/SP/network
```

where BL0 represents a Sun Blade X6275 M2 server blade slot 0 in the chassis and NODE0 is node 0 of the server. The CMM ILOM displays information about the server module, including its IP address and MAC address.

The following example shows Blade 0, Node 0, server module information:

```
-> show /CH/BL0/NODE0/SP/network
   /CH/BL0/NODE0/SP/network
      Targets:
      Properties:
          type = Network Configuration
          commitpending = (Cannot show property)
          ipaddress = IPaddress <-- Node SP IP address
          ipdiscovery = dhcp
          ipgateway = IPgateway
          ipnetmask = 255.255.255.0
          macaddress = Macaddress
          pendingipaddress = IPaddress
          pendingipdiscovery = dhcp
          pendingipgateway = IPgateway
          pendingipnetmask = 255.255.255.0
      Commands:
          cd
          set
          show
->
```

4 Make a note of the network configurations, including the node's SP IP address.

You need to know the IP address of the node SP in order to log in directly to the node ILOM. By default, the IP address of the node SP is configured using DHCP, if you want to set a static IP address, see "Configuring an ILOM IP Address" on page 41.

5 Repeat Step 3 to find the IP address for the server's Node 1 service processor.

Replace NODE0 with NODE1.

6 **To log out of CMM ILOM, enter the command:**

```
-> exit
```

Next Steps

- "Accessing ILOM" on page 38
- "Configuring an ILOM IP Address" on page 41
- "Installing a Supported OS" on page 49

Accessing ILOM

This topic describes several ways to access a server module node's ILOM. They include:

- "How to Log In to the ILOM Web Interface Using an Ethernet Connection" on page 38
- "How to Log In to the ILOM CLI Using an Ethernet Connection" on page 39
- "How to Log Into ILOM Using a Serial Connection" on page 40

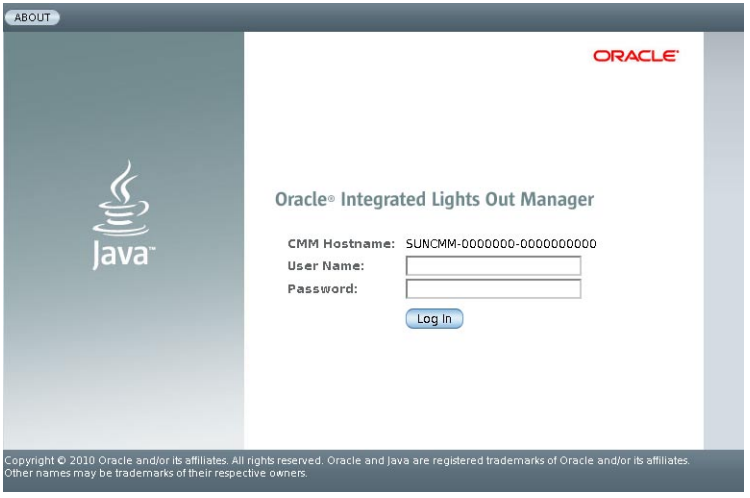
▼ How to Log In to the ILOM Web Interface Using an Ethernet Connection

Before You Begin

- To improve response times, disable the web browser proxy server (if used).
- If you do not know the SP IP address for each node of the server module, see "How to Display the ILOM IP Address Using the Web Interface" on page 33 for information about how to find it using the CMM ILOM.

1 **To log in, type the IP address of node's ILOM in to your web browser.**

The web interface Login page appears.

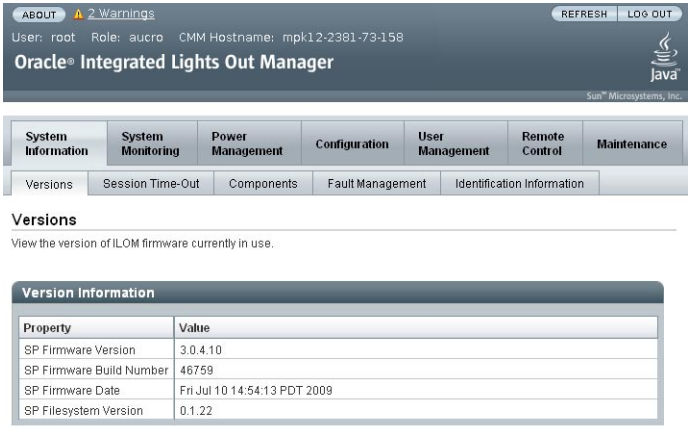


2 **Type your user name and password.**

Tip – The default ILOM administrator account user name is **root** and the password is **changeme**. If this default administrator account has been changed, contact your system administrator for an ILOM user account with administrator privileges.

3 Click Log In.

The web interface Versions page appears.



You are now logged in to the node's ILOM.

Refer to the ILOM 3.0 documentation collection for more information about how to use the ILOM web interface.

Next Steps

- "Configuring an ILOM IP Address" on page 41
- "Accessing the Host Console Through ILOM" on page 43
- "Installing a Supported OS" on page 49

▼ How to Log In to the ILOM CLI Using an Ethernet Connection

Before You Begin If you do not know the SP IP address for each node of the server module, see "How to Display the ILOM IP Address Using the CLI" on page 36 to find it using the CMM ILOM.

1 Open a terminal window.

2 Log in to the node ILOM using a secure shell (SSH) session.

For example, enter the command:

```
$ ssh username@SPIPaddress
```

where *username* is a user account with administrator privileges and the *SPIPaddress* is the IP address of the node service processor.

Tip – The default ILOM administrator account user name is **root** and the password is **changeme**. If this default administrator account has been changed, contact your system administrator for an ILOM user account with administrator privileges.

Once you are successfully logged in to the node ILOM, the ILOM prompt (->) appears.

Refer to the ILOM 3.0 documentation for more information about how to use the CLI interface to configure ILOM.

Next Steps

- "Configuring an ILOM IP Address" on page 41
- "Accessing the Host Console Through ILOM" on page 43
- "Installing a Supported OS" on page 49

▼ How to Log Into ILOM Using a Serial Connection

This procedure requires that you are physically at server module.

Before You Begin

You need an optional multi-port cable (also known as a dongle). The multi-port cable provides a direct method for connecting to a node host or SP console. A multi-port cable might be shipped with the Sun Blade 6000 modular system chassis.

1. **Connect a multi-port cable to the appropriate UCP port on the front of the server module. There are two UCP ports, one for each node.**

   For more information about connecting an optional multi-port cable, refer to "Using the Multi-Port Cable" in *Sun Blade X6275 M2 Server Module Service Manual*.

2. **Connect a terminal or a computer running terminal emulation software to the serial management port of the multi-port cable.**

3. **Ensure that the following serial communication settings are configured at your terminal:**

   - 8N1: eight data bits, no parity, one stop bit
   - 9600 baud (default—do not change)
   - Disable hardware flow control (CTS/RTS)

4. **Press Enter to establish a serial console connection to the server node ILOM.**

   A login prompt for ILOM appears. For example:

   `SUNSP-`*productserialnumber* `login:`

5. **Log in to the ILOM CLI using an administrator account. Enter a user name and password for the administrator account.**

Tip – The default ILOM administrator account user name is **root** and the password is **changeme**. If this default administrator account has been changed, contact your system administrator for an ILOM user account with administrator privileges.

The ILOM CLI prompt (->) appears.

You are now logged in to the node ILOM.

Refer to the ILOM 3.0 documentation collection for more information about how to use the CLI interface to configure the ILOM.

Next Steps

- "Configuring an ILOM IP Address" on page 41
- "Accessing the Host Console Through ILOM" on page 43
- "Installing a Supported OS" on page 49

Configuring an ILOM IP Address

You can configure a static or a dynamic IP address for a node's ILOM service processor. By default, each node SP uses DHCP to configure its IP address.

Choose one of the following procedures:

- "How to Configure a DHCP IP Address" on page 41
- "How to Configure a Static IP Address" on page 42

▼ How to Configure a DHCP IP Address

Before You Begin Dynamic Host Configuration Protocol (DHCP) network configuration is the factory-default for each node's ILOM service processor. Follow these instructions only if the default configuration has been changed.

1. **Open a terminal window.**

2. **Log in to the chassis CMM ILOM using a secure shell (SSH) session.**

   For example, enter the command:

   ```
   $ ssh username@CMMIPaddress
   ```

   where *username* is a user account with administrator privileges and the *CMMIPaddress* is the IP address of the CMM ILOM.

Tip – The default ILOM administrator account user name is **root** and the password is **changeme**. If this default administrator account has been changed, contact your system administrator for an ILOM user account with administrator privileges.

3. **Check to see if DHCP is already configured for the server module node SP by entering the command:**

   ```
   show /CH/BL0/NODE0/SP/network
   ```

   where `BL0/NODE0` represents the chassis blade slot 0, server module node 0. If DHCP is already configured, you see `ipdiscovery = dhcp` and `pendingipdiscovery = dhcp`.

4. **To configure the SP to use DHCP, enter the following commands:**

   ```
   -> cd /CH/BL0/NODE0/SP/network
   -> set pendingipdiscovery=dhcp
   -> set commitpending=true
   ```

5. **Repeat Steps 3 and 4 to configure the server's other node.**

   For example, if you have already configured `NODE0`, you would then enter the commands to configure `NODE1`.

6. **To log out of CMM ILOM, enter the command:**

   ```
   -> exit
   ```

See Also

- "Accessing the Host Console Through ILOM" on page 43
- "Installing a Supported OS" on page 49

How to Configure a Static IP Address

If you plan to assign a static IP address to a server node's ILOM service processor, perform the following procedure.

1. **Open a terminal window.**

2. **Log in to the chassis CMM ILOM using a secure shell (SSH) session.**

   For example:

   $ **ssh** *username*@*CMMIPaddress*

   where *username* is a user account with administrator privileges and the *CMMIPaddress* is the IP address of the CMM ILOM.

Tip – The default ILOM administrator account user name is **root** and the password is **changeme**. If this default administrator account has been changed, contact your system administrator for an ILOM user account with administrator privileges.

3. **Enter the network configuration settings for your static IP address.**

   Substitute the static IP address and the network configuration information to be changed. To see the current configurations, use the **show** command in `/CH/BL4/NODE0/SP/network`.

   For example, you might enter the following commands:

   ```
   -> cd /CH/BL4/NODE0/SP/network
   -> set pendingipaddress=129.144.82.26
   -> set pendingipnetmask=255.255.255.0
   -> set pendingipgateway=129.144.82.254
   -> set pendingipdiscovery=static
   -> set commitpending=true
   ```

4. **Repeat Step 3 to configure the server's other node.**

   For example, if you have already configured `NODE0`, you would then enter the commands to configure `NODE1`.

5. **To log out of CMM ILOM, enter the command:**

   ```
   -> exit
   ```

See Also

- "Accessing the Host Console Through ILOM" on page 43
- "Installing a Supported OS" on page 49

Accessing the Host Console Through ILOM

Connecting to the host console through ILOM allows you to perform actions as if you were at the host. This can be useful when you need remote access to the server's BIOS setup program, or when you install an OS or other software on the server.

Choose one of the following methods:

- Using the serial console through the ILOM command-line interface. See "How to Connect to the Host's Serial Console Using the ILOM Command-Line Interface" on page 44.
- Using the remote console feature of the ILOM web interface. See "How to Connect to the Host Console Using the ILOM Web Interface" on page 44.

How to Connect to the Host's Serial Console Using the ILOM Command-Line Interface

1 Log in to a server node's ILOM using account with administrator privileges.

Use one of the following previously described methods:

- Use the serial management port as described in "How to Log Into ILOM Using a Serial Connection" on page 40.
- Use a client system to establish an SSH session over the network. See "How to Log In to the ILOM CLI Using an Ethernet Connection" on page 39.

2 To access the host serial console, type the command:

```
-> start /HOST/console
```

The serial console output appears on the screen.

Note – If the serial console is in use, stop and restart it using the **`stop /HOST/console`** command followed by the **`start /HOST/console`** command.

---

3 To return to the ILOM console, press ESC followed by the "(" character (Shift-9).

How to Connect to the Host Console Using the ILOM Web Interface

Before You Begin

In order to connect to the host console from a remote system, your remote system must meet the following requirements:

- An operating system such as Oracle Solaris, Linux, or Windows is installed.
- The system must be connected to a network that has access to the CMM Ethernet management port.
- Java Runtime Environment (JRE) 1.5 or later is installed. For CD-ROM redirection, 32–bit Java must be used.
- If the remote console system is running Oracle Solaris OS, volume management must be disabled for the remote console to access the physical floppy and CD/DVD-ROM drives.
- If the remote console system is running Windows, Internet Explorer Enhanced Security must be disabled.
- The remote console system and ILOM service processor are set up according to the instructions in the *Oracle Integrated Lights Out Manager (ILOM) Web Interface Procedures Guide*.

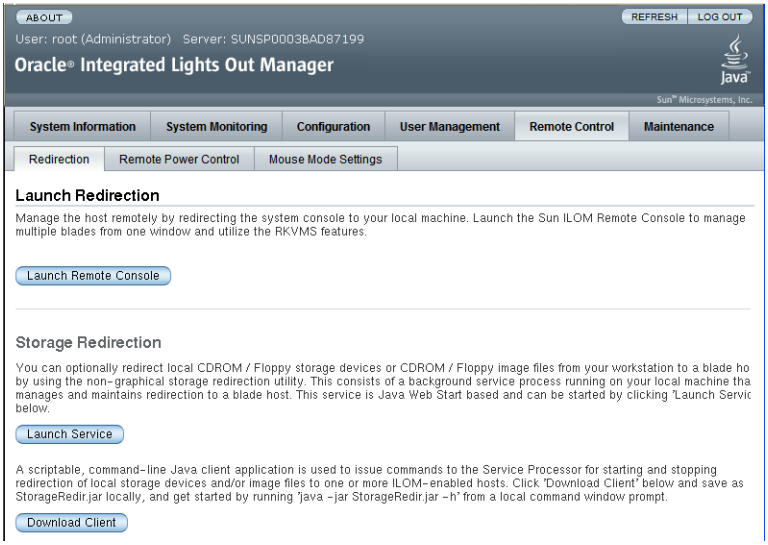
1 Log in to a server node's ILOM from a web browser.

These steps are described in "How to Log In to the ILOM Web Interface Using an Ethernet Connection" on page 38.

2 Click the Remote Control tab in the ILOM web interface.

The Launch Redirection screen appears.

Note – Make sure that the mouse mode is set to Absolute mode in the Mouse Mode Settings tab.

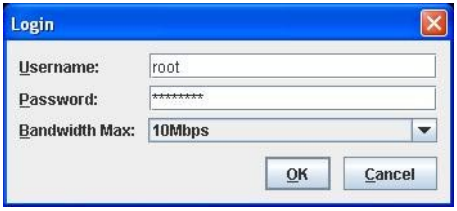


3 Click Launch Remote Console.

Note the following:

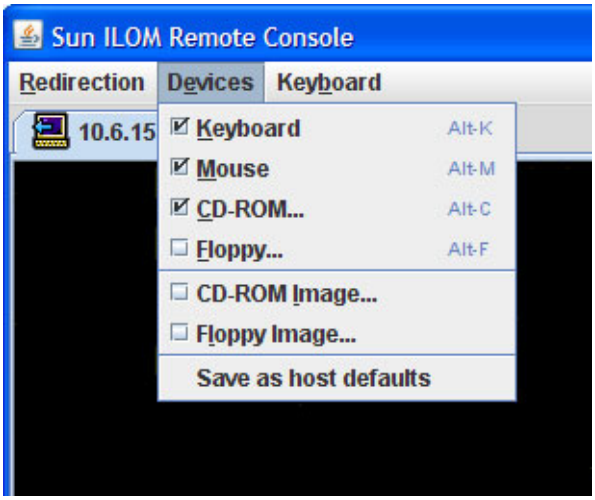
- When using a Windows system for JavaRConsole System redirection, a Hostname Mismatch warning dialog box might appear after you click Launch Remote Console. If it does, click the Yes button to clear it.

- A Remote Control login dialog box might appear appear. If it does, reenter your user name and password and click OK.



The JavaRConsole screen appears.

4 **To redirect devices on your remote system to the host console, select the appropriate item(s) from the Devices menu.**



- **Remote Physical Floppy Disk** – Select Floppy to redirect the server to the physical floppy drive attached to the remote system.
- **Remote Floppy Image** – Select Floppy Image to redirect the server to the floppy image file located on the remote system.
- **Remote Physical CD/DVD** – Select CD-ROM to redirect the server to the CD/DVD in the CD/DVD drive attached to the remote system.
- **Remote CD/DVD Image** – Select CD-ROM Image to redirect the server to the `.iso` image file located on the remote system.

Note – Using either of the CD/DVD options to install software on your server significantly increases the time necessary to perform the installation because the content is accessed over the network. The installation duration depends on the network connectivity and traffic.

See Also

- "Installing a Supported OS" on page 49

Installing a Supported OS

Finish the installation of your server module by installing a supported operating system (OS) on a boot device for each node.

Note – The installed OS can be different for each node.

Choose one of the following options for installing an OS:

- **Install the OS on the server module node's optional internal flash module (FMod).**

  Refer to the appropriate Sun Blade X6275 M2 server module OS installation guide for more information on using this option.
- **Install the OS on external storage connected to PCIe EM host bus adapter.**

  Refer to the PCIe EM host bus adapter documentation to create an OS boot disk.

  Note – Additional drivers for your server module might still need to be installed afterwards to ensure full support with your server hardware. Refer to the appropriate Sun Blade X6275 M2 server module OS installation guide for more information on the minimum driver requirements.

- **Configure network boot to load an OS to the server module node from an image on a server configured for PXE (Preboot Execution Environment).**

  Refer to the appropriate server module OS installation guide for more information on using this option.

Note – In addition, each server module node supports the installation of an internally mounted USB flash drive. Commercially available flash drives (also known as a 'thumb drive') can be used to provide additional storage as long as they meet the required physical dimensions. See "USB Flash Drive" on page 50.

See Also

- "Flash Modules" on page 50

- "USB Flash Drive" on page 50
- "Specifying a Boot Device" on page 51

Flash Modules

The Sun Blade X6275 M2 server module supports one Sun Flash Module (FMod) per node. The FMod is seen by the node as a local SATA disk drive and is controlled by the built-in ICH10 disk controller. It can be used to install and boot a supported operating system.

For information about how to install flash modules, refer to the *Sun Blade X6275 M2 Server Module Service Manual*.

Caution – Do not remove or insert a flash module until the green FMod power LED on the motherboard goes out. This LED (next to the FMod slots) indicates that there is power to the FMod from the energy storage module (ESM). Damage to the flash module can occur if the FMod is removed while the green FMod power LED is lit. It can take 20 seconds or more for the ESM to discharge and the LED to go out.

See Also

- "USB Flash Drive" on page 50
- "Specifying a Boot Device" on page 51

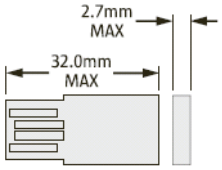
USB Flash Drive

The Sun Blade X6275 M2 server module has one internal USB port per node on the motherboard at the back of the server module. You must remove the server module from the chassis to access the USB ports.

When a USB flash drive is present, it appears as a local disk device. It is also possible to set it as a boot device for the node.

A USB flash drive with a standard USB 2.0 interface can be obtained from third-party sources but must meet the physical requirements specified in the illustration below.

Caution – The USB flash drive must be no larger than 2.7 mm wide and 32.0 mm long. Physically larger flash drives will interfere with installing the blade into the chassis.



For information about how to install a USB flash drive, refer to the "Removing and Installing USB Flash Drives" in *Sun Blade X6275 M2 Server Module Service Manual*.

See Also

- "Flash Modules" on page 50
- "Specifying a Boot Device" on page 51

Specifying a Boot Device

You can specify which device will act as the boot device for each node. You have two options:

- **Temporarily select a boot device.** To select a boot device for the node's current boot session, press the F8 key at the beginning of the system boot process to display the Boot Device Selection menu. Use the cursor keys to select a device for the current session and press Enter.

  The following example shows the selection of the node's optional FMod.

- **Permanently set boot device order.** To permanently set the order in which the system node looks for a boot device, press the F2 key at the beginning of the system boot process to enter the node's BIOS setup utility. Use the cursor keys to go to the Boot menu, and select the Boot Device Priority option to see a list of boot devices. The first device in the list will be used by the system as the primary boot device.

  The following example shows the selection of the node's optional FMod.

Note – Even after setting the boot order in the BIOS, you can still use the temporary method described earlier in this topic to change the boot device for a boot session.

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