Sun Server X2-4
(formerly Sun Fire X4470 M2)

Installation Guide for Oracle Solaris Operating System
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Using This Documentation

This installation guide contains installation and configuration procedures for the Oracle Solaris Operating System.

**Note** – The Sun Server X2-4 was formerly named the Sun Fire X4470 M2 server. This former name might still appear in the software. The new product name does not indicate any change in system features or functionality.

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

- “Getting the Latest Software and Firmware” on page v
- “About This Documentation” on page vi
- “Related Documentation” on page vi
- “Feedback” on page vi
- “Support and Accessibility” on page vii

Getting the Latest Software and Firmware

Firmware, drivers, and other hardware-related software for each Oracle x86 server, server module (blade), and blade chassis are updated periodically.

For instructions, see Chapter 3.
About This Documentation

This documentation set is available in both PDF and HTML formats. A PDF version that includes all information on a particular topic subject (such as hardware installation or product notes) can be generated by clicking the PDF button in the upper left corner of the HTML page.

Related Documentation

<table>
<thead>
<tr>
<th>Documentation</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Oracle documentation</td>
<td><a href="http://www.oracle.com/documentation">http://www.oracle.com/documentation</a></td>
</tr>
<tr>
<td>Sun Server X2-4</td>
<td><a href="http://www.oracle.com/pls/topic/lookup?ctx=SunServerX2-4">http://www.oracle.com/pls/topic/lookup?ctx=SunServerX2-4</a></td>
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<td>Oracle Hardware Installation Assistant</td>
<td><a href="http://www.oracle.com/pls/topic/lookup?ctx=hia">http://www.oracle.com/pls/topic/lookup?ctx=hia</a></td>
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Feedback

You can provide feedback on this documentation at:

http://www.oracle.com/goto/docfeedback
## Support and Accessibility

<table>
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<tr>
<th>Description</th>
<th>Links</th>
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<tbody>
<tr>
<td>Access electronic support through My Oracle Support</td>
<td><a href="http://support.oracle.com">http://support.oracle.com</a></td>
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<tr>
<td>Learn about Oracle's commitment to accessibility</td>
<td><a href="http://www.oracle.com/us/corporate/accessibility/index.html">http://www.oracle.com/us/corporate/accessibility/index.html</a></td>
</tr>
</tbody>
</table>
Getting Started

This chapter describes how to get started installing the Oracle Solaris Operating System on Oracle’s Sun Server X2-4.

**Note** – The Sun Server X2-4 was formerly named the Sun Fire X4470 M2 server. This former name might still appear in the software. The new product name does not indicate any change in system features or functionality.

Topics discussed in this chapter include:

- “Supported Oracle Solaris Operating Systems” on page 1
- “Oracle Solaris Documentation Collection” on page 2
- “Installation Considerations” on page 2
- “Oracle Solaris 10 and 11 Installation Programs” on page 3
- “Installation Task Overview” on page 4

Supported Oracle Solaris Operating Systems

The Sun Server X2-4 supports the following Oracle Solaris Operating Systems:

- Oracle Solaris 11 11/11
- Oracle Solaris 10 08/11
- Oracle Solaris 10 9/10

For a complete and updated list of all the supported operating systems on the Sun Server X2-4, go to the Sun x86 Servers web site and navigate to the Sun Server X2-4 page:
Oracle Solaris Documentation Collection

The installation instructions in this guide describe the initial steps for booting and launching the Oracle Solaris installation. After installing and rebooting the Oracle Solaris Operating System, review the Oracle Solaris documentation for instructions about how to determine if updates are available and how to install them. See the following documentation web sites:

For Oracle Solaris 10, go to:
http://docs.oracle.com/cd/E23823_01/index.html

For Oracle Solaris 11, go to:
http://docs.oracle.com/cd/E23824_01/index.html

Installation Considerations

Refer to the following important considerations before beginning the operating system installation on your x86 server.

<table>
<thead>
<tr>
<th>Consideration</th>
<th>Description</th>
<th>For More Information, See:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selection of a local or remote deployment method</td>
<td>You can install the operating system using any of the supported deployment methods:</td>
<td>• Appendix A, Supported Installation Methods</td>
</tr>
<tr>
<td>for manually installing the operating system</td>
<td>• Local install using an internal or external storage device and attached KVMS.</td>
<td>• Installing Oracle Solaris 11 Systems</td>
</tr>
<tr>
<td></td>
<td>• Network install using the Oracle Integrated Lights Out Manager (ILOM) Remote</td>
<td>• Creating a Custom Oracle Solaris 11 Installation Image</td>
</tr>
<tr>
<td></td>
<td>Console, an Automated Installer installation, or a custom JumpStart</td>
<td>• Sun Solaris 10 9/10 Installation Guide:</td>
</tr>
<tr>
<td></td>
<td>installation.</td>
<td>Network-Based Installations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sun Solaris 10 9/10 Installation Guide:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Custom JumpStart and Advanced Installations</td>
</tr>
</tbody>
</table>
The Oracle Solaris Installation Programs on the Oracle Solaris 10 and 11 OS media can be run with a graphical user interface (GUI) or as interactive text installers in a remote console. Refer to the relevant Oracle Solaris OS product notes for system requirements.

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**Oracle Solaris 10 and 11 Installation Programs**

The Oracle Solaris Installation Programs on the Oracle Solaris 10 and 11 OS media can be run with a graphical user interface (GUI) or as interactive text installers in a remote console. Refer to the relevant Oracle Solaris OS product notes for system requirements.

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**RAID volume creation**

If you want to include your boot drive as part of a RAID configuration, you need to configure a RAID volume on it before you install the operating system.

- If you are using the optional SGX-SAS6-R-INT-Z host bus adapter (HBA), you must use the LSI integrated RAID controller setup utility to configure a RAID volume. For instructions, see the *Sun Storage 6 Gb SAS PCIe RAID HBA Internal Installation Guide* and the *LSI MegaRAID SAS Software User’s Guide*.
- If you are using the optional SGX-SAS6-INT-Z HBA, you must use the BIOS Configuration Utility to configure a RAID volume. For instructions, see the *Sun Storage 6 Gb SAS PCIe HBA Internal Installation Guide*.

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**Verification of BIOS settings for new OS installations**

Prior to installing the operating system, you should verify that the BIOS factory-default properties are set.

- Appendix B

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**Installation of optional supplemental software**

After performing the operating system installation, you might need to install critical Solaris patches pertaining to your system. Solaris patches can contain new features, enhancements, or fixes to known problems.

- “Post Installation Tasks” on page 13

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**Access to late-breaking information and patches for OS installations**

Review the *Sun Server X2-4 Product Notes* for late-breaking information about supported operating system software and patches.

- *Sun Server X2-4 Product Notes*
Installation Task Overview

To install the Oracle Solaris Operating System, complete the following procedures in this order:

1. Obtain the Oracle Solaris Operating System installation media.
   The installation media for the Solaris Operating System is shipped with your server.

2. Download the latest drivers and utilities available for your server as described in Chapter 3.

3. Choose and set up an installation method for deploying the Oracle Solaris installation as described in Appendix A.

4. Follow the instructions for performing the Oracle Solaris installation as described in Chapter 2.

5. Follow the instructions for performing Oracle Solaris post installation tasks as described in “Post Installation Tasks” on page 13.
CHAPTER 2

Installing Oracle Solaris

This chapter provides information about installing the Oracle Solaris 10 or 11 Operating System (OS) on a Sun Server X2-4.

This chapter includes the following topics:
- “Installing Oracle Solaris 10 or 11 OS Using Local or Remote Media” on page 5
- “Installing Oracle Solaris 10 or 11 OS Using a PXE Network Environment” on page 9
- “Post Installation Tasks” on page 13

For information describing how to configure the preinstalled Solaris 10 or 11 OS image, see the Sun Server X2-4 Installation Guide for setup instructions.

For information describing how to install the Oracle Solaris 10 Operating System, refer to the Oracle Solaris 10 Information Library at:
http://docs.oracle.com/cd/E19253-01/index.html

For information describing how to install the Oracle Solaris 11 Operating System, refer to the Oracle Solaris 11 Information Library at:
http://docs.oracle.com/cd/E23824_01/index.html

Installing Oracle Solaris 10 or 11 OS Using Local or Remote Media

The following procedure describes how to boot the Oracle Solaris 10 or 11 Operating System installation from local or remote media. It assumes that you are booting the installation from one of the following sources:
- Oracle Solaris 11 11/11 installation media
- Oracle Solaris 11 11/11 ISO boot image installation media
Oracle Solaris 10 9/10 (or subsequent release) DVD set (internal or external DVD)
Oracle Solaris 10 9/10 (or subsequent release) ISO boot image installation media

**Note** – If you are booting the installation media from a PXE environment, refer to “Installing Oracle Solaris 10 or 11 OS Using a PXE Network Environment” on page 9 for instructions.

**Before You Begin**

The following requirements should be met prior to starting the installation procedure in this section.

- All applicable installation prerequisites for installing an operating system should have been met. For further information about these prerequisites, see Chapter 1.
- An installation method (for example: console, boot media, and install target) should have been chosen and established prior to performing the installation. For information about these setup requirements, see Appendix A.

After completing this procedure, you should review and perform the required post installation tasks described later in this chapter. For more details, see “Post Installation Tasks” on page 13.

▼ Install Oracle Solaris 10 or 11 OS Using Local or Remote Media

1. **Ensure that the install media is available to boot.**
   - **For distribution DVD.** Insert the Solaris 10 or 11 DVD into the local or remote DVD drive.
   - **For ISO image.** Ensure that the ISO images are available and that the Oracle ILOM Remote Console application is aware of the first ISO image location. For additional information about how to set up the install media, see Appendix A.

2. **Reset the power on the server.**


For example:
■ **From the Oracle ILOM web interface**, select Host Management > Power Control in the navigation tree. Then, select Reset from the Select Action list box and click Save.

■ **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to turn the server off, then press the Power button again to power on the server.

■ **From the Oracle ILOM CLI on the server SP**, type: `reset /System`

The BIOS screen appears.

![BIOS Screen](image)

**Note** – The next events occur very quickly; therefore, focused attention is needed for the following steps. Please watch carefully for these messages as they appear on the screen for a brief time.

3. **In the BIOS screen, press F8 to specify a temporary boot device for the Solaris installation.**

   The Please Select Boot Device menu appears.
4. In the Boot Device menu, select either the external or virtual DVD device as the first (temporary) boot device, and then press Enter.

In the sample Boot Device menu shown in Step 3, the virtual DVD device is specified as the first boot device.

Note – If you are performing the Solaris installation from a redirected DVD using the Oracle ILOM Remote Console application, select **AMI Virtual CDROM**, which is listed as an option in the Boot Device menu when you install from a redirected DVD.

The GRUB menu appears. The sample screen that follows reflects the Oracle Solaris 11 GRUB menu. The GRUB menu on your system will be different if you are installing Oracle Solaris 10.

```
GNU GRUB version .97 (639K lower / 2078660K upper memory)

Oracle Solaris 11 11/11
Oracle Solaris 11 11/11 ttya
Oracle Solaris 11 11/11 ttyb
Boot from Hard Disk
```

5. In the GRUB menu, use the up and down arrow keys to select a display option.

For example:

Note – To direct the screen output to a serial console, select **Oracle Solaris 11 11/11 ttya**.
Chapter 2 Installing Oracle Solaris

**Note** – If you are using the Oracle Solaris 11 LiveCD or LiveCD image to install the Oracle Solaris 11 OS, you may be prompted to log in to the CD. The user name and password are both `jack`. The root password is `solaris`.

Continue to Step 6.

- **For Oracle Solaris 10**, select `Solaris_10 os` and press Enter.

  The system loads the Solaris disk image into memory. This process can take several minutes. When it completes, the Install Type menu appears.

  From the Install Type menu, use the up and down arrow keys to select the type of interface that you want to use to perform the installation, and press Enter.

**Note** – In the GRUB menu, if you want to redirect the install output to a serial console, press “e” to edit the GRUB menu. To support a serial console, append `console=ttya` to the boot flags on the kernel line.

Continue to Step 6.

6. **Follow the on-screen prompts to complete the Oracle Solaris installation and, if necessary, refer to the Oracle Solaris documentation for additional details.**

   After the installation completes, the system will automatically reboot (if you previously selected this option during the configuration procedure) and will display the Oracle Solaris login prompt.

**Note** – If you did not configure the system to automatically reboot when the installation completes, you must manually reboot the system.

7. **Proceed to the section “Post Installation Tasks” on page 13 to perform the post Solaris installation tasks.**

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**Installing Oracle Solaris 10 or 11 OS Using a PXE Network Environment**

The following procedure describes how to boot the Oracle Solaris 10 or 11 Operating System installation from a PXE network environment. It assumes that you are booting the installation media from one of the following sources:

- Oracle Solaris 11 11/11 installation media
Oracle Solaris 11 11/11 ISO boot image or Automated Installer image installation media

Oracle Solaris 10 9/10 DVD set (internal or external DVD)

Oracle Solaris 10 9/10 ISO boot image or Solaris JumpStart image installation media

Note – Automated Installer and JumpStart automate many of the manual tasks of installing and configuring the Oracle Solaris Operating System for the first time on multiple servers. For more information about using a JumpStart image, see the Solaris 10 9/10 Installation Guide: Custom JumpStart and Advanced Installations. For more information about using Automated Installer, see Installing Oracle Solaris 11 Systems.

Before You Begin

The following requirements must be met prior to starting the Oracle Solaris 10 or 11 PXE installation:

■ To use PXE to boot the installation media over the network, you should have completed the following tasks:
  ■ PXE boot install server setup to export the installation.

Note – The PXE network boot does not work properly over subnets that include multiple DHCP servers. Therefore, you should set up only one DHCP server on the subnet that includes the client system that you want to install.

■ Sun Server X2-4 MAC network port address configured as a client system on the PXE boot install server.

For further information about setting up and installing Oracle Solaris 10 from the network, see the Solaris 10 9/10 Installation Guide: Network-Based Installations. For further information about setting up and installing Oracle Solaris 11 from the network see Installing Oracle Solaris 11 Systems: Installing Using an Install Server.

■ If your install media source is an Automated Installer or a JumpStart installation image, the image must be properly prepared and ready for installation. Information concerning how to properly set up and deploy an Automated Installer or JumpStart installation is outside the scope of this guide.

For details about creating an Oracle Solaris JumpStart image, see the Solaris 10 9/10 Installation Guide: Custom JumpStart and Advanced Installations. For details about creating a custom Oracle Solaris 11 installation image see Creating a Custom Oracle Solaris 11 Installation Image.
After completing the following procedure, you should review and perform the required post installation tasks described later in this chapter. For more details, see “Post Installation Tasks” on page 13.

▼ Install Oracle Solaris 10 or 11 OS Using Network PXE Boot

1. Ensure that the PXE network environment is properly set up and the Oracle Solaris installation media is available for PXE boot.  
   For details, see “Before You Begin” on page 10.

2. Reset the power on the server.

**Note** – The following steps use Oracle ILOM 3.1 command syntax. If you are using Oracle ILOM 3.0, refer to the Oracle ILOM 3.0 Documentation Collection at http://www.oracle.com/pls/topic/lookup?ctx=ilom30.

For example:

- **From the Oracle ILOM web interface**, select Host Management > Power Control in the navigation tree. Then, select Reset from the Select Action list box and click Save.

- **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to turn the server off, then press the Power button again to power on the server.

- **From the Oracle ILOM CLI on the server SP**, type: `reset /System` 
The BIOS screen appears.
3. In the BIOS screen, press F8 to specify a temporary boot device.
   The Please Select Boot Device menu appears.

4. In the Boot Device menu, select the appropriate PXE boot port, and then press Enter.
   The PXE boot port is the physical network port configured to communicate with your network install server.
   The GRUB menu appears. The sample screen that follows reflects the Oracle Solaris 11 PXE GRUB menu during an Automated Installer installation. The GRUB menu on your system will be different if you are installing Oracle Solaris 10.

   GNU GRUB version .97 (639K lower / 2078660K upper memory)
   Oracle Solaris 11 11/11 Text Installer and command line
   Oracle Solaris 11 11/11 Automated Install

5. In the GRUB menu, use the up and down arrow keys to select an automated installation.
Note – The default GRUB menu entry, Text Installer and command line, boots the image without starting a hands free installation. Refer to the Oracle Solaris 10 or 11 documentation for further information about this option.

For example:

- **For Oracle Solaris 11**, select *Oracle Solaris 11 Automated Install* and press Enter.
- **For Oracle Solaris 10**, select *Solaris_10 os* and press Enter.

The system loads the Solaris disk image into memory. This process can take several minutes. When it completes, the Install Type menu appears.

From the Install Type menu, use the up and down arrow keys to select the type of interface that you want to use to perform the installation, and press Enter.

Note – In the GRUB menu, if you want to redirect the install output to a serial console, press “e” to edit the GRUB menu. To support a serial console, append `console = ttya` to the boot flags on the kernel line.

6. Follow the on-screen prompts to complete the Oracle Solaris installation and, if necessary, refer to the Oracle Solaris documentation for additional details.

After the installation completes, the system will automatically reboot (if you previously selected this option during the configuration procedure) and will display the Oracle Solaris login prompt.

Note – If you did not configure the system to automatically reboot when the installation completes, you must manually reboot the system.

7. Proceed to the section “Post Installation Tasks” on page 13 to perform the post Solaris installation tasks.

Post Installation Tasks

After installing and rebooting the Oracle Solaris Operating System, review the Oracle Solaris documentation for instructions about how to determine if updates are available and how to install them. See the following documentation web sites:

- **For Oracle Solaris 10**, go to:  
  *http://docs.oracle.com/cd/E23823_01/index.html*
For Oracle Solaris 11, go to:
http://docs.oracle.com/cd/E23824_01/index.html
CHAPTER 3

Getting Server Firmware and Software

This section explains the options for accessing server firmware and software.

- “Firmware and Software Updates” on page 15
- “Firmware and Software Access Options” on page 16
- “Available Software Release Packages” on page 16
- “Accessing Firmware and Software” on page 17
- “Installing Updates” on page 21

Firmware and Software Updates

Firmware and software, such as hardware drivers and tools for the server, are updated periodically. These are made available as a software release. The software release is a set of downloads (patches) that includes all available firmware, hardware drivers, and utilities for the server. All these have been tested together. The ReadMe document that is included with the download explains what has changed and what has not changed from the prior software release.

You should update your server firmware and software as soon as possible after the software release becomes available. Software releases often include bug fixes, and updating ensures that your server software is compatible with the latest server firmware and other component firmware and software.

The ReadMe file in the download package contains information about the updated files in the download package, as well as bugs that are fixed with the current release. The product notes also provide information about which server software versions are supported.
Firmware and Software Access Options

Use one of the following options to obtain the latest set of firmware and software for your server:

- **Oracle Hardware Installation Assistant** – Oracle Hardware Installation Assistant is a factory-installed feature for the Sun Server X2-4 that allows you to easily update server firmware and software.

  For more information about Oracle Hardware Installation Assistant, refer to the *Oracle Hardware Installation Assistant 2.5 User’s Guide for x86 Servers* at http://www.oracle.com/pls/topic/lookup?ctx=hia.

- **My Oracle Support** – All system firmware and software are available from the My Oracle Support web site.

  For more information about what is available on the My Oracle Support web site, see http://support.oracle.com.

  For instructions on how to download software releases from My Oracle Support, see “Download Firmware and Software Using My Oracle Support” on page 17.

- **Physical Media Request (PMR)** – You can request a DVD that contains any of the downloads (patches) that are available from My Oracle Support.

  For information see, “Requesting Physical Media” on page 18.

Available Software Release Packages

Downloads on My Oracle Support are grouped by product family, then product, then version. The version contains one or more downloads (patches).

For servers and blades, the pattern is similar. The product is the server. Each server contains a set of releases. These releases are not true software product releases, but rather are releases of updates for the server. These updates are called software releases and comprise several downloads, all tested together. Each download contains firmware, drivers, or utilities.

My Oracle Support has the same set of download types for this server family as shown in the following table. These can also be requested through a physical media request (PMR).
Accessing Firmware and Software

This section covers instructions for downloading or requesting software release files. See:

- “Download Firmware and Software Using My Oracle Support” on page 17
- “Requesting Physical Media” on page 18

### Download Firmware and Software Using My Oracle Support

1. **Navigate to the following web site:** [http://support.oracle.com](http://support.oracle.com)
2. **Sign in to My Oracle Support.**
3. **At the top of the page, click the Patches and Updates tab.**
   
   The Patches and Updates screen appears.
4. **In the Search screen, click Product or Family (Advanced).**
   
   The screen appears with search fields.

<table>
<thead>
<tr>
<th>Package Name</th>
<th>Description</th>
<th>When to Download This Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>X4470 M2 SERVER SW 1.3 – ILOM_AND_BIOS</td>
<td>Oracle ILOM and BIOS.</td>
<td>You need the latest platform firmware.</td>
</tr>
<tr>
<td>X4470 M2 SERVER SW 1.3 – ORACLE_HARDWARE_INSTALLATION_ASSISTANT</td>
<td>Oracle Hardware Installation Assistant recovery and ISO update image.</td>
<td>You need to manually recover or update Oracle Hardware Installation Assistant.</td>
</tr>
<tr>
<td>X4470 M2 SERVER SW 1.3 – TOOLS_DRIVERS_AND_FIRMWARE_DVD</td>
<td>Includes the tools and drivers and platform firmware. This DVD image does not include Oracle VTS.</td>
<td>You need to update a combination of system firmware and OS-specific software.</td>
</tr>
<tr>
<td>X4470 M2 SERVER SW 1.0 – DIAGNOSTICS</td>
<td>Oracle VTS diagnostics image.</td>
<td>You need the Oracle VTS diagnostics image.</td>
</tr>
</tbody>
</table>
5. **In the Product field, select the product from the drop-down list.**
   Alternatively, type a full or partial product name (for example, Sun Server X2-4) until a match appears.

6. **In the Release field, select a software release from the drop-down list.**
   Expand the folders to see all available software releases.

7. **Click Search.**
   The software release comprises a set of downloads (patches).
   See “Available Software Release Packages” on page 16 for a description of the available downloads.

8. **To select a patch, click the check box next to the patch name. (You can use the Shift key to select more than one patch.)**
   A pop-up action panel appears. The panel contains several action options.

9. **To download the update, click Download in the pop-up panel.**
   The File Download dialog box appears.

10. **In the File Download dialog box, click on the patch zip file.**
    The patch file downloads.

---

### Requesting Physical Media

If your processes do not allow downloads from Oracle web sites, you can access the latest software release through a physical media request (PMR).

The following table describes the high-level tasks for making a physical media request and provides links for further information.

<table>
<thead>
<tr>
<th>Description</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gather information you will need to provide for the request.</td>
<td>“Gathering Information for the Physical Media Request” on page 18</td>
</tr>
<tr>
<td>Make the physical media request either online or by calling Oracle Support.</td>
<td>“Request Physical Media (Online)” on page 19 “Request Physical Media (By Phone)” on page 20</td>
</tr>
</tbody>
</table>

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### Gathering Information for the Physical Media Request

You must have a warranty or support contract for your server in order to make a physical media request (PMR).
Before you make the PMR, gather the following information:

- **Obtain product name, software release version, and patches required.** It will be easier to make the request if you know the latest software release and the name of the download packages (patches) that you are requesting.
  - *If you have access to My Oracle Support* – Follow the instructions in “Download Firmware and Software Using My Oracle Support” on page 17 to determine the latest software release and view available downloads (patches). After viewing the list of patches, you can navigate away from the Patch Search Results page, if you do not want to continue with the download steps.
  - *If you do not have access to My Oracle Support* – Use the information in “Available Software Release Packages” on page 16 to determine which packages you want, then request those packages for the latest software release.

- **Have the shipping information ready.** You will need to provide a contact, phone number, email address, company name, and shipping address as part of the request.

▼ **Request Physical Media (Online)**

Gather the information described in “Gathering Information for the Physical Media Request” on page 18 before making the request.

1. Go to the following web site: [http://support.oracle.com](http://support.oracle.com).
3. Click on the Contact Us link in the upper right corner of the page.
4. In the Request Description section, fill in the following:
   a. In the Request Category drop-down menu, select the following: Software and OS Media Requests.
   b. In the Request Summary field, type: PMR for latest software release for Sun Server X2-4.
5. In the Request Details section, answer the questions shown in the following table:

<table>
<thead>
<tr>
<th>Question</th>
<th>Your Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is this a physical software media shipment request?</td>
<td>Yes</td>
</tr>
<tr>
<td>Which product line does the media request involve?</td>
<td>Sun Products</td>
</tr>
</tbody>
</table>
6. Fill in the Ship-To contact, phone number, email address, company name, and shipping address information.

7. Click Next.

8. In the Upload Files, Relevant Files screen, click Next.
   You do not need to supply any information.

9. In the Related Knowledge screen, review Knowledge Articles applicable to your request.

10. Click Submit.

---

**Request Physical Media (By Phone)**

Gather the information described in “Gathering Information for the Physical Media Request” on page 18 before making the request.

1. **Call Oracle support, using the appropriate number from the Oracle Global Customer Support Contacts Directory at:**
   

2. **Tell Oracle support that you want to make a physical media request (PMR) for the Sun Server X2-4.**
   - If you are able to access the specific software release and patch number information from My Oracle Support, provide this information to the support representative.
If you are unable to access the software release information, request the latest software release for the Sun Server X2-4.

Installing Updates

The following sections provide information about installing firmware and software updates:

- “Installing Firmware” on page 21
- “Installing Hardware Drivers and OS Tools” on page 22

Installing Firmware

Updated firmware can be installed using one of the following:

- **Oracle Hardware Installation Assistant** – Oracle Hardware Installation Assistant can download and install the latest firmware from Oracle.

  For more information about Oracle Hardware Installation Assistant, refer to the Oracle Hardware Installation Assistant 2.5 User’s Guide for x86 Servers at: [http://www.oracle.com/pls/topic/lookup?ctx=hia](http://www.oracle.com/pls/topic/lookup?ctx=hia)

- **Oracle Enterprise Manager Ops Center** – Ops Center Enterprise Controller can automatically download the latest firmware from Oracle, or firmware can be loaded manually into the Enterprise Controller. In either case, Ops Center can install the firmware onto one or more servers, blades, or blade chassis.


- **Oracle Hardware Management Pack** – The fwupdate CLI Tool within the Oracle Hardware Management Pack can be used to update firmware within the system.


- **Oracle ILOM** – Oracle ILOM and BIOS firmware are the only firmware that can be updated using either the Oracle ILOM web interface or the command-line interface.

You can access the Oracle Integrated Lights Out Manager (ILOM) 3.1 Documentation Library at:
http://www.oracle.com/pls/topic/lookup?ctx=ilom31

Installing Hardware Drivers and OS Tools

Updated hardware drivers and operating system (OS)-related tools, such as Oracle Hardware Management Pack, can be installed using one of the following:

■ Oracle Enterprise Manager Ops Center
  For more information, go to:

■ Other deployment mechanisms, such as JumpStart or the Automated Installer Image.
  For more information, refer to your operating system documentation.
Supported Installation Methods

To determine which installation method is best for you when installing the Oracle Solaris Operating System on your server, consider the following options summarized in this appendix:

- “Console Outputs” on page 23
- “Installation Boot Media” on page 25
- “Installation Targets” on page 27

Console Outputs

*TABLE A-1* lists the consoles you use to capture the output and input of the operating system installation.
<table>
<thead>
<tr>
<th>Console</th>
<th>Description</th>
<th>Setup Requirement</th>
</tr>
</thead>
</table>
| Local console    | You can install the OS and administer the server by attaching a local console directly to the server SP. Examples of local consoles include:  
• Serial console  
• VGA console, with USB keyboard and mouse | 1. Attach a local console to the server.  
For details, see “Attaching Cables to the Server” in the Sun Server X2-4 Installation Guide.  
2. At the Oracle ILOM prompt, type your Oracle ILOM user name and password.  
3. For a serial console connection only, establish a connection to the host serial port by typing `start /SP/console`.  
The video output is automatically routed to the local console.  
If you are using Oracle ILOM 3.0, you can access the Oracle Integrated Lights Out Manager (ILOM) 3.0 Documentation Library at: http://www.oracle.com/pls/topic/lookup?ctx=ilom30. |
| Remote console   | You can install the OS and administer the server from a remote console by establishing a network connection to the server SP. Examples of remote consoles include:  
• Web-based client connection using the Oracle ILOM Remote Console application  
• SSH client connection using a serial console | 1. Establish an IP address for the server SP.  
For details, see the Sun Server X2-4 Installation Guide.  
2. Establish a connection between a remote console and the server SP:  
**For web-based client connection**, perform these steps:  
1) In a web browser, type the IP address for the server SP; 2) log in to the Oracle ILOM web interface; 3) redirect the video output from the server to the web client by launching the Oracle ILOM Remote Console; 4) enable device redirection (mouse, keyboard, etc.) using the Devices menu.  
**For SSH client connection**, perform these steps:  
1) From a serial console, establish an SSH connection to the server SP (`ssh root@ILOM_SP_ipaddress`); 2) log in to the Oracle ILOM command-line interface; 3) redirect the serial output from the server to the SSH client by typing `start /SP/console`.  
For additional information about establishing a remote connection to the ILOM SP or using the ILOM Remote Console, see the Oracle Integrated Lights Out Manager (ILOM) 3.0 or 3.1 Documentation Libraries. |
Installation Boot Media

You can start the operating system installation to a server by booting a local or remote installation media source. TABLE A-2 identifies the supported media sources and the setup requirements for each source.

<table>
<thead>
<tr>
<th>Installation Media</th>
<th>Description</th>
<th>Setup Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local boot media</td>
<td>Local boot media requires a built-in storage device on the server, or an external storage device attached to the server. Supported OS local boot media sources can include: • CD/DVD-ROM or USB installation media, and, if applicable, floppy device driver media</td>
<td>1. If your server does not contain a built-in storage device, attach the appropriate storage device to the front or rear panel of the server. 2. For more information about how to attached local devices to the server, see “Attaching Cables to the Server” in the Sun Server X2-4 Installation Guide.</td>
</tr>
</tbody>
</table>
Remote boot media

Remote media requires you to boot the install over the network. You can start the network install from a redirected boot storage device or another networked system that exports the installation over the network using a Pre-Boot eXecution environment (PXE).

Supported OS remote media sources can include:
- CD/DVD-ROM installation media, and, if applicable, floppy device driver media
- CD/DVD-ROM ISO installation image and, if applicable, floppy ISO device driver media
- Automated installation image (requires PXE boot)

To redirect the boot media from a remote storage device, perform these steps:

1. Insert the boot media into the storage device, for example:
   - For CD/DVD-ROM, insert media into the built-in or external CD/DVD-ROM drive.
   - For CD/DVD-ROM ISO image, ensure that ISO image(s) are readily available on a network shared location.
   - For device driver floppy media, if applicable, insert floppy media into the external floppy drive.
   - For device driver floppy ISO image, ensure that ISO image, if applicable, is readily available on a network shared location or on a USB drive.

2. Establish a web-based client connection to the server Oracle ILOM SP and launch the Oracle ILOM Remote Console application. For more details, see the Setup Requirements for web-based client connection in TABLE A-1.

3. In the Devices menu of the Oracle ILOM Remote Console application, specify the location of the boot media, for example:
   - For CD/DVD-ROM boot media, select CD-ROM.
   - For CD/DVD-ROM ISO image boot media, select CD-ROM Image.
   - For floppy device driver boot media, if applicable, select Floppy.
   - For floppy image device driver boot media, if applicable, select Floppy Image.

For more information about the Oracle ILOM Remote Console, see the Oracle Integrated Lights Out Manager (ILOM) 3.0 or 3.1 Documentation Libraries.

---

**TABLE A-2** Boot Media Options for Performing the OS Installation  *(Continued)*

<table>
<thead>
<tr>
<th>Installation Media</th>
<th>Description</th>
<th>Setup Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote boot media</td>
<td>Remote media requires you to boot the install over the network. You can start the network install from a redirected boot storage device or another networked system that exports the installation over the network using a Pre-Boot eXecution environment (PXE). Supported OS remote media sources can include: • CD/DVD-ROM installation media, and, if applicable, floppy device driver media • CD/DVD-ROM ISO installation image and, if applicable, floppy ISO device driver media • Automated installation image (requires PXE boot)</td>
<td>To redirect the boot media from a remote storage device, perform these steps: 1. Insert the boot media into the storage device, for example: For CD/DVD-ROM, insert media into the built-in or external CD/DVD-ROM drive. For CD/DVD-ROM ISO image, ensure that ISO image(s) are readily available on a network shared location. For device driver floppy media, if applicable, insert floppy media into the external floppy drive. For device driver floppy ISO image, ensure that ISO image, if applicable, is readily available on a network shared location or on a USB drive. 2. Establish a web-based client connection to the server Oracle ILOM SP and launch the Oracle ILOM Remote Console application. For more details, see the Setup Requirements for web-based client connection in TABLE A-1. 3. In the Devices menu of the Oracle ILOM Remote Console application, specify the location of the boot media, for example: For CD/DVD-ROM boot media, select CD-ROM. For CD/DVD-ROM ISO image boot media, select CD-ROM Image. For floppy device driver boot media, if applicable, select Floppy. For floppy image device driver boot media, if applicable, select Floppy Image. For more information about the Oracle ILOM Remote Console, see the Oracle Integrated Lights Out Manager (ILOM) 3.0 or 3.1 Documentation Libraries.</td>
</tr>
</tbody>
</table>
Installation Targets

TABLE A-3 identifies the supported installation targets you can use to install an operating system.
**TABLE A-3** Installation Targets for OS Installations

<table>
<thead>
<tr>
<th>Install Target</th>
<th>Description</th>
<th>Setup Requirement</th>
<th>Supported OS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local hard disk drive (HDD) or Solid state drive (SSD)</td>
<td>You can choose to install the operating system to any of the hard disk drives or solid state drives installed in the server.</td>
<td>Ensure that the HDD or SSD is properly installed and powered-on in the server. For more information about installing and powering on an HDD or SDD, refer to the <em>Sun Server X2-4 Service Manual</em>.</td>
<td>All supported operating systems listed in Appendix C.</td>
</tr>
</tbody>
</table>
| Fibre Channel (FC) Storage Area Network (SAN) device | For servers equipped with Fibre Channel PCIe host bus adapters (HBAs), you can choose to install the operating system to an external FC storage device. | • Ensure that the FC PCIe HBA is properly installed in the server. For more information about installing a PCIe HBA option in your server, refer to the *Sun Server X2-4 Service Manual*.  
• The SAN must be installed and configured to make the storage visible to the host. For instructions, refer to the documentation supplied with the FC HBA. | All operating systems listed in Appendix C.                                                            |
BIOS Defaults for New Installations

When installing a new operating system on a hard disk drive or a solid state drive, you should verify that the following BIOS settings are properly configured before you perform the operating system installation:

- System time
- System date
- Boot order

Verification of BIOS Factory Defaults

In the BIOS Setup Utility, you can set optimal defaults, as well as view and edit BIOS settings as needed. Any changes you make in the BIOS Setup Utility are permanent until the next time you change them.

In addition to using F2 to view or edit the system’s BIOS settings, you can use F8 during the BIOS start-up to specify a temporary boot device. If you use F8 to set a temporary boot device, this change is only in effect for the current system boot. The permanent boot device specified through F2 will be in effect after booting from the temporary boot device.

Before You Begin

Ensure that the following requirements are met prior to accessing the BIOS Setup Utility.

- The server is equipped with a hard disk drive (HDD) or solid state disk drive (SDD).
■ The HDD or SDD is properly installed in the server. For details, see the Sun Server X2-4 Service Manual.

■ A console connection is established to the server. For details, see “Console Options for Performing an OS Installation” on page 24.

▼ View or Edit BIOS Settings for New Installations

1. Reset the power on the server.

   For example:

   ■ From the ILOM web interface, select Host Management > Power Control in the navigation tree. Then, select Reset from the Select Action list box and click Save.

   ■ From the local server, press the Power button (approximately 1 second) on the front panel of the server to turn the server off, then press the Power button again to power on the server.

   ■ From the ILOM CLI on the server SP, type: `reset /System`.

   The BIOS screen appears.

2. When prompted in the BIOS screen, press F2 to access the BIOS Setup Utility.

   After a few moments, the BIOS Setup Utility appears.

3. To ensure that the factory defaults are set, do the following:

   a. Press F9 to automatically load the optimal factory default settings.

      A message appears prompting you to continue this operation by selecting OK or to cancel this operation by selecting CANCEL.

   b. In the message, highlight OK then press Enter.

      The BIOS Setup Utility screen appears with the cursor highlighting the first value in the system time field.

4. In the BIOS Setup Utility, do the following to edit the values associated with the system time or date.

   a. Highlight the values you want to change.

      Use up or down arrow keys to change between the system time and date selection.

   b. To change the values in the highlighted fields use these keys:
PLUS (+) to increment the current value shown
MINUS (-) to decrement the current value shown
ENTER to move the cursor to the next value field

5. **To access the boot settings, select the Boot menu.**
The Boot Settings menu appears.

6. **In the Boot Settings menu, use the down arrow key to select Boot Device Priority, then press Enter.**
The Boot Device Priority menu appears listing the order of the known bootable devices. The first device in the list has the highest boot priority.

7. **In the Boot Device Priority menu, do the following to edit the first boot device entry in the list:**
   a. Use the up and down arrow keys to select the first entry in the list, then press Enter.
   b. In the Options screen, use the up and down arrow keys to select the default permanent boot device, then press Enter.
      The device strings listed on the Boot menu and Options menu are in the format of: *device type, slot indicator, and product ID string.*

**Note** – You can change the boot order for other devices in the list by repeating Steps 7a and 7b for each device entry you want to change.

8. **To save changes and exit the BIOS Setup Utility, press F10.**
   Alternatively, you can save the changes and exit the BIOS Setup Utility by selecting Save on the Exit menu. A message appears prompting you to save changes and exit setup. In the message dialog, select OK, then press Enter.

**Note** – When using the Oracle ILOM Remote Console, F10 is trapped by the local OS. You must use the F10 option listed in the Keyboard drop-down menu that is available at the top of the Remote Console window.
Supported Operating Systems

TABLE C-1 in this appendix describes the operating systems supported on the Sun Server X2-4 at the time this document was published.

For an up-to-date list of the operating systems supported on the Sun Server X2-4, go to the Sun x86 Servers web site and navigate to the Sun Server X2-4 page:

http://www.oracle.com/technetwork/server-storage/sun-x86/overview/index.html

Supported Operating Systems

Oracle’s Sun Server X2-4 supports the installation and use of the following operating systems, or a subsequent release of the operating system.
### Supported Operating Systems

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Supported Version</th>
<th>Additional Information</th>
</tr>
</thead>
</table>
| Oracle Solaris   | • Oracle Solaris 11 11/11  
• Oracle Solaris 10 08/11  
• Oracle Solaris 10 9/10 | • Sun Server X2-4 Installation Guide for Oracle Solaris Operating System |
| Oracle Virtual Machine Software | • Oracle VM 2.2.1 through 3.0.3 | • Sun Server X2-4 Installation Guide for Oracle VM Software |
| Linux            | • Oracle Linux 5.5 through 6.2 (64-bit)  
• Oracle Unbreakable Enterprise Kernel for Linux 5.6 through 6.1  
• Red Hat Enterprise Linux (RHEL) 5.5 through 6.0 (64-bit)  
• SUSE Linux Enterprise Server (SLES) 11 SP1 (64-bit)  
• SUSE Linux Enterprise Server (SLES) 11 SP2 (64-bit) | • Sun Server X2-4 Installation Guide for Linux Operating Systems |
| Windows          | • Microsoft Windows Server 2008 SP2, Standard Edition (64-bit)  
• Microsoft Windows Server 2008 SP2, Enterprise Edition (64-bit)  
• Microsoft Windows Server 2008 SP2, Datacenter Edition (64-bit)  
• Microsoft Windows Server 2008 R2, SP1 (64-bit)  
• Microsoft Windows Server 2008 R2, Standard Edition (64-bit)  
• Microsoft Windows Server 2008 R2, Enterprise Edition (64-bit)  
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