

## **Sun Fire X4640 Server Installation Guide**



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# Preface

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

- “Product Information Web Site” on page 5
- “Related Books” on page 5
- “About This Documentation (PDF and HTML)” on page 7
- “We Welcome Your Comments” on page 8
- “Change History” on page 8

## Product Information Web Site

For information about the Sun Fire X4640 server, go to the following web site:

<http://www.oracle.com/goto/x86>

Click “Previous Products” from the left nav menu.

At that site, you can find links to the documentation, parts lists and downloads.

## Related Books

The following is a list of documents related to your Oracle Sun Fire X4640 server. These and additional support documents are available on the web at:

<http://docs.sun.com/app/docs/prod/server.x64#hic>

Document Group	Document	Description
Sun Fire X4640 Server-Specific Documentation	Sun Fire X4640 Server Product Documentation	Integrated HTML version of all starred (*) documents, including Search and Index.
	<i>Sun Fire X4640 Server Getting Started Guide</i>	Pictorial setup quick reference.

Document Group	Document	Description
	<a href="#">“Installation Overview” on page 9*</a>	How to install, rack, and configure the server up to initial power-on.
	<a href="#">“Overview of the Sun Fire X4640 Server Product Notes” in <i>Sun Fire X4640 Server Product Notes*</i></a>	Important late-breaking information about the Sun Fire X4640 server.
	<a href="#">“Introduction to Sun Installation Assistant” in <i>Sun Installation Assistant 2.3 through 2.4 User’s Guide for x64 Servers*</i></a>	A Sun tool used to perform an assisted installation of a supported Windows or Linux OS, upgrade firmware (regardless of OS), and other tasks.
	<a href="#">Introduction to Solaris OS and OpenSolaris Installation*</a>	How to install the Solaris OS on your server.
	<a href="#">“Introduction to Linux Installation” in <i>Sun Fire X4640 Server Linux Installation Guide*</i></a>	How to install a supported Linux OS on your server.
	<a href="#">“Introduction to Windows Installation” in <i>Sun Fire X4640 Server Windows Installation Guide*</i></a>	How to install supported versions of Microsoft Windows on your server.
	<a href="#">“Introduction to ESX Installation” in <i>Sun Fire X4640 Server ESX Installation Guide*</i></a>	How to install supported versions of the ESX OS on your server.
	<a href="#">Sun ILOM 3.0 Supplement for the Sun Fire X4640 Server*</a>	Version-specific supplemental information for your server’s <i>Integrated Lights Out Manager</i> .
	<a href="#">Sun Fire X4640 Server Diagnostics Guide*</a>	How to diagnose problems with your server.
	<a href="#">“Sun Fire X4640 Server Service Manual Overview” in <i>Sun Fire X4640 Server Service Manual*</i></a>	How to service and maintain your server.
	<a href="#">Sun Fire X4640 Server Safety and Compliance Guide</a>	Safety and compliance information about your server.
	<a href="#">4U Express Rail Rackmounting Kit Label</a>	Pictorial label on racking your server
	<a href="#">Sun Fire X4640 System Overview Label</a>	Pictorial label on servicing your server
	<a href="#">Sun Fire X4640 Top Cover Label</a>	Pictorial label on removing components

Document Group	Document	Description
Sun Integrated Controller Disk Management	<i>Sun Fire X4640 CPU Matrix Label</i>	Pictorial label on CPU module and fillers
	<i>Sun x64 Server Disk Management Overview</i>	Information about managing your server's storage.
	<i>Sun LSI 106x RAID Users Guide</i>	Information about LSI RAID features
x64 Servers Applications and Utilities Reference Documentation	<i>Sun x64 Server Utilities Reference Manual</i>	How to use the available utilities included with your server.
Oracle Integrated Lights Out Manager (ILOM) 3.0 Documentation	<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Feature Updates and Release Notes</i>	Information about new ILOM features
	<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Getting Started Guide</i>	Overview of ILOM 3.0
	<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Concepts Guide</i>	Conceptual information on ILOM 3.0
	<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Web Interface Procedures Guide</i>	How to use ILOM through the web interface
	<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 CLI Procedures Guide</i>	How to use ILOM through commands
	<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Management Protocols Reference Guide</i>	Information on management protocols

## 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, appendices or section numbering.

## We Welcome Your Comments

Oracle is interested in improving its documentation and welcomes your comments and suggestions. To share your comments, go to <http://docs.sun.com> and click Feedback.

## Change History

The following changes have been made to the documentation set.

- October 2009, initial publication
- January 2010, two documents revised
  - Service Manual - Revised DIMM population rules and addressed illustration issues
  - Product Notes - Revised software information and fixed bugs
- April 2010, one document revised
  - Installation Guide - Revised power specifications
- December 2010, two documents revised
  - Service Manual - Revised motherboard FRUID update instructions
  - Product Notes - Revised software information and fixed bugs



# Installation Overview

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This document describes how to install and power on Oracle's Sun Fire X4640 server for the first time. After unpacking your server, perform the following steps.

Task	Description	Link
1. Familiarize yourself with the server features.		<a href="#">“Sun Fire X4640 Server Front and Back Panel Features and Components” on page 11</a>
2. Install the server into a rack using slide rails.		<a href="#">“Installing the Server Hardware” on page 15</a>
3. Connect power cords, cables, and peripherals.		<a href="#">“Cabling Diagram” on page 33</a>
4. Power on the server.		<a href="#">“How to Apply Standby Power for Initial Service Processor Configuration” on page 35</a>
5. Check system specifications.		<a href="#">“Sun Fire X4640 Server Specifications” on page 41</a>
6. Manage the server.		<a href="#">“Managing Your Server” on page 43</a> <a href="#">“Communicating With the ILOM and the System Console” on page 45</a>
7. Configure or install an OS:	Configure the optional preinstalled Solaris OS.	<a href="#">“Setting Up Your Operating System” on page 59</a>
	For installation of Solaris OS.	<a href="#">“Introduction to Solaris OS and OpenSolaris Installation” in <i>Sun Fire X4640 Server Solaris OS Installation Guide</i></a>
	For <i>assisted</i> installation of Linux	Recommended method. Refer to the documentation for your version of Oracle's Sun Installation Assistant at: <a href="http://docs.sun.com/app/docs/prod/install.x64svr">http://docs.sun.com/app/docs/prod/install.x64svr</a>
	For <i>unassisted</i> installation of Linux	<a href="#">“Introduction to Linux Installation” in <i>Sun Fire X4640 Server Linux Installation Guide</i></a>

Task	Description	Link
	For <i>assisted</i> installation of Windows	Recommended method. Refer to the documentation for your version of Oracle's Sun Installtion Assistant at: <a href="http://docs.sun.com/app/docs/prod/install.x64svr">http://docs.sun.com/app/docs/prod/install.x64svr</a>
	For <i>unassisted</i> installation of Windows	“Introduction to Windows Installation” in <i>Sun Fire X4640 Server Windows Installation Guide</i>
	For installation of ESX	“Introduction to ESX Installation” in <i>Sun Fire X4640 Server ESX Installation Guide</i>

# Sun Fire X4640 Server Front and Back Panel Features and Components

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- “Sun Fire X4640 Server Front Panel Features and Components” on page 11
- “Sun Fire X4640 Server Back Panel Features and Components” on page 12

## Sun Fire X4640 Server Front Panel Features and Components

For back panel features and components, see “Sun Fire X4640 Server Back Panel Features and Components” on page 12.

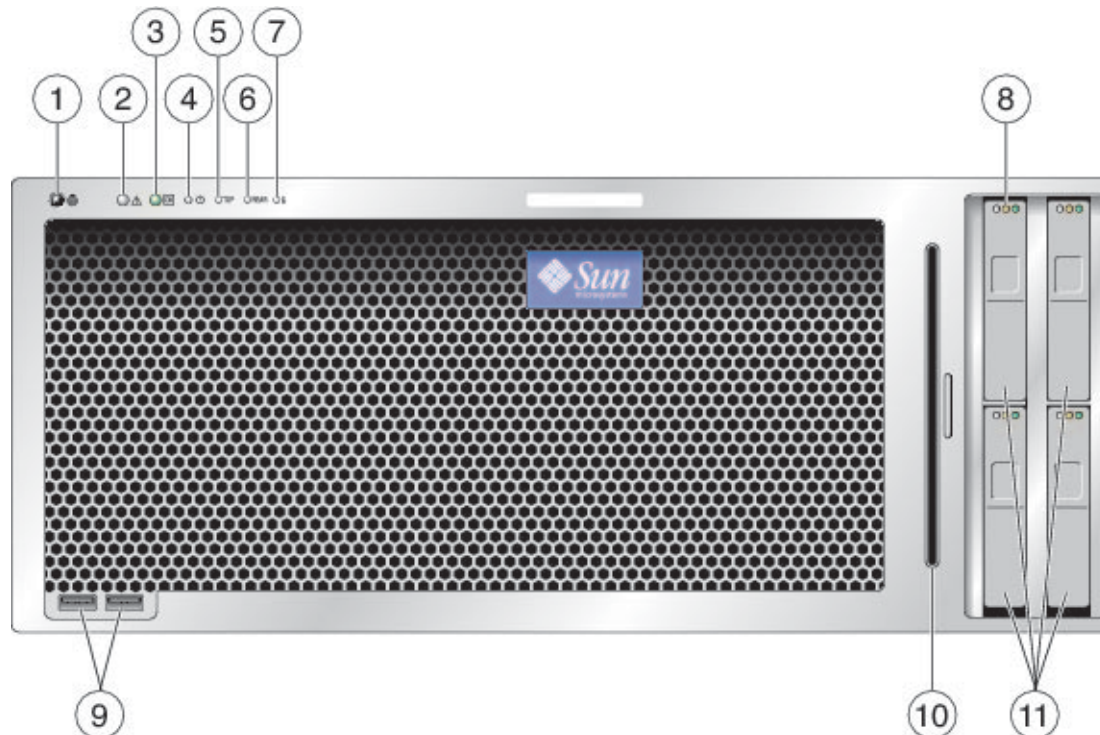
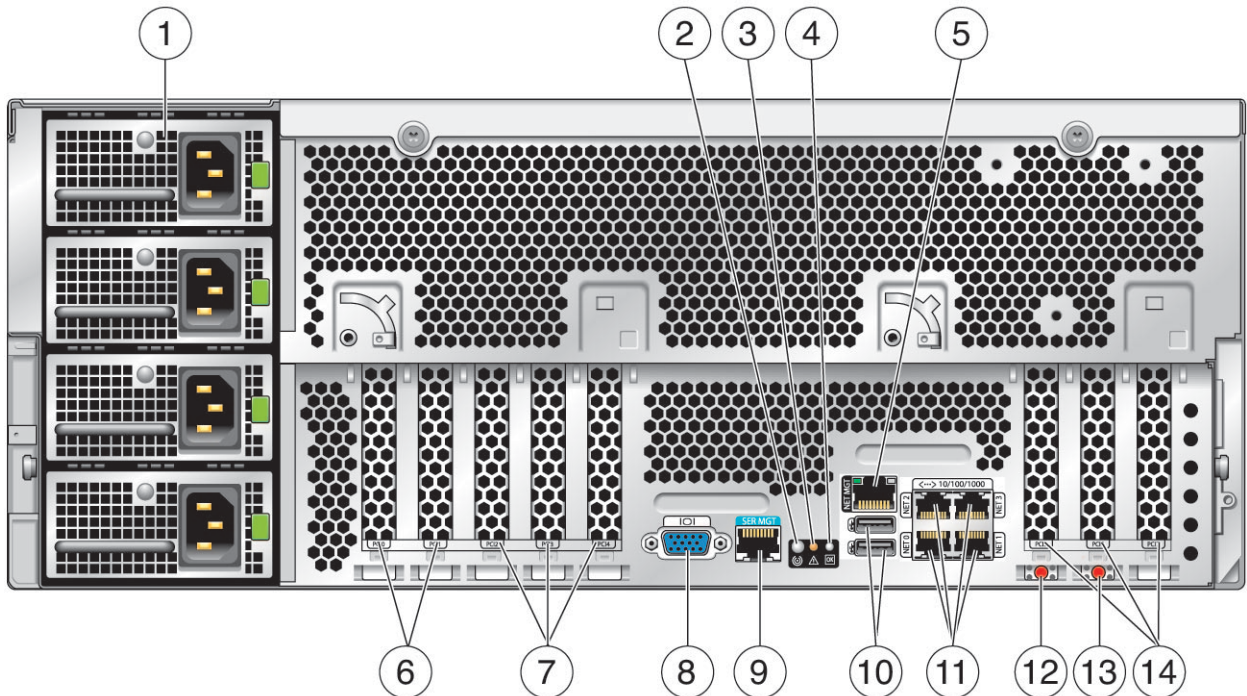


Figure Legend

- |                                       |                             |
|---------------------------------------|-----------------------------|
| 1 Locate button/LED (white)           | 7 System overheat fault LED |
| 2 Service action required LED (amber) | 8 Hard drive status LEDs    |
| 3 Power/OK LED (green)                | 9 USB ports (2)             |
| 4 Power button                        | 10 DVD module               |
| 5 Top fan fault LED                   | 11 Hard drives (4 maximum)  |
| 6 Rear power supply fault LED         |                             |

## Sun Fire X4640 Server Back Panel Features and Components

For front panel features and components, see “[Sun Fire X4640 Server Front Panel Features and Components](#)” on page 11.



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**Figure Legend**

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1	Power supplies (4)	8	Video connector
2	Locate button/LED (white)	9	Serial management port
3	Service Action required LED (amber)	10	USB ports (2 external, 1 internal on motherboard)
4	Power /OK LED (green)	11	10/100/1000 GigabitEthernet ports (4)
5	10/100 Ethernet port (for net management)	12	NMI dump switch (SW3)
6	PCI-X card slots (2)	13	Reset switch (SW2)
7	PCIe card slots (3)	14	PCIe card slots (3)

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# Installing the Server Hardware

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- “Contents of the Box and Optional Documentation Media Kit” on page 15
- “Tools and Staff Required” on page 16
- “Compatible Racks” on page 17
- “Slide Rail Kit” on page 18
- “How to Remove Components to Reduce Weight” on page 19
- “How to Install the Express Slide Rails Onto the Server and the Rack” on page 20
- “How to Insert the Server Into the Rack” on page 21
- “How to Verify Slide-Rail Operation” on page 23
- “Installing the Cable Management Arm (CMA)” on page 24
- “How to Attach the Cable Management Arm (CMA)” on page 25
- “How to Verify Cable Management Arm (CMA) Operation” on page 28
- “How to Remove the Cable Management Arm (CMA)” on page 28

## Contents of the Box and Optional Documentation Media Kit

In addition to your server and power cords, you will find the following items:

- *Getting Started Guide*
- Legal and safety documents
- DB9-RJ45 serial port adapter (530–3100) used to connect an Ethernet cable

You can *optionally* order a Documentation Media Kit that includes the following.

Item	Description	Notes
<i>Installation Guide</i>	Printed version of this manual.	You can also get the PDF free at: <a href="http://docs.sun.com">http://docs.sun.com</a>
Tools and Drivers CD/DVD	Includes BIOS, SP, and LSI firmware as well as OS drivers.	See the product information web site, listed in <a href="http://www.oracle.com/goto/x86">http://www.oracle.com/goto/x86</a>  Click “Previous Products” from the left nav menu.

Item	Description	Notes
Sun Installation Assistant CD/DVD	Software application to update firmware (regardless of OS) and to assist in installing Windows and Linux OSes.	Current version is available at: <a href="http://www.sun.com/systemmanagement/sia.jsp">http://www.sun.com/systemmanagement/sia.jsp</a>
SunVTS CD/DVD	Sun Validation Test Suite tests and validates Sun hardware by verifying the configuration and functionality of hardware controllers, devices, and platforms.	See the product information web site, listed in <a href="http://www.oracle.com/goto/x86">http://www.oracle.com/goto/x86</a> Click “Previous Products” from the left nav menu.

## Tools and Staff Required



**Caution** – To avoid serious personal injury and equipment damage, always use all four chassis handles to support the product weight when handling or moving the product.



**Caution** – The server weighs about 88 pounds (40 kg) when fully loaded with components. To reduce the risk of serious personal injury or equipment damage, use a mechanical lift to install the server into the rack. If a lift is not available, remove components as described in “[How to Remove Components to Reduce Weight](#)” on page 19. This reduces the weight of the server to 35 pounds (16 kg).



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

Before installing the server into a rack, gather the tools, equipment, and staff required.

Tools, Equipment, and Staffing Required	Notes
Two trained staff	Two people are needed to install the server and operate the lift.
#2 10–inch Phillips screwdriver (magnetic tip recommended)	Optional. Required if you are hardmounting the server.
Mechanical lift	Strongly recommended. If not available, reduce the weight of the server. See “ <a href="#">How to Remove Components to Reduce Weight</a> ” on page 19.



Tools, Equipment, and Staffing Required	Notes
Compatible rack	See “Compatible Racks” on page 17.
Slide rails	Optional. See “Slide Rail Kit” on page 18.
Cable management arm	Optional. See “Installing the Cable Management Arm (CMA)” on page 24.

## Compatible Racks

The slide rails are compatible with a wide range of equipment racks that meet the following standards:

- Four-post rack (mounting at both front and rear).

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**Note** – Two-post racks are not compatible.

---

- Rack should have horizontal opening and unit vertical pitch conforming to ANSI/EIA 310-D-1992 or IEC 60927 standards.
- Distance between front and rear mounting planes between approximately 26 to 34.5 inches (660.4 mm and 876.3 mm).
- Minimum clearance depth (to front cabinet door) in front of front rack mounting plane: 1 inch (25.4 mm).
- Minimum clearance depth (to rear cabinet door) behind front rack mounting plane: 31.5 inches (800 mm) with cable management arm (*recommended*) or 27.5 inches (700 mm) without the cable management arm.
- Minimum clearance width (between structural supports and cable troughs) between front and rear mounting planes: 18 inches (456 mm).

---

**Note** – The *4U Express Rail Rackmounting Kit* card that is included with the slide rails and cable management assembly refers to the rack as a retma (Radio Electronics Television Manufacturers Association) rack.

---

# Slide Rail Kit

The slide rail kit that comes with your server is called the express slide rail or the tool-less slide rail because it is simpler than older slide rails. It can be used with both square-hole and round-hole racks. The cable management arm (CMA) might come in a separate box.

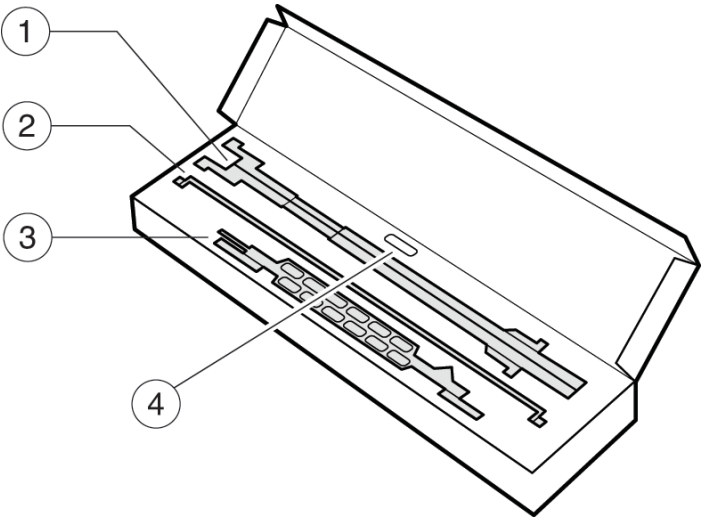


Figure Legend

1	Slide rail (2)	Attaches to rack post. The slide rail has an outer rail and a middle section. The middle section has the ball bearings which slide forward and backward. Each end of the slide rail has an attachment assembly.
2	Mounting bracket (2)	Attaches to server. The mounting bracket is also called the inner section because it is inserted into the middle section of the slide rail.
3	(Optional) Cable management arm (CMA)	Included only with Express Slide Rail and CMA combination kit.
4	Shipping/hardmount hardware	<b>Note</b> – If you want to secure the server for shipping now or in the future, use the shipping hardware. It is not possible to install the shipping hardware <i>after</i> the slide rails are installed. It is better to install the shipping hardware <i>during</i> the slide rail installation.

The slide rail kit comes with the following shipping hardware:

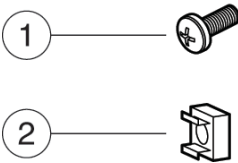


Figure Legend		
1	M6 screws (9)	To secure server for shipping, install 8 screws, 2 per rack post.  One extra screw is supplied.
2	Cage nuts	Cage nuts are required for shipping server in square-hole racks.

## ▼ How to Remove Components to Reduce Weight

### Before You Begin



**Caution** – Circuit boards and hard drives contain electronic components that are extremely sensitive to static electricity. Ordinary amounts of static electricity from clothing or the work environment can destroy the components located on these devices. Do not touch the components without antistatic precautions, especially along the connector edges. For more information, see “[Antistatic Procedures and Precautions](#)” in *Sun Fire X4640 Server Service Manual*.

● **If a lift is not available, remove the following components to reduce weight:**

- All four power supplies
- All four fan trays
- All modules in the CPU bay (CPU modules and filler modules)

This reduces the weight of the server to about 35 pounds (16 kg).

**See Also** “[Removing and Installing Components](#)” in *Sun Fire X4640 Server Service Manual*.

## ▼ How to Install the Express Slide Rails Onto the Server and the Rack

Installing the slide rails and cable management arm for the *first* time takes *approximately* 45 to 60 minutes.

---

**Note** – The express slide rail kit comes with the *4U Express Rail Rackmounting Kit* card that contains illustrations that you should refer to during this procedure. It can also be used to block out the 4 unit (4U) space to be occupied by the server.

---

### 1 Attach the mounting brackets to the server.

Each mounting bracket has a flat side, which fits against the server chassis. The other side has a pair of rims that fit into the slide rails. Each bracket has 6 key-shaped holes which fit over the pins on the side of the server.

---

**Note** – The last (rear-most) hole is not used.

---

a. **Position a bracket so that the green lock levers are at the front of the server and the holes on the bracket are over the pins on the server.**

b. **Hang the bracket on the pins.**

The middle of the bracket will bow out slightly so that the middle hole does not engage.

c. **Press down on the center of the bracket and slide forward.**

All 5 pins should lock into place with an audible click.

d. **Repeat the above steps with the other bracket.**

### 2 Use the installation card to determine the 4U space that will be occupied by the server.

The slide rails cover the holes on the 2U space on the bottom of the 4U space that is occupied by the server.

The installation card is designed so that it exactly covers a 4U space in the rack. The lower half of the card is narrower than the rest, so that the holes used by the slide rails are visible.

3 **(Optional for securing the server and slide rails for shipping) If you plan to ship the server and slide rails in place and you have a rack with square holes, place cage nuts in the holes at the top and the bottom of the 2U slide rail space. It is *not* possible to install the cage nuts after the slide rail is installed.**

---

**Tip** – Install the cage nuts if you plan to ship the server in the future.

---

From behind the rack post, put the bottom tab of the cage nut into the hole and squeeze the top tab into the hole.

---

**Note** – In normal installation, securing is not required. Securing provides extra stability in special circumstances, such as shipping the server in place, that is, shipping the server mounted in the rack and then shipping the rack.

---

#### **4 Attach the slide rails to the rack.**

Each slide rail has an attachment assembly at either end. Each assembly has two pins that fit into the rack holes (either round and square) and a spring that holds the rack rail against the assembly. The front part of the rail is stamped with the word “FRONT.” The rear part of the rail is stamped with the word “REAR.”

- a. **Orient the slide rail with the ball bearing track at the front of the rack.**
- b. **Extend the slide rail to the length of the rack.**
- c. **Slide the front attachment assembly over the rack’s posts, so that the pins fit into the rack holes. Push the assembly into the rack post until it clicks into place.**
- d. **Insert the rear attachment assembly into the holes of the rack post.**

---

**Tip** – Press the gray plastic tabs toward the rack post to adjust the length of the slide rails.

---

- e. **Repeat the above steps with the other slide rail.**

**Next Steps**    [“How to Insert the Server Into the Rack” on page 21](#)

## **▼ How to Insert the Server Into the Rack**

The following procedure explains how to insert the server, with the mounting brackets attached, into the slide-rail assembly on the rack.



---

**Caution** – To reduce the risk of serious personal injury or equipment damage, use a mechanical lift to install the server into the rack. If a lift is not available, remove components as instructed in [“How to Remove Components to Reduce Weight”](#) on page 19.

---

**Before You Begin** Perform the steps in [“How to Install the Express Slide Rails Onto the Server and the Rack”](#) on page 20.

- 1 Pull the middle sections from the outer rails so that the middle sections are extended until they click and lock into place.**
- 2 (Two trained staff) Lift the server by the handles and insert the mounting brackets attached to the server into the middle sections until the brackets engage with the middle sections.**

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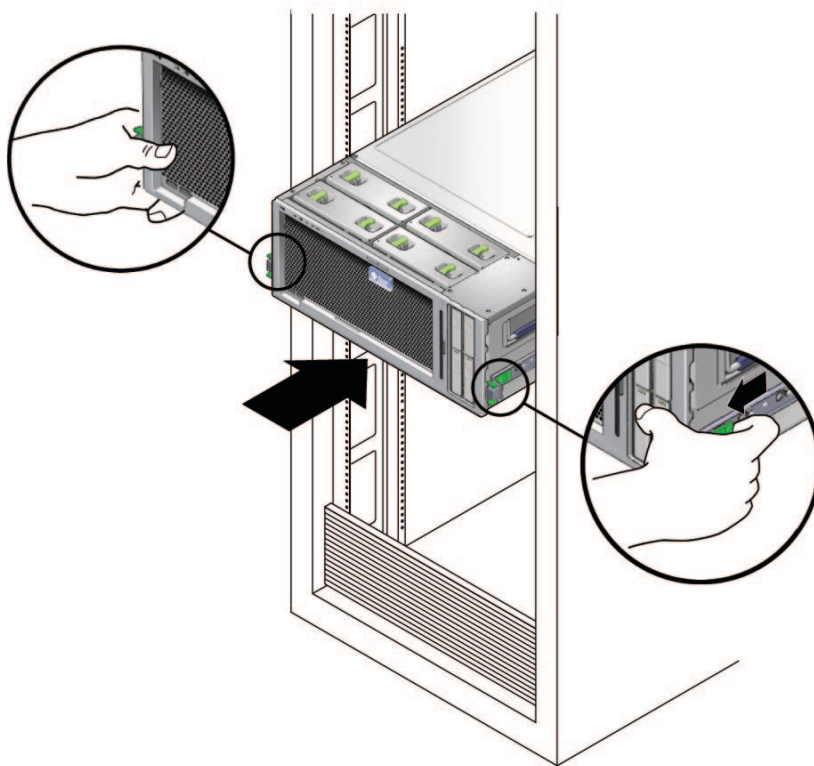
**Note** – Make sure that the mounting brackets enter the middle sections, *straight on and not at an angle* and that the ball bearing retainer is engaged with the inner sections.

---

- 3 Push the server into the rack until the slide rails lock into place.**

At this point the server is engaged with the slide rails but is not pushed into the rack fully.

- 4 To release the lock on the mounting brackets, locate the green plastic release tabs (on both left and right sides) on the mounting bracket.



- 5 With two hands, slide the green plastic tabs toward you to release the lock and push the server all the way into the rack.

**Next Steps**    [“How to Verify Slide-Rail Operation” on page 23](#)

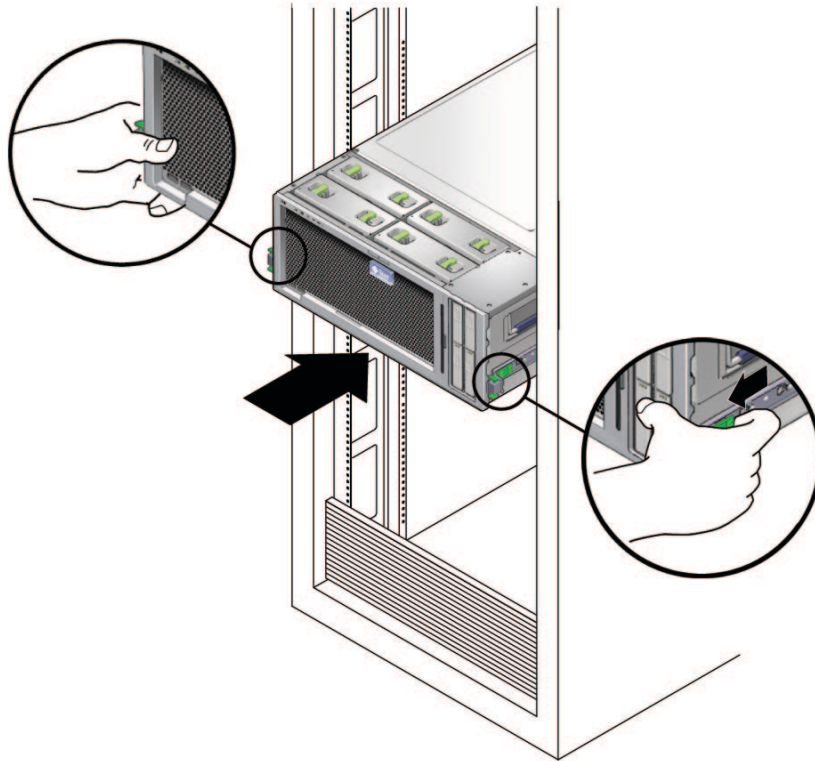
**See Also**    [“Removing the Server From the Rack” on page 29](#)

## ▼ How to Verify Slide-Rail Operation

**Before You Begin**    Perform the steps in [“How to Insert the Server Into the Rack” on page 21](#).

- 1 To pull the server out of the rack, squeeze the front green lock levers and pull the server out of the rack until the slide rails reach their stops.

- 2 Push the server back into the rack until it reaches the internal stops.
- 3 To release the lock on the mounting brackets, locate the green plastic release tabs (on both left and right sides) on the mounting bracket.



- 4 With two hands, slide the green plastic tabs toward you to release the lock and push the server all the way into the rack.

**Next Steps**    [“Installing the Cable Management Arm \(CMA\)” on page 24](#)

## Installing the Cable Management Arm (CMA)

The cable management arm is not required, but highly recommended to protect the I/O and power cables from damage. The CMA kit includes the following:

- Installation card
- CMA



- CMA extension



---

**Caution** – You can damage the I/O and power cables if you slide the system from the rack without first running all cables at the rear through the CMA.

---

This section has the following procedures.

- [“How to Attach the Cable Management Arm \(CMA\)” on page 25](#)
- [“How to Verify Cable Management Arm \(CMA\) Operation” on page 28](#)
- [“How to Remove the Cable Management Arm \(CMA\)” on page 28](#)

## ▼ How to Attach the Cable Management Arm (CMA)

### Before You Begin

---

**Note** – Do not run cables from another server through the CMA. Use one CMA per server.

---

The CMA comes with the *4U Express Rail Rackmounting Kit* card that contains illustrations that you should refer to during this procedure.

This procedure assumes that you have installed the server into the rack. See [“How to Insert the Server Into the Rack” on page 21](#).

- 1 **If necessary, slide the server back until it is fully inside the rack.**
- 2 **Unpack the CMA parts and take them to the rear of the equipment rack.**

---

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

---

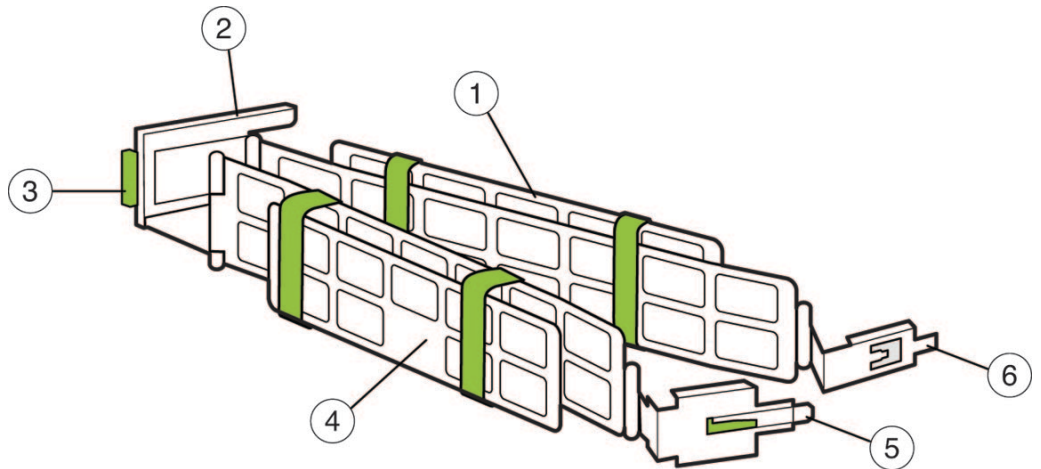
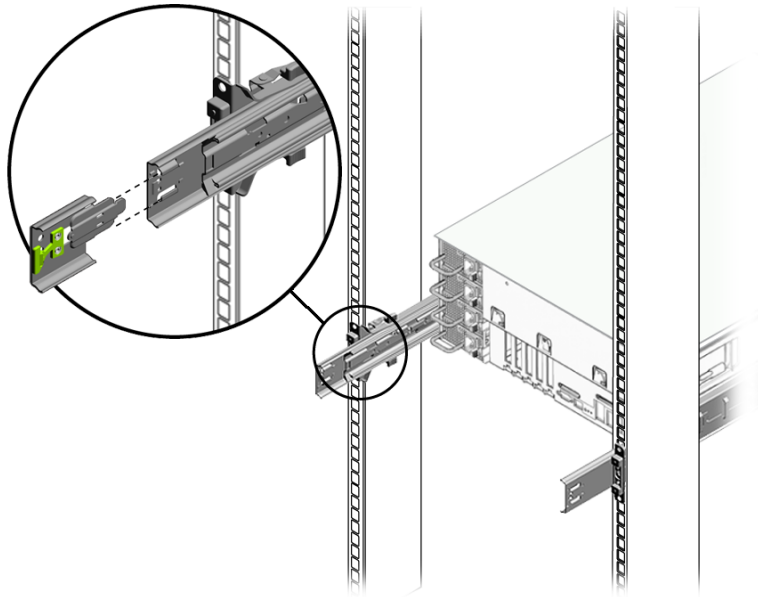


Figure Legend

1	Cable Management Arm (CMA)
2	Support latch with CMA extension installed. Note that CMA extension is a detachable piece.
3	Power supply access tab (press and rotate CMA for access to power supplies.)
4	Hook and loop straps
5	Outer latch with green insert
6	Inner latch

**3 Attach the CMA extension to the left slide rail.**

Push on the extension's metal clip (labeled PUSH) as you slide the extension into the left slide rail.

**4 Insert the right inner latch (numbered 6 in the CMA illustration) into the right rear slide rail. The inner latch does not have the green insert.**


---

**Note** – Insert the inner latch into the mounting bracket part of the slide rail, which extends about 5 inches (approximately 12.5 centimeters) from the server itself.

---

**5 Insert the right outer latch (numbered 5 in the CMA illustration) into the middle part of the slide rail. The right outer latch has the green insert.****6 Attach the light gray support latch (numbered 2 in the CMA illustration) into the CMA extension on the left slide rail.****7 Install cables to your server, using the hook and loop straps, and route the cables through the CMA.**

**Next Steps**    [“How to Verify Cable Management Arm \(CMA\) Operation” on page 28](#)

## ▼ How to Verify Cable Management Arm (CMA) Operation

**Before You Begin** Perform the steps in [“How to Attach the Cable Management Arm \(CMA\)”](#) on page 25.

- 1 Inspect the attached cables for any binding or kinks.
- 2 Verify that the CMA extends and does not bind in the slide rails.
- 3 Make sure that the power cord cables are secured to the chassis with the clips on each power supply.
- 4 Adjust the cables and CMA as required, and then retest the operation of the slide rails and CMA.

---

**Tip** – To maximize airflow, tie-wrap the power cords at the bottom of the CMA troughs and the data cables at the top of these troughs.

---

## ▼ How to Remove the Cable Management Arm (CMA)

- 1 Unplug any power cables and data cables from the server.
- 2 Remove the support latch from the CMA extension.
- 3 Remove the right inner latch.  
This exposes the right outer latch.
- 4 Press on the gray tab (labeled Push) on the right outer latch to release the right outer latch.
- 5 Remove the CMA extension from the left rear of the rack rail.
- 6 Remove the CMA from the slide rail.

**See Also** [“How to Remove the Server From the Rack”](#) on page 29

# Removing the Server From the Rack

---

This procedure assumes that you have turned off the server, removed the cable management arm, and removed any cables or cords that would restrict the movement of the server.

See the 4U Express Rail Rackmounting Kit card for illustrations that you should refer to during this procedure. This card is shipped with the slide rail and the cable management arm.

- [“How to Remove the Server From the Rack” on page 29](#)

## ▼ How to Remove the Server From the Rack

### Before You Begin



---

**Caution** – Tip hazard. If available, extend the anti-tilt legs on the rack *before* you extend the server.

---



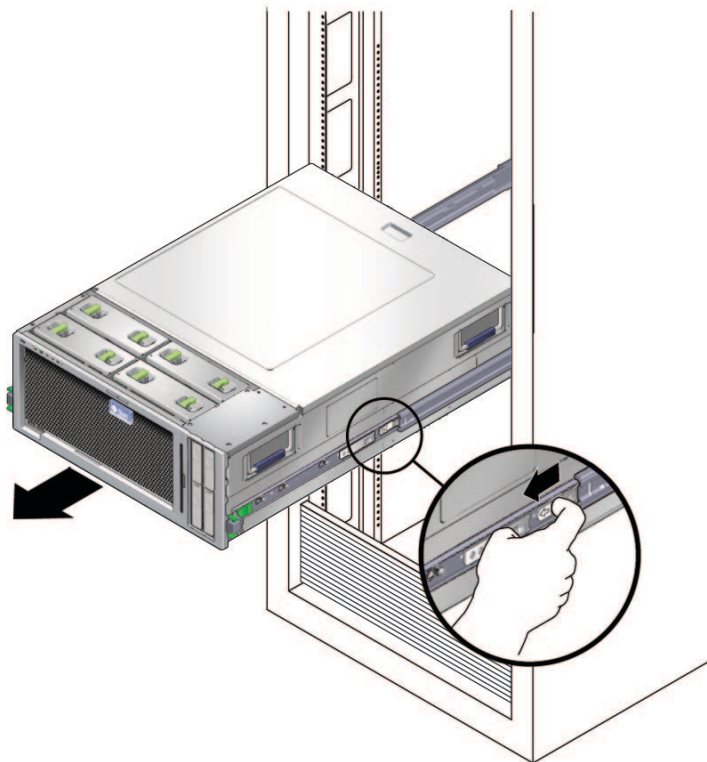
---

**Caution** – The Sun Fire X4640 server weighs about 85 pounds (40 kg) when fully loaded with components. To reduce the risk of serious personal injury or equipment damage, use a mechanical lift to remove the sever from the rack.

---

- 1 **From the front of the rack, squeeze the slide-rail locks (with green plastic handles) to release the lock and *completely* extend the server from the rack.**
- 2 **If a lift is not available, remove components to reduce the system’s weight. See [“How to Remove Components to Reduce Weight” on page 19](#).**

- 3 Using two hands, slide the gray plastic tabs on the mounting brackets attached to the server *toward yourself* to release the server from the slide rail.



---

**Caution** – At this point, the server is now free from the rail, and you need to support the weight of the server by holding the handles.

---

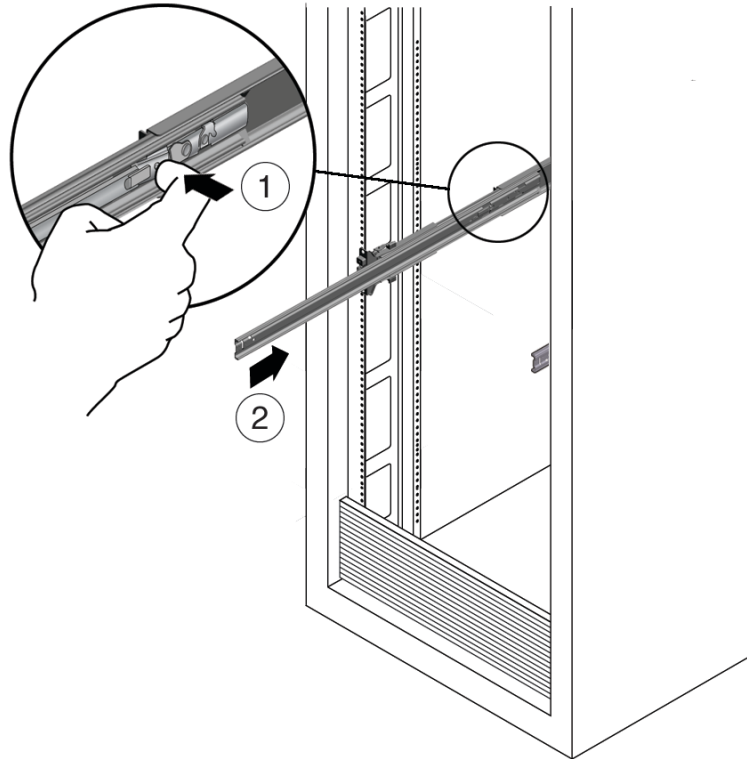
---

**Note** – If you do not have the server completely extended from the rack, you cannot access the gray tabs.

---

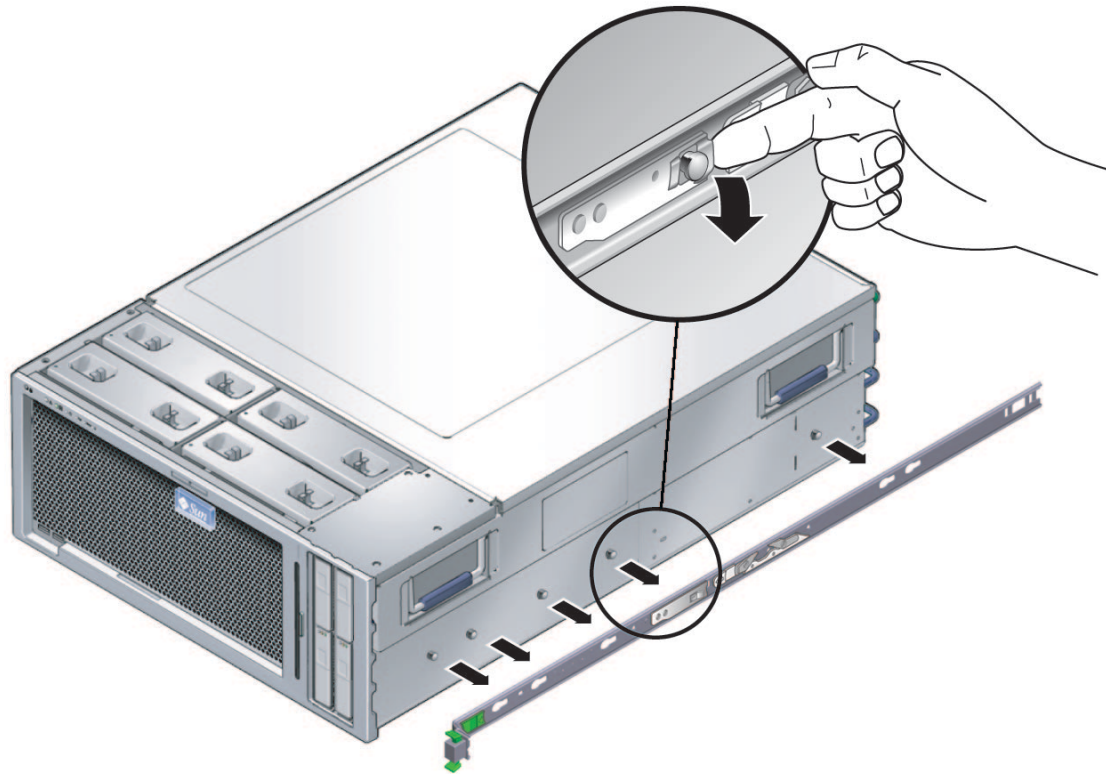
- 4 (Two trained staff) Carefully remove the server from the rack.

- 5 To return the middle section of the slide rail back into the rack:
  - a. Push the gray *metal* tab on the middle section of one slide rail and then slide the rail middle section back into the rack.



- b. Repeat for the other slide rail.
- 6 Remove the slide rails from the rack by doing the following.
  - a. To release the front assembly, push the upper and lower gray plastic tabs on the slide rail attachment assembly toward the rack post.
  - b. Support the weight of the slide rails as you pull the slide rails outward and away from the rack posts.
  - c. Repeat for the rear attachment.
  - d. Repeat for the other slide rail.

- 7 To remove both mounting brackets from the server, *gently* lift the metal clip over the pin and then slide the mounting bracket toward the rear of the server.



**See Also**    [“How to Insert the Server Into the Rack” on page 21](#)



# Cabling and Power

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- [“Cabling Diagram” on page 33](#)
- [“How to Cable the Server” on page 34](#)
- [“How to Apply Standby Power for Initial Service Processor Configuration” on page 35](#)
- [“How to Power On All Server Components” on page 36](#)
- [“How to Power Off the Server” on page 37](#)

## Cabling Diagram

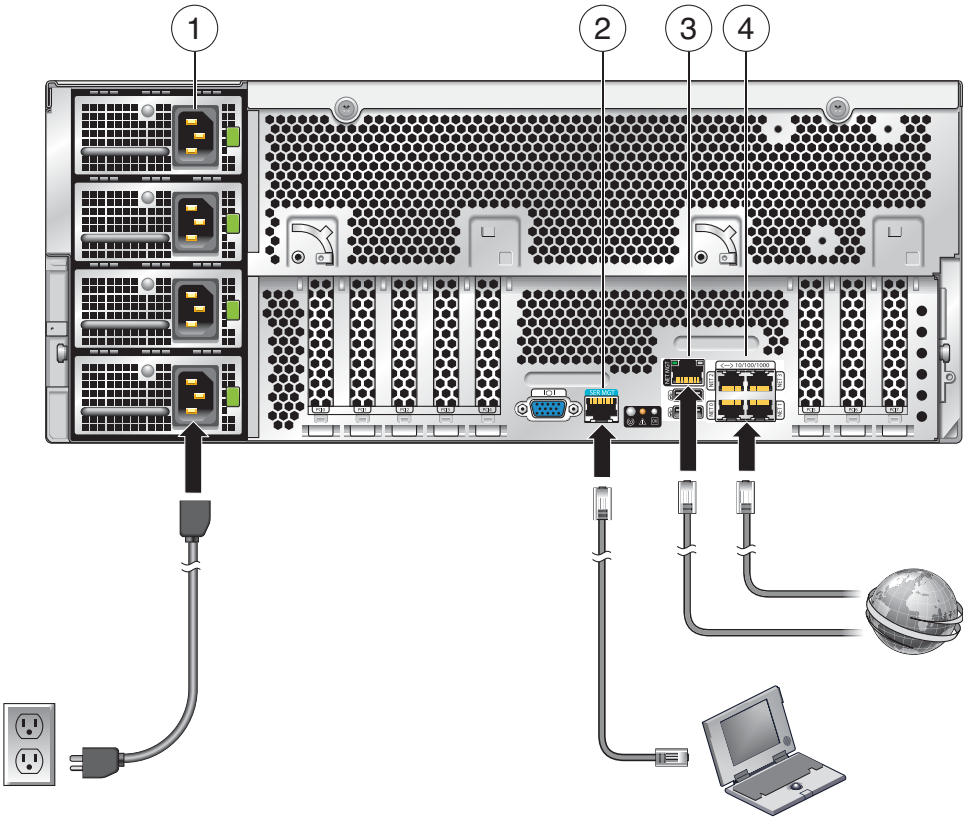


TABLE 1 Cabling Diagram

Figure Legend	
1	Connect power cable to power source.
2	Connect a serial cable between the SER MGT port and a terminal device or a PC. <b>Note</b> – You might need an adapter. The server comes with a DB9–to–RJ45 serial port adapter.
3	(Optional) Connect an Ethernet cable between the NET MGT port and the network to which future connections to the SP and the host will be made.
4	Connect an Ethernet cable between one of the NET ports and the network.

▼ **How to Cable the Server**

For details on the front and back panels of the server, see “[Sun Fire X4640 Server Front and Back Panel Features and Components](#)” on page 11.

- 1 **Connect network cables to one or more of the 10/100/1000 Gigabit Ethernet connectors labeled NET 0, NET 1, NET 2, and NET 3 (labeled 4 in the illustration).**
- 2 **If you plan to interact with the system console directly, connect a mouse and a keyboard to the USB connectors and a monitor to the video connector.**

This step is optional, unless your operating system does not support headless operation.

---

**Note** – The system console is permanently configured to a resolution of 1024 x 768 and a color depth of 24 bits. This configuration cannot be changed. This limitation is necessary to support video redirection by the Integrated Lights Out Manager (ILOM).

---

- 3 **If you plan to access the ILOM over the network, connect a network cable to the 10/100 Ethernet connector labeled NET MGT.**

This step is necessary to use the full range of ILOM functionality.

- 4 **If you plan to access the ILOM command-line interface using the serial management port, connect a compatible cable to the RJ45 connector labeled SER MGT.**

An adapter is shipped with the system, part number 530-3100. This is a DB9-to-RJ45 adapter. This adapter is also used with other Sun Fire systems and with Sun Netra systems. It is compatible with the CISCO 72-3383-01 console cable.

**See Also** [“Communicating With the ILOM and the System Console” on page 45](#)

## ▼ **How to Apply Standby Power for Initial Service Processor Configuration**

Use this procedure to apply standby power to the SP before initial configuration.



---

**Caution** – Possible equipment damage. Do not operate the server without all fans, component heatsinks, air baffles, and the cover installed. Severe damage to server components can occur if operated without adequate cooling mechanisms.

---



---

**Caution** – A maximum of two power cords can be connected to a single branch circuit. The remaining power cord(s) must be connected to a second branch circuit.

---

- **Ensure that grounded AC power cords are plugged into the four AC power connectors on the back panel of the server and into grounded AC power outlets on *two separate branch circuits* (see **Caution** above).**

When power is connected, the server boots into standby power mode. After the SP boots and is ready to use, the Power/OK LED on the front panel flashes to indicate standby power mode. For the LED location, see [“Sun Fire X4640 Server Front Panel Features and Components”](#) on [page 11](#).

---

**Note** – Do *not* apply main power to the rest of the server until you are ready to install or configure a platform operating system. At this point, standby power is supplied only to the Graphics Redirect and Service Processor (GRASP or SP for short) board and power supply fans.

---

**Next Steps** To begin the initial SP configuration, see [“Communicating With the ILOM and the System Console”](#) on [page 45](#)

**See Also** [“Controlling Power and Performing Hardware Reset”](#) in *Sun Fire X4640 Server Service Manual*

## ▼ **How to Power On All Server Components**

This procedure powers on *all* server components and is different from applying standby power, which powers on the service processor only.

- 1 **Verify that power cords have been connected and that standby power is on.**

In standby power mode, the Power/OK LED on the front panel blinks.

**2 Use a pointed object to press and release the recessed Power button on the server front panel.**

When main power is applied to the full server, the Power/OK LED next to the Power button remains lit and no longer blinks.

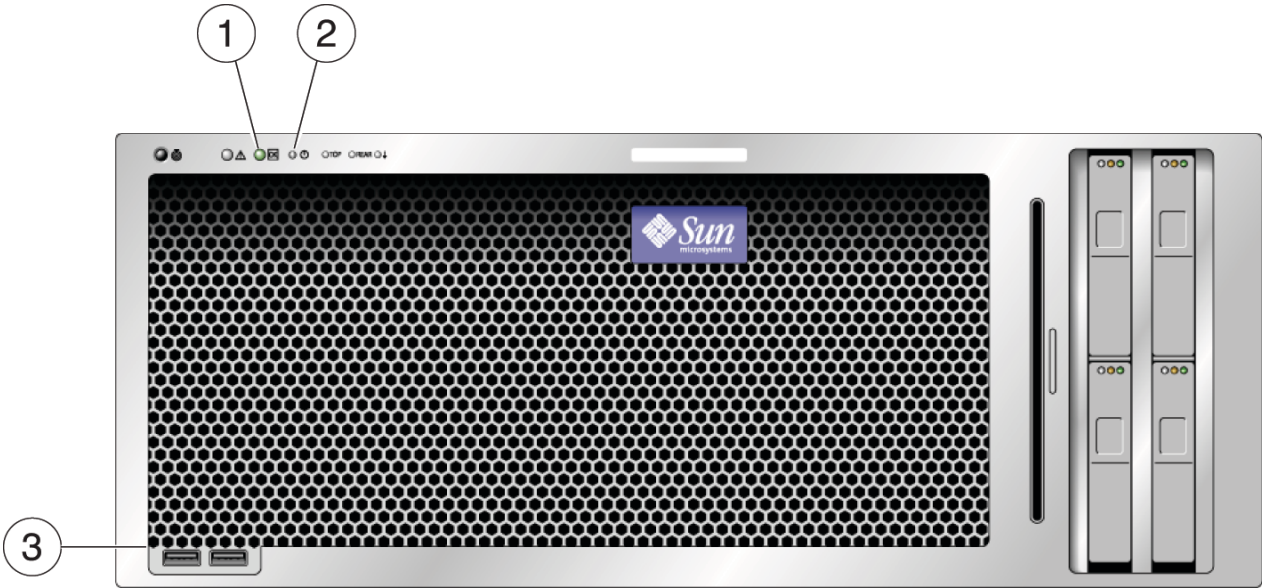


Figure Legend

1	Power/OK LED
2	Power button
3	USB connectors

**Next Steps** To begin the initial SP configuration, see [“Communicating With the ILOM and the System Console”](#) on page 45

**See Also** [“Controlling Power and Performing Hardware Reset”](#) in *Sun Fire X4640 Server Service Manual*

## ▼ How to Power Off the Server

- To power off the server from main power mode, use one of the following two methods:

- Graceful shutdown: Use a pointed nonconducting object to press and release the Power button on the front panel. This causes Advanced Configuration and Power Interface (ACPI) enabled operating systems to perform an orderly shutdown of the operating system. Servers not running ACPI-enabled operating systems will shut down to standby power mode immediately.



---

**Caution** – For servers not running ACPI-enabled OSs, there is a possible data loss. This is the same as an emergency shutdown.

---

- Emergency shutdown: Press and hold the Power button for four seconds to force the main power off and enter standby power mode.

When main power is off, the Power/OK LED on the front panel blinks, indicating that the server is in standby power mode.

---

**Note** – To completely power off the server, you must disconnect the AC power cords from the back panel of the server.

---

- See Also**
- [“How to Apply Standby Power for Initial Service Processor Configuration” on page 35](#)
  - [“How to Power On All Server Components” on page 36](#)
  - [“Controlling Power and Performing Hardware Reset” in \*Sun Fire X4640 Server Service Manual\*](#)

# Getting Service for Your Server

---

To get service for your server, find your server's serial number, and contact Oracle service through the following web site:

<http://www.oracle.com/us/support/index.htm>

- “How to Find the Server's Serial Number” on page 39

## ▼ How to Find the Server's Serial Number

You might need to have the serial number of your server to ask for service on your system. Keep this number handy for future use.

- Find the serial number, using one of these ways:
  - On the front panel of the server, look at the bottom ledge (near the center) to find the server's serial number.
  - Find the yellow Customer Information Sheet (CIS) attached to your server packaging. This sheet includes the serial number.
  - From ILOM, enter the show /SYS command or go to the System Information tab in the ILOM browser interface.

**See Also** For an illustration of the front panel of the server, see “[Sun Fire X4640 Server Front Panel Features and Components](#)” on page 11.





# Sun Fire X4640 Server Specifications

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- [“Physical Specifications For the Sun Fire X4640 Server” on page 41](#)
- [“Power Specifications For the Sun Fire X4640 Server” on page 41](#)
- [“Environmental Specifications” on page 42](#)
- [“Acoustic Specifications” on page 42](#)

## Physical Specifications For the Sun Fire X4640 Server

This section contains specifications for the Sun Fire X4640 Server.

Specification	Value
Width	17.5 inches (445 mm)
Height	6.9 inches (176 mm)
Depth	With bezel: 24.75 inches (629 mm)  With bezel and rear power supply latches: 25.25 inches (642 mm)
Weight	Maximum standalone server: 88 pounds (40 kg)  Maximum with rack-mount kit and cable management arm assembly: 106 pounds (48 kg)

## Power Specifications For the Sun Fire X4640 Server

Specification	Value
Universal AC input	110 – 240 VAC 50/60 Hz
Maximum input current at 200 VAC	13 A
Maximum input current at 100 VAC	22 A
Maximum power available	1975 W

Specification	Value
Maximum power consumed	1715 W

## Environmental Specifications

Specification	Value
Temperature (operating)	41° - 90° F (5 ° - 32.2° C)
Temperature (storage)	-40° - 149° F
Humidity	20% - 90% non-condensing
Operating altitude	0 - 10,000 feet (0 - 3048 m) maximum  Decrease operating temperature 1.8 ° F (1 ° C) per 985 feet (300 m) above 2955 feet (900 m) altitude
Airflow	Airflow typical (for room temperatures 73° F and below (23 °C and below): 200 CFM  Airflow max possible: 400 CFM.

## Acoustic Specifications

Specification	Value
L <sub>WAd</sub> (sound power):	
at or below 25 °C	8.2 dB
above 25 °C	9.0 dB
L <sub>pAm</sub> (average bystander sound pressure):	
at or below 25 °C	67 dB
above 25 °C	75 dB

# Managing Your Server

---

You have several different options for managing your server depending on your situation.

- Managing *many* servers

Your server can be managed with a wide variety of system management tools, created both by Sun and by third parties. For more information on the system management tools, see the Sun Tools information at:

<http://www.sun.com/systemmanagement/managementtools.jsp>

Here is a *subset* of some of these tools:

- If your server is one of many Oracle x86 and SPARC servers that you want to manage from a single interface, you can use the Oracle Enterprise xVM Ops Center. For more details, see:

[http://www.oracle.com/  
us/products/enterprise-manager/opscenter/index.html](http://www.oracle.com/us/products/enterprise-manager/opscenter/index.html)

- If you already have third-party system management tools, Oracle servers can integrate with many third-party tools. For more details, see:

<http://www.sun.com/systemmanagement/tools.jsp>

- Managing a *single* server

- Sun Installation Assistant (SIA) is an application that you can use for initial server configuration. SIA helps you to update firmware (ILOM firmware, BIOS, and RAID controller software) and to automate installation of Linux and Windows operating systems. For more details, refer to the documentation for your version of SIA:

<http://docs.sun.com/app/docs/prod/install.x64svr>.

- The Integrated Lights Out Manager (ILOM) is built-in software and hardware that you can use to monitor the status and configuration of your server. For more information, see the following section:

[“Overview of ILOM Software” on page 44](#)

## Overview of ILOM Software

Oracle's Integrated Lights Out Manager (ILOM) provides advanced service processor hardware and software that you can use to manage and monitor your Oracle servers. ILOM's dedicated hardware and software is preinstalled on a variety of Sun server platforms, including x64-based Sun Fire servers, Sun Blade modular chassis systems, Sun Blade server modules, as well as on SPARC-based servers. ILOM is a vital management tool in the data center and can be used to integrate with other data center management tools already installed on your systems.

Oracle is currently transitioning many systems to support ILOM so that customers will have a single, consistent, and standards-based service processor (SP) across Sun's product lines. For customers, this means you have:

- A single, consistent system management interfaces for operators
- Rich protocol and standards support
- Third-party management support
- System management functions integrated into Oracle servers at no extra cost

ILOM enables you to actively manage and monitor the server independently of the operating system state, providing you with a reliable Lights Out Management (LOM) system. With ILOM, you can proactively:

- Learn about hardware errors and faults as they occur
- Remotely control the power state of your server
- View the graphical and non-graphical consoles for the host
- View the current status of sensors and indicators on the system
- Determine the hardware configuration of your system
- Receive generated alerts about system events in advance via IPMI PETs, SNMP traps, or email Alerts

The ILOM service processor (SP) runs its own embedded operating system and has a dedicated Ethernet port, which together provide out-of-band management capability. In addition, you can access ILOM from the server's host operating system. Using ILOM, you can remotely manage your server as if you were using a locally attached keyboard, monitor, and mouse.

ILOM automatically initializes as soon as power is applied to your server. It provides a full-featured, browser-based web interface and has an equivalent command-line interface (CLI). There is also an industry-standard SNMP interface and IPMI interface.

# Communicating With the ILOM and the System Console

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These topics provide instructions for connecting to the system service processor (SP) Integrated Lights Out Manager (ILOM) and the system console:

- [“Server Connections” on page 45](#)
- [“About ILOM SP IP Addresses and the ILOM Interfaces” on page 47](#)
- [“Determining the SP IP Address” on page 47](#)
- [“Connecting to the ILOM” on page 49](#)
- [“Connecting to the System Console” on page 52](#)

## Server Connections

The following illustration shows the cabling locations on the rear panel of the server.

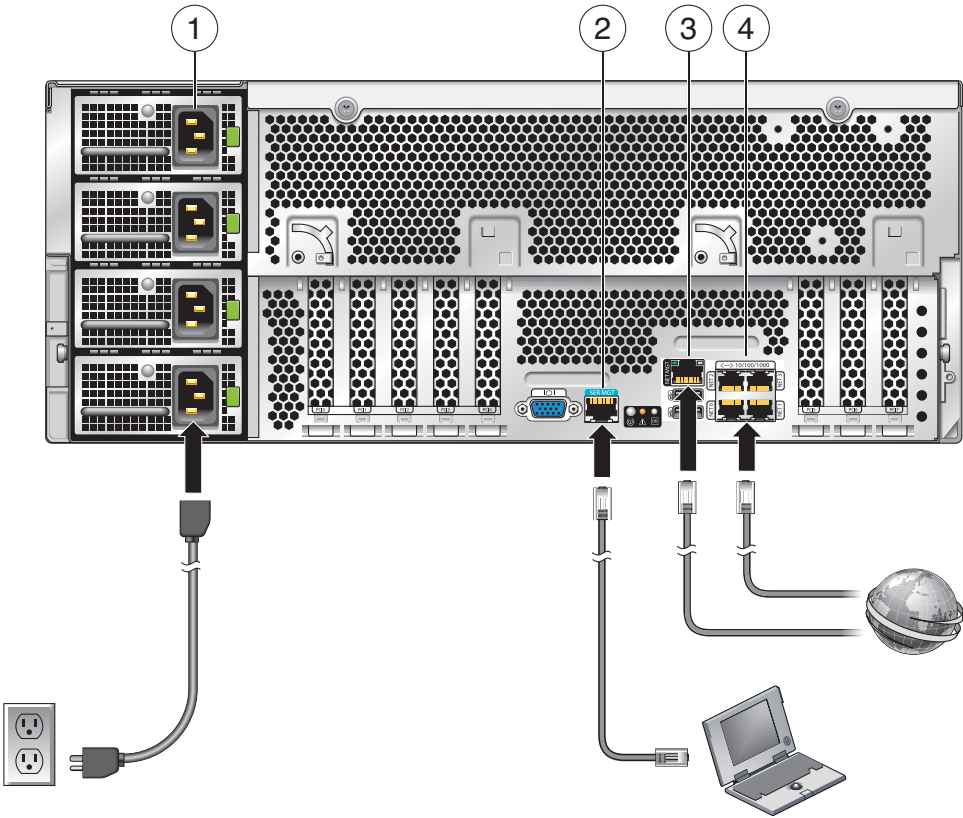


TABLE 2 Figure Legend

1	Connect power cable to power source.
2	Connect a serial cable between the SER MGT port and a terminal device or a PC. <b>Note</b> – You might need an adapter. The server comes with a DB9-to-RJ45 serial port adapter.
3	(Optional) Connect an Ethernet cable between the NET MGT port and the network to which future connections to the SP and the host will be made.
4	Connect an Ethernet cable between one of the NET ports and the network.

## About ILOM SP IP Addresses and the ILOM Interfaces

The ILOM SP is assigned a DHCP IP address by default.

There are two requirements for DHCP IP address assignment to occur:

- Connection to your network must be through a NET MGT port.
- DHCP services must be present on your network infrastructure.

If a DHCP server cannot be reached after three DHCP requests, the ILOM SP is assigned a *static* IP address based on the network management port MAC address. This IP address is always in the format 192.168.xxx.xxx, where xxx.xxx is the remainder of the IP address.

You can choose from one of several ILOM SP interfaces to support system management on your server.

You can access SP firmware applications through the following ILOM SP interfaces:

- Serial port command-line interface (CLI) (local access)
- Secure shell (SSH) CLI (remote access over the network)
- Web browser user interface (remote access over the network)

## Determining the SP IP Address

You need to determine the service processor (SP) IP (network) address to use the SP Integrated Lights Out Manager (ILOM) to manage the server.

You can determine the IP address through either one of these ways:

- [“How to Get the SP IP Address Using the BIOS Setup Utility” on page 47](#)
- [“How to Get the SP IP Address By Using a Serial Connection and the CLI” on page 48](#)

### ▼ How to Get the SP IP Address Using the BIOS Setup Utility

#### Before You Begin

- Complete the hardware setup as described in the hardware setup documentation.
- Apply standby power for your server by plugging an AC cord into the system power supply. See [“Server Connections” on page 45](#) for the location of the power cord connectors.

- 1 **Reboot the server.**
- 2 **Press the F2 key when prompted, to access the BIOS Setup Utility.**
- 3 **In the BIOS Setup Utility, choose Advanced → IPMI 2.0 Configuration → Set LAN Configuration → IP address.**

The IP address for the SP is displayed.

## ▼ How to Get the SP IP Address By Using a Serial Connection and the CLI

### Before You Begin

- Complete the hardware setup as described in the hardware setup documentation.
- Apply standby power for your server by plugging an AC cord into the system power supply. See “[Server Connections](#)” on page 45 for the location of the power cord connectors.

- 1 **Verify that your terminal, laptop, or terminal server is operational.**
- 2 **Configure the terminal device or the terminal emulation software running on a laptop or PC to the following settings:**

- 8N1: eight data bits, no parity, one stop bit
- 9600 baud
- Disable hardware flow control (CTS/RTS)
- Disable software flow control (XON/XOFF)

- 3 **Connect a serial cable from the RJ-45 SERIAL MGT port on the server’s back panel to a terminal device.**

See “[Server Connections](#)” on page 45 for the location of the RJ-45 SERIAL MGT port.

- 4 **Press Enter on the terminal device to establish a connection between that terminal device and the ILOM SP.**

The SP eventually displays a login prompt, such as the following example:

SUNSP 0111AP0-0814YT06B4 login:

In this example login prompt:

- The string SUNSP is the same for all SPs.
- *0111AP0-0814YT06B4* is the product serial number by default. This value can also be the host name, which is assigned by the user or the DHCP server.

- 5 **Log in to the ILOM.**

a. **Type the default user name: root.**

b. **Type the default password: changeme.**

Once you have successfully logged in, the SP displays its default command prompt:

->

You can now run CLI commands to configure ILOM for the server’s user accounts, network settings, access lists, alerts, and so on. For detailed instructions on CLI commands, see the *Sun Integrated Lights-Out Manager 3.0 CLI Procedures Guide*.



**6 To display the SP IP address, type:**

```
cd /SP/network
```

---

**Note** – You can switch back to the SP CLI from the serial console by entering the **Esc** ( key sequence.

---

## Connecting to the ILOM

This section describes three different procedures for connecting to the ILOM:

- [“How to Connect to the Command-Line Interface Using SSH” on page 49](#)
- [“How to Connect to the ILOM Command-Line Interface Through the Serial Management Port” on page 49](#)
- [“How to Connect to the ILOM Web Interface” on page 51](#)

### ▼ How to Connect to the Command-Line Interface Using SSH

#### Before You Begin

- Perform the hardware setup as described in the hardware setup documentation.
- Apply standby power to the server by connecting AC power to the system power supply. See [“Server Connections” on page 45](#) for the location of the power connectors.

#### 1 Connect the server to the Internet with an Ethernet cable connected to the server's RJ-45 NET MGT Ethernet port.

See [“Server Connections” on page 45](#) for the location of the RJ-45 NET MGT port.

#### 2 Using a client system, access a command line and establish a Secure Shell (SSH) connection to the service processor's IP address with the following command:

```
ssh -l root sp_ip_address
```

For example, to connect to the SP with the DHCP-assigned IP address of 129.144.82.20, type the following command:

```
ssh -l root 129.144.82.20
```

#### 3 Log in to the ILOM.

The default user name is root and the default password is changeme.

### ▼ How to Connect to the ILOM Command-Line Interface Through the Serial Management Port

Use this procedure to establish a serial connection to the ILOM SP so that you can perform initial configuration of ILOM.

#### Before You Begin

- Perform the hardware setup as described in the hardware setup documentation.

- Apply standby power to the server by connecting AC power to the system power supply. See [“Server Connections” on page 45](#) for the location of the power connectors.
- Verify that your terminal, laptop, or terminal server is operational.

**1 Configure the terminal device or the terminal emulation software running on a laptop or PC to the following settings:**

- 8N1: eight data bits, no parity, one stop bit
- 9600 baud
- Disable hardware flow control (CTS/RTS)
- Disable software flow control (XON/XOFF)

**2 Connect a serial cable from the RJ-45 SERIAL MGT port on the server’s back panel to a terminal device.**

See [“Server Connections” on page 45](#) for the location of the RJ-45 SERIAL MGT port.

**3 Press Enter on the terminal device to establish a connection between that terminal device and the ILOM SP.**

The SP eventually displays a login prompt, such as the following example:

```
SUNSP0111AP0-0814YT06B4 login:
```

In this example login prompt:

- The string SUNSP is the same for all SPs.
- 0111AP0-0814YT06B4 is the product serial number by default. This value can also be the host name, which is assigned by the user or the DHCP server.

**4 Log in to the ILOM.**

**a. Type the default user name: root.**

**b. Type the default password: changeme.**

Once you have successfully logged in, the SP displays its default command prompt:

```
->
```

You can now run CLI commands to configure ILOM for the server’s user accounts, network settings, access lists, alerts, and so on. For detailed instructions on CLI commands, see the *Sun Integrated Lights-Out Manager 3.0 CLI Procedures Guide*.

**5 To start the serial console, type:**

```
cd /SP/console
```

```
->start
```

---

**Note** – You can switch back to the SP CLI from the serial console by entering the **Esc** ( key sequence.

---

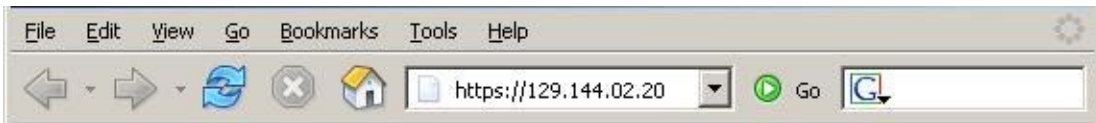
## ▼ How to Connect to the ILOM Web Interface

### Before You Begin

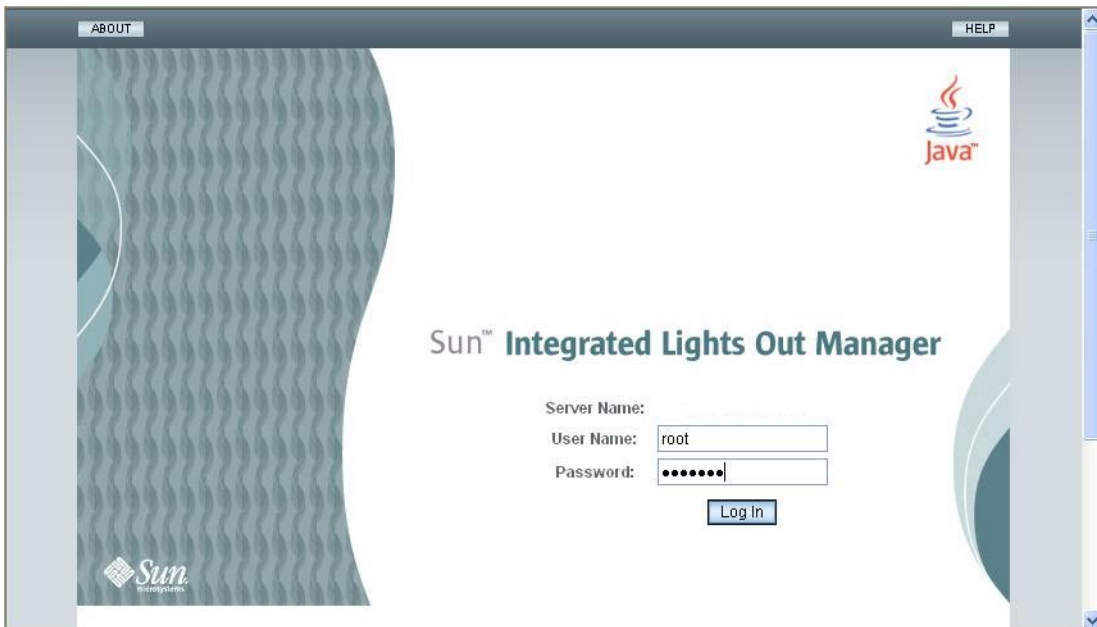
- Perform the hardware setup as described in the hardware setup documentation.
- Apply standby power to the server by connecting AC power to the system power supply. See “[Server Connections](#)” on page 45 for the location of the power connectors.

### 1 Type the IP address of the ILOM SP in the browser locator box and press Enter.

For example, if the IP address for your ILOM SP is 129.144.02.20, you would enter it as shown here:



### 2 Log in to the web interface using the default user name, root, and the default password, changeme.



# Connecting to the System Console

There are three different ways to connect to the system console.

- Physical console. See [“How to Connect to the Server Locally \(Physical Console\)”](#) on page 52
- Remote console through the ILOM web interface. See [“How to Connect Remotely Using the ILOM Web Interface”](#) on page 52
- Serial console through the ILOM command-line interface. See [“How to Connect to the Serial Console Using the ILOM Command-Line Interface”](#) on page 57

## ▼ How to Connect to the Server Locally (Physical Console)

If you plan to interact with the system console directly, make the connections described in this procedure. See [“Server Connections”](#) on page 45 for the locations of the system connectors.

**Before You Begin** Perform the hardware setup as described in the hardware setup documentation.

- 1 **Connect a mouse and a keyboard to the server USB connectors.**
- 2 **Connect a monitor to the server video connector.**

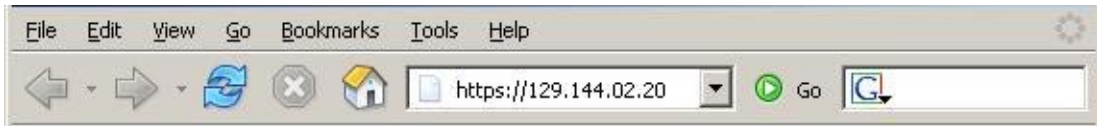
**See Also** For the locations of the USB connectors and the server video connector, see [“Sun Fire X4640 Server Front and Back Panel Features and Components”](#) on page 11.

## ▼ How to Connect Remotely Using the ILOM Web Interface

**Before You Begin** The requirements for the JavaRConsole (remote console) system are:

- Solaris, Linux, or Windows operating system is installed.
- The system must be connected to a network that has access to the server's Ethernet management port.
- Java Runtime Environment (JRE) 1.5 or later is installed.
- If the remote console system is running 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 must be set up according to the instructions in the *Sun Integrated Lights Out Manager (ILOM) Web Interface Procedures Guide*.

- 1 Start the remote console application by typing the IP address of the ILOM service processor into a browser on the remote console system.

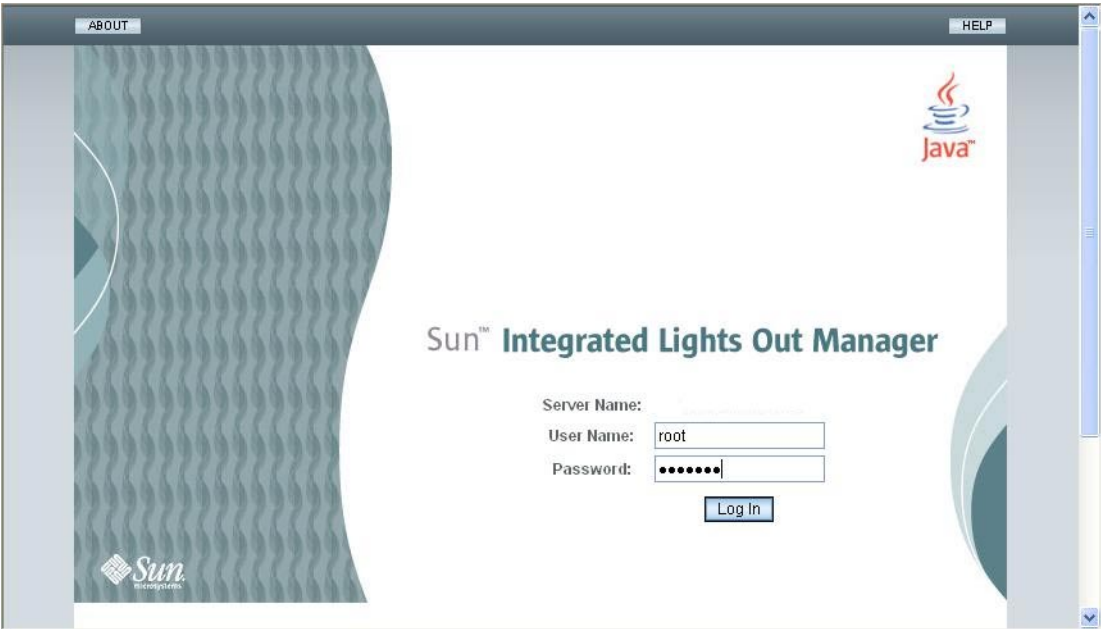


The Security Alert dialog box is displayed.



2 Click Yes.

The ILOM login screen appears.



3 Enter the user name and password and click Log In.

The default user name is **root** and default password is **changeme**.

The ILOM Version Information screen appears.



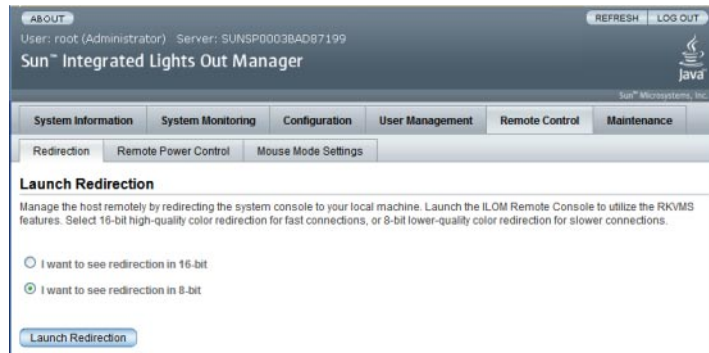
4 Click the Remote Control tab in the ILOM Web interface.

The Launch Redirection screen appears.

---

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

---



- 5 Click 8-bit color or 16-bit color, and then click Launch Redirection.

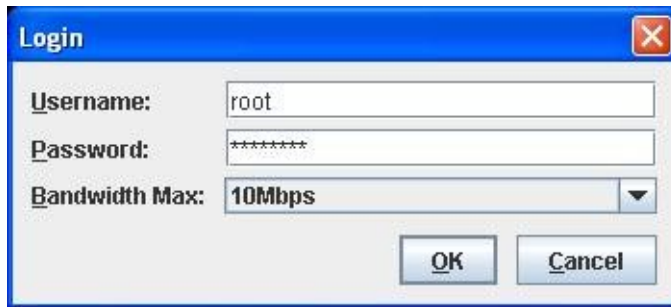
---

**Note** – When using a Windows system for remote console redirection, an additional warning appears after clicking Launch Redirection. If the Hostname Mismatch dialog box is displayed, click the Yes button.

---



The Remote Control dialog box appears.



- 6 In the Remote Control Login dialog box, enter your user name and password and click OK.

---

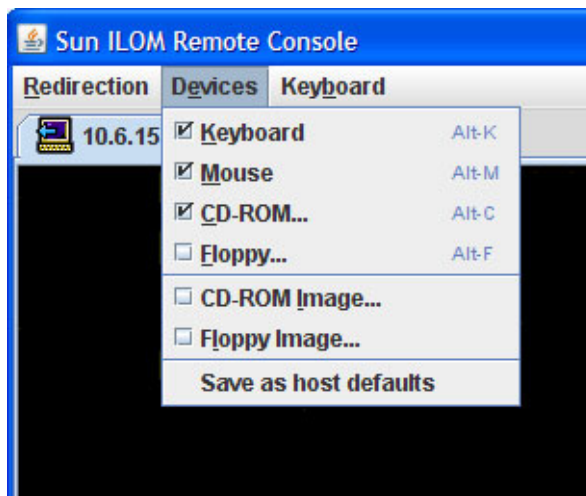
**Note** – You must have administrator privileges.

---

The default user name is **root** and default password is **changeme**.

The JavaRConsole screen appears.

- 7 From the Devices menu, select the appropriate item based on the delivery method you have chosen.



- **Remote Physical Floppy Disk:** Select Floppy to redirect the server to the physical floppy drive attached to the remote console.
- **Remote Floppy Image:** Select Floppy Image to redirect the server to the floppy image file located on the remote console.



- **Remote Physical CD/DVD:** Select CD-ROM to redirect the server to the CD/DVD in the CD/DVD drive attached to the remote console.
- **Remote CD/DVD Image:** Select CD-ROM Image to redirect the server to the .iso image file located on the remote console.

---

**Note** – Using the CD-ROM Remote or CD-ROM Image 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.

---

## ▼ How to Connect to the Serial Console Using the ILOM Command-Line Interface

- Before You Begin**
- Connect the server to your network through an Ethernet cable. See [“Server Connections” on page 45](#).
  - If you have not already done so, determine the service processor’s IP address. See [“Determining the SP IP Address” on page 47](#).

- 1 **Using a client system, establish a Secure Shell (SSH) connection to the service processor’s IP address:**

```
ssh -l root sp_ip_address
```

- 2 **Log in to the service processor as an administrator.**

The default user name is **root** and default password is **changeme**.

---

**Note** – Only accounts with Administrator privileges are enabled to configure the SP serial port. See “Configuring Network Settings” in the *Sun Integrated Lights Out Manager (ILOM) 3.0 CLI Procedures Guide*.

---

- 3 **Start the ILOM console mode by typing the following:**

```
start /SP/console
```

- 4 **If you have changed the SP Serial Port default settings, make sure you reset them to the default settings.**



# Setting Up Your Operating System

---

After connecting to the ILOM SP as described in [“Communicating With the ILOM and the System Console” on page 45](#), you can configure the optional preinstalled Oracle Solaris 10 operating system (OS), or install a Linux , Windows, or ESX, Solaris operating system.

- [“OS Information Links” on page 59](#)
- [“Configuring the Preinstalled Solaris OS” on page 60](#)
- [“\(Optional\) How to Redirect the Console Output to the Video Port” on page 63](#)
- [“How to Connect to the Server Using a Serial Capture Program” on page 63](#)
- [“Solaris OS Information Products and Training” on page 64](#)

## OS Information Links

Use the appropriate reference, depending on which OS you want to use. For additional OS considerations, see the [“Overview of the Sun Fire X4640 Server Product Notes” in \*Sun Fire X4640 Server Product Notes\*](#).

OS	See	Notes
Preinstalled Solaris 10 operating system	<a href="#">“Configuring the Preinstalled Solaris OS” on page 60</a>	
Solaris 10 OS	<a href="#">“Introduction to Solaris OS and OpenSolaris Installation” in <i>Sun Fire X4640 Server Solaris OS Installation Guide</i></a>	Also contains procedures for installing the Solaris operating system from media
Supported Linux OS and the required drivers	For <i>assisted</i> OS installation, use Oracle's Sun Installation Assistant. Refer to the documentation for your version of SIA at: <a href="http://docs.sun.com/app/docs/prod/install.x64svr">http://docs.sun.com/app/docs/prod/install.x64svr</a>	Recommended method
	For <i>unassisted</i> OS installation, see the <a href="#">“Introduction to Linux Installation” in <i>Sun Fire X4640 Server Linux Installation Guide</i></a>	Alternate method

OS	See	Notes
A supported Windows OS and the required drivers,	For <i>assisted</i> OS installation, use the Sun Installation Assistant. Refer to the documentation for your version of SIA at: <a href="http://docs.sun.com/app/docs/prod/install.x64svr">http://docs.sun.com/app/docs/prod/install.x64svr</a>	Recommended method
	For <i>unassisted</i> OS installation, see the “Introduction to Windows Installation” in <i>Sun Fire X4640 Server Windows Installation Guide</i>	Alternate method
A supported ESX OS and the required drivers	“Introduction to ESX Installation” in <i>Sun Fire X4640 Server ESX Installation Guide</i>	

## Configuring the Preinstalled Solaris OS

**Note** – Unlike with SPARC systems, you do *not* see the output of the preinstalled Solaris 10 image through a monitor when you power on the server. The output of the preinstalled image is directed to a *serial console* instead of a monitor that is attached to the server.

Use the Installation Worksheet to gather the information that you need for configuring the OS.

TABLE 3 Installation Worksheet for the Preinstalled Solaris OS

Information for Installation		Description or Example	Your Answers (* = Default)
Language		Choose from the list of available languages for the Solaris 10 software.	English*
Locale		Choose your geographic region from the list of available locales.	English (C - 7-bit ASCII)*
Terminal		Choose the type of terminal that you are using from the list of available terminal types.	
Network connection		Is the system connected to a network?	<input type="checkbox"/> Networked <input checked="" type="checkbox"/> Non-networked*
DHCP		Can the system use Dynamic Host Configuration Protocol (DHCP) to configure its network interfaces?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No*

TABLE 3 Installation Worksheet for the Preinstalled Solaris OS (Continued)

Information for Installation		Description or Example	Your Answers (* = Default)
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. Example: 129.200.9.1	
	Subnet	If you are not using DHCP, is the system part of a subnet? If yes, what is the netmask of the subnet? Example: 255.255.0.0	255.255.0.0*
	IPv6	Do you want to enable IPv6 on this machine?	<input type="checkbox"/> Yes <input type="checkbox"/> No*
Host name		A host name that you choose for the system.	
Kerberos		Do you want to configure Kerberos security on this machine? If yes, gather the following: Default Realm: Administration Server: First KDC: (Optional) Additional KDCs:	<input type="checkbox"/> Yes <input type="checkbox"/> No*
Name service: if the system uses a name service, provide the following information.	Name service	Which name service should this system use?	<input type="checkbox"/> NIS+ <input type="checkbox"/> NIS <input type="checkbox"/> DNS <input type="checkbox"/> LDAP <input type="checkbox"/> None*
	Domain name	Provide the name of the domain in which the system resides.	
	NIS+ and NIS	Do you want to specify a name server or let the installation program find one?	<input type="checkbox"/> Specify One <input type="checkbox"/> Find One*
	DNS	Provide IP addresses for the DNS server. You must enter at least one IP address, but you can enter up to three addresses. You can also enter a list of domains to search when a DNS query is made. Search Domain: Search Domain: Search Domain:	

**TABLE 3** Installation Worksheet for the Preinstalled Solaris OS (Continued)

Information for Installation		Description or Example	Your Answers (* = Default)
	LDAP	<p>Provide the following information about your LDAP profile:</p> <p>Profile name:</p> <p>Profile server:</p> <p>If you specify a proxy credential level in your LDAP profile, gather the following:</p> <p>Proxy-Bind Distinguished Name:</p> <p>Proxy-Bind Password:</p>	
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/default/router</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 ICMP router discovery protocol. If you are using the command-line interface, the software detects an IP address when the system is booted.</li> <li>■ You can choose 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.	

## ▼ (Optional) How to Redirect the Console Output to the Video Port



**Caution** – This procedure is intended for advanced users of the Solaris OS only. You can seriously disrupt the proper functioning of the server or render the server unbootable if you introduce a problem in the `bootenv.rc` file.

**Before You Begin** This procedure assumes you are connected to the server using the SP's IP address. See [“Determining the SP IP Address” on page 47](#).

- Run the `eeprom` command at the prompt using the following arguments:  
`/eeprom console=text/`

## ▼ How to Connect to the Server Using a Serial Capture Program

- 1 Use a cable to connect the serial port of the server to the serial port of the serial capture host system.
- 2 Make sure that the communication properties of the serial port of the system are set to the default.  
The default settings are 9600 baud, 8, N, 1 (eight data bits, no parity, one stop bit), disable flow control.
- 3 Start a terminal session to capture the serial port output:  
On a client running Solaris OS, type:  
`$tip -9600 /dev/ttya`  
On a client running Windows, start a program such as Hyperterminal.  
On a client running Linux, start a program such as Minicom, a text-based serial communication program that is included in the Linux distributions. For more information, see the man pages included in the Linux distribution.
- 4 Log in to the service processor as an Administrator, for example:  
login: `root` password: `changeme`
- 5 Start the ILOM SP GUI by typing the following:  
`start /SP/console`

- 6 Power on main power to the server by using a ball-point pen or other pointed object to press the recessed Power button on the front panel.**

POST messages appear on your screen as the OS starts.

- 7 Follow the Solaris 10 software onscreen prompts.**

- 8 Use the information that you gathered in “[Configuring the Preinstalled Solaris OS](#)” on page 60 to help you enter the system and network information as you are prompted.**

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

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

**See Also** See the Solaris 10 OS user documentation at:

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

## Solaris OS Information Products and Training

You can access the various collections of the Solaris 10 OS user documentation at:

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

Sun provides flexible training options that accommodate your personal schedule and learning style. The training options include instructor-led, web-based online, CD-ROM and Live Virtual Class. For Solaris 10 Training and Certification options at a glance, please visit:

<http://education.oracle.com/>



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