

Sun Fire X4470 Server

Installation Guide for Oracle Solaris Operating System



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Using This Documentation

This guide contains operating system installation and initial software configuration procedures for bringing Oracle's Sun Fire X4470 Server to a configurable and usable state. This document is written for technicians, system administrators, authorized service providers (ASPs), and users who have experience with installing operating systems.

Product Information

For product information about the Sun Fire X4470 Server, go to the following web site:

<http://www.oracle.com/goto/x4470>

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

- Product information and specifications
- Supported operating systems
- Software and firmware downloads
- Supported option cards
- External storage options
- Power calculator

Related Documentation

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

(<http://docs.sun.com/app/docs/prod/sf.x4470#hic>)

Title	Content	Part Number	Format
<i>Sun Fire X4470 Server Product Notes</i>	Late-breaking information about the server	821-0704	PDF HTML
<i>Sun Fire X4470 Server Getting Started Guide</i>	Basic installation information for setting up the server	821-0333	PDF Print
<i>Sun Fire X4470 Server Installation Guide</i>	Detailed installation information for setting up the server	821-0332	PDF HTML Print option
<i>Sun Fire X4470 Server Installation Guide for Linux Operating Systems</i>	Installation instructions for the Linux operating systems	821-1213	PDF HTML
<i>Sun Fire X4470 Server Installation Guide for Windows Operating Systems</i>	Installation instructions for the Windows Server operating systems	821-0701	PDF HTML
<i>Sun Fire X4470 Server Installation Guide for Oracle Solaris Operating System</i>	Installation instructions for the Oracle Solaris operating system	821-0700	PDF HTML
<i>Sun Fire X4470 Server Installation Guide for Virtual Machine Software</i>	Installation instructions for Oracle VM and VMware ESX/ESXi software	821-1214	PDF HTML
<i>Sun Installation Assistant 2.3 Through 2.4 User's Guide for x64 Servers</i>	Instructions for using the Sun Installation Assistant to install the operating systems	821-0694	PDF HTML
<i>Sun Fire X4470 Server Service Manual</i>	Information and procedures for maintaining and upgrading the server	821-0703	PDF HTML
<i>Sun Server CLI Tools and IPMItool 2.0 User's Guide</i>	Information about installing, configuring, and working with CLI tools and IPMItool	821-1600	PDF HTML

Title	Content	Part Number	Format
Oracle Integrated Lights Out Manager (ILOM) 3.0 Documentation Collection (formerly called Sun Integrated Lights Out Manager Documentation Collection)	Documents covering ILOM features and tasks that are common to servers and server modules that support ILOM 3.0	820-5523 820-6410 820-6411 820-6412 820-6413	PDF HTML
<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for Sun Fire X4470 Server</i>	ILOM 3.0 information that is specific to the Sun Fire X4470 Server	821-0702	PDF HTML
<i>Sun Fire X4470 Safety and Compliance Guide</i>	Hardware safety and compliance information for the server	821-0705	PDF
<i>Important Safety Information for Sun Hardware Systems</i>	Multilingual hardware safety and compliance information for all Sun hardware system	821-1590	Print
<i>Oracle X86 Servers Diagnostics Guide</i>	Information for diagnosing and troubleshooting the server.	820-6750	PDF HTML

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

Documentation, Support, and Training

These web sites provide additional resources:

- Documentation (<http://docs.sun.com>)
- Support (<http://www.sun.com/support>)
- Training (<http://www.sun.com/training>)

Typographic Conventions

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

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

Documentation Feedback

Submit comments about this document by clicking the Feedback[+] link at (<http://docs.sun.com>). Include the title and part number of your document with your feedback:

Sun Fire X4470 Server Installation Guide for Oracle Solaris Operating System, part number 821-0700-10.

Product Downloads

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

<http://www.oracle.com/goto/x4470>

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

- Tools and Drivers DVD image
- Sun Installation Assistant DVD image
- Sun Validation Test Suite (Sun VTS) update

Getting Started

This chapter describes how to get started installing the Oracle Solaris Operating System on Oracle's Sun Fire X4470 Server.

Topics discussed in this chapter include:

- "Supported Solaris Operating Systems" on page 1
- "Installation Considerations" on page 2
- "Installation Task Overview" on page 2

Supported Solaris Operating Systems

The Sun Fire X4470 Server supports the following Solaris Operating System:

- Solaris 10 10/09

For a complete and updated list of all the supported operating systems on the Sun Fire X4470 Server, go to (<http://www.oracle.com/goto/x4470>) and navigate to the applicable web site.

Solaris Documentation Collections

The installation instructions in this guide describe the initial steps for booting and launching the Solaris installation. For additional details about how to install the Solaris Operating System on your server, refer to the following documentation collection:

(<http://docs.sun.com/app/docs/coll/1236.11?l=en>)

Installation Considerations

Refer to the following important considerations before beginning the operating system installation on your x64 server.

Consideration	Description	For more information, see:
Selecting a local or remote deployment method for manually installing the operating system	You can install the operating system using any of the supported deployment methods: <ul style="list-style-type: none">• Local install using an internal or external storage device and attached KVMs.• Network install using either the Oracle Integrated Lights Out Manager (ILOM) Remote Console or a custom JumpStart installation.	<ul style="list-style-type: none">• Appendix A, Supported Installation Methods• <i>Sun Solaris 10 10/09 Installation Guide: Network-Based Installations</i> (821-0439)• <i>Sun Solaris 10 10/09 Installation Guide: Custom JumpStart and Advanced Installations</i> (821-0437)
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. Use the LSI integrated RAID controller setup utility before you install the operating system.	<ul style="list-style-type: none">• <i>LSI MegaRAID SAS Software User's Guide</i> at: (http://www.lsi.com/support/sun/)
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.	<ul style="list-style-type: none">• Appendix B
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.	<ul style="list-style-type: none">• "Post Solaris Installation Tasks" on page 18
Access to late-breaking information and patches for OS installations	Review the <i>Sun Fire X4470 Server Product Notes</i> for late-breaking information about supported operating system software and patches.	<ul style="list-style-type: none">• <i>Sun Fire X4470 Server Product Notes</i> (821-0704)

Installation Task Overview

To install the Solaris 10 10/09 Operating System, complete the following procedures in order:

1. Obtain the Solaris10 10/09 Operating System installation media.

The DVD media for the Solaris Operating System is shipped with your server.

2. Obtain the Tools and Driver DVD provided, or download the latest drivers and utilities available for your server as described in [Appendix C](#).
3. Choose and set up an installation method for deploying the Solaris installation as described in [Appendix A](#).
4. Follow the instructions for performing the Solaris installation as described in [Chapter 2](#).
5. Follow the instructions for performing Solaris post installation tasks as described in [“Post Solaris Installation Tasks”](#) on page 18.

Installing Solaris 10

This chapter provides information about installing the Solaris 10 10/09 Operating System (Solaris 10 OS) on a Sun Fire X4470 Server.

This chapter includes the following topics:

- [“Installing Solaris 10 Using Local or Remote Media” on page 5](#)
- [“Installing Solaris 10 OS Using a PXE Network Environment” on page 13](#)
- [“Post Solaris Installation Tasks” on page 18](#)

For information describing how to configure the preinstalled Solaris 10 OS image, see the *Sun Fire X4470 Server Installation Guide* (821-0332) for setup instructions.

Installing Solaris 10 Using Local or Remote Media

The following procedure describes how to boot the Solaris Operating System installation from local or remote media. It assumes that you are booting the installation media from one of the following sources:

- Solaris 10 10/09 (or subsequent release) DVD set (internal or external DVD)
- Solaris 10 10/09 (or subsequent release) ISO DVD image (network repository)

Note – If you are booting the installation media from a PXE environment, refer to [“Installing Solaris 10 OS Using a PXE Network Environment” on page 13](#) 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 Solaris Installation Tasks](#)” on page 18.

▼ Install Solaris 10 Using Local or Remote Media

1. Ensure that the install media is available to boot.

- **For distribution DVD.** Insert the Solaris 10 DVD into the local or remote DVD drive.
- **For ISO image.** Ensure that the ISO images are available and that the 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 ILOM web interface,** select the Remote Control --> Remote Power Control tab, then select the Power Cycle option from the Select Action drop-down list box.
- **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 server SP,** type: `reset /SYS`

The BIOS screen appears.


```
www.ami.com American Megatrends Sun microsystems®
AMIBIOS (C) 2009 American Megatrends, Inc.
BIOS Date: 01/29/10 13:00:15 Ver: 08.00.16
Sun BIOS Revision: 09.01.20.03
CPU : Intel(R) Xeon(R) CPU E7530 @ 1.87GHz
Speed : 1.86 GHz Count : 4

Press F2 to run Setup (CTRL+E on Remote Keyboard)
Press F12 if you want to boot from the network (CTRL+N on Remote Keyboard)
Press F8 for BBS POPUP (CTRL+P on Remote Keyboard)
BMC Firmware Revision: 3.0.9.0 r50751
Initializing USB Controllers ..

(C) American Megatrends, Inc.
66-3243-006530-00101111-012910-B0XB0RD-3ABPQ20G-Y2KC
6B38
```

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. You might want to enlarge the size of your screen to eliminate scroll bars.

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, then press Enter.

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

The device strings listed on the Boot Device menu are in the format of: device type, slot indicator, and product ID string.

Note – If you are performing the Solaris installation from a redirected DVD using the 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.

```
GNU GRUB version 0.97 (603K lower / 2087168K upper memory)

Solaris_10 os

Use the ↑ and ↓ keys to select which entry is highlighted.
Press enter to boot the selected OS, 'e' to edit the
commands before booting, or 'c' for a command-line.
```

5. In the GRUB menu, select `Solaris_10 os`, then 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.

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

```
SunOS Release 5.10 Version Generic_141445-09 64-bit
Copyright 1983-2009 Sun Microsystems, Inc. All rights reserved.
Use is subject to license terms.
Configuring devices.
/

1. Solaris Interactive (default)
2. Custom JumpStart
3. Solaris Interactive Text (Desktop session)
4. Solaris Interactive Text (Console session)
   (Select option 3 or 4 to install a ZFS root file system)
5. Apply driver updates
6. Single user shell

Enter the number of your choice.
Automatically continuing in 15 seconds
```

6. In the Install Type menu, choose the type of interface that you want to use to perform the installation.

- Graphical User Interface (default) – Type 1 then press Enter.
- Text Installer From Desktop Session – Type 3 then press Enter.
- Text Installer From Console Session – Type 4 then press Enter.

Note – The screens that are displayed on your system might vary depending on the type of interface you chose to configure in Step 6. The following sample screens appearing in this procedure are based on the default Graphical User Interface (GUI) option (option 1).

The system discovers and configures the devices and interfaces. If the system discovers a keyboard, the Configure Keyboard Layout menu appears.

```
Done mounting Live image
USB keyboard
 1. Albanian                23. Lithuanian
 2. Belarusian            24. Latvian
 3. Belgian                25. Macedonian
 4. Brazilian              26. Malta_UK
 5. Bulgarian              27. Malta_US
 6. Canadian-Bilingual    28. Norwegian
 7. Croatian               29. Polish
 8. Czech                  30. Portuguese
 9. Danish                 31. Russian
10. Dutch                  32. Serbia-And-Montenegro
11. Finnish                33. Slovenian
12. French                 34. Slovakian
13. French-Canadian        35. Spanish
14. Hungarian              36. Swedish
15. German                 37. Swiss-French
16. Greek                  38. Swiss-German
17. Icelandic              39. Traditional-Chinese
18. Italian                40. TurkishQ
19. Japanese-type6        41. TurkishF
20. Japanese               42. UK-English
21. Korean                 43. US-English
22. Latin-American
To select the keyboard layout, enter a number [default 43]:
```

7. In the Configure Keyboard Layout menu, select the appropriate keyboard layout, then press Enter.

The system configures the keyboard layout selection and searches for configuration files.

If you selected a GUI installation in the earlier steps, the next two steps (Step 8 and Step 9) confirm that the GUI is functioning. If you did not select a GUI interface earlier, skip to Step 10.

```
Discovering additional network configuration...

Starting Solaris Interactive (graphical user interface) Installation.

    You must respond to the first question within 30 seconds
    or the installer proceeds in a non-window environment
    (console mode).

    If the screen becomes blank or unreadable the installer
    proceeds in console mode.

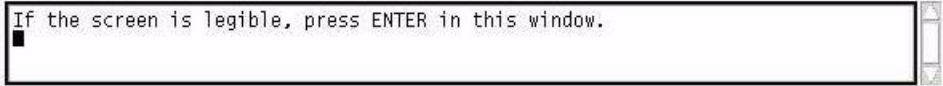
    If the screen does not properly revert to console mode,
    restart the installation and make the following selection:

    Solaris Interactive Text (Console session)

Press ENTER to continue.
```

8. In the Discovering Network Configuration and Starting Solaris Interactive Installation screen, press Enter.

A second screen appears to confirm that the GUI is functioning.



If the screen is legible, press ENTER in this window.

9. In the screen that is confirming the text shown is legible, press Enter.

The Language Selection menu appears.

10. In the Language Selection menu, type the selected language ID number (0-9), then press Enter.

After a few moments the Welcome screen appears.

Note – The sample screen shown below reflects the GUI installation program. If you are running a text-based installation interface, the text-based Welcome screen (not shown) will appear.



11. In the Welcome screen, click Next to begin the installation.

If you preconfigured all of the system information, the installation program does not prompt you to enter any configuration information. If you did not preconfigure all the system information, the installation program prompts you for this information on several configuration screens.

12. Continue the normal Solaris installation and, if necessary, refer to the 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 displays the Solaris login prompt.

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

13. Proceed to the section “Post Solaris Installation Tasks” on page 18 to perform the post Solaris installation tasks.

Installing Solaris 10 OS Using a PXE Network Environment

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

- Solaris 10 10/09 DVD set (internal or external DVD)
- Solaris 10 10/09 ISO DVD image or Solaris JumpStart image (network repository)

Note – JumpStart can help you eliminate some or most of the manual tasks of setting up the Solaris Operating System for the first time on multiple servers. For more information about using a JumpStart image, see the *Solaris 10 10/09 Installation Guide: Custom JumpStart and Advanced Installations* (821-0437).

Before You Begin

The following requirements must be met prior to starting the Solaris 10 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 Fire X4470 Server MAC network port address configured as a client system on the PXE boot install server.

For further information about setting up and installing Solaris 10 from the network, see the *Solaris 10 10/09 Installation Guide: Network-Based Installations* (821-0439).

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

For details about creating a Solaris JumpStart image, see the *Solaris 10 10/09 Installation Guide: Custom JumpStart and Advanced Installations* (821-0437).

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 Solaris Installation Tasks” on page 18.

▼ Install Solaris 10 Using Network PXE Boot

1. Ensure that the PXE network environment is properly set up and the Solaris installation media is available for PXE boot.

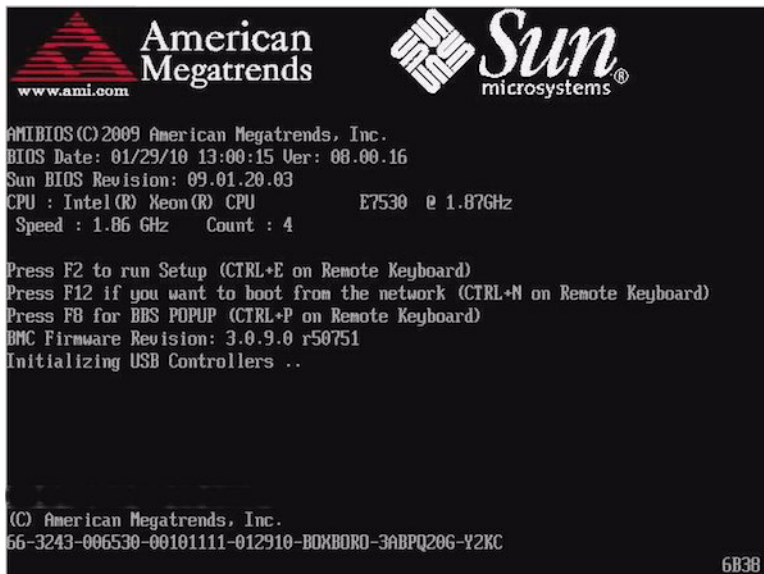
For details, see “Planning to Install Over the Network” in the *Solaris 10 10/09 Installation Guide: Network-Based Installations* (821-0439).

2. Reset the power on the server.

For example:

- **From the ILOM web interface**, select the Remote Control --> Remote Power Control tab, then select the Power Cycle option from the Select Action drop-down list box.
- **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 server SP**, type: **reset /SYS**

The BIOS screen appears.



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. You might want to enlarge the size of your screen to eliminate scroll bars.

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, then press Enter.

The PXE boot port is the physical network port configured to communicate with your network install server.

The GRUB menu appears.

5. In the GRUB menu, select Solaris_10 os, then 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.

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

6. In the Install Type menu, choose the type of interface that you want to use to perform the installation.

- **Graphical User Interface (default)** – Type 1 then press Enter.
- **Text Installer From Desktop Session** – Type 3 then press Enter.
- **Text Installer From Console Session** – Type 4 then press Enter.

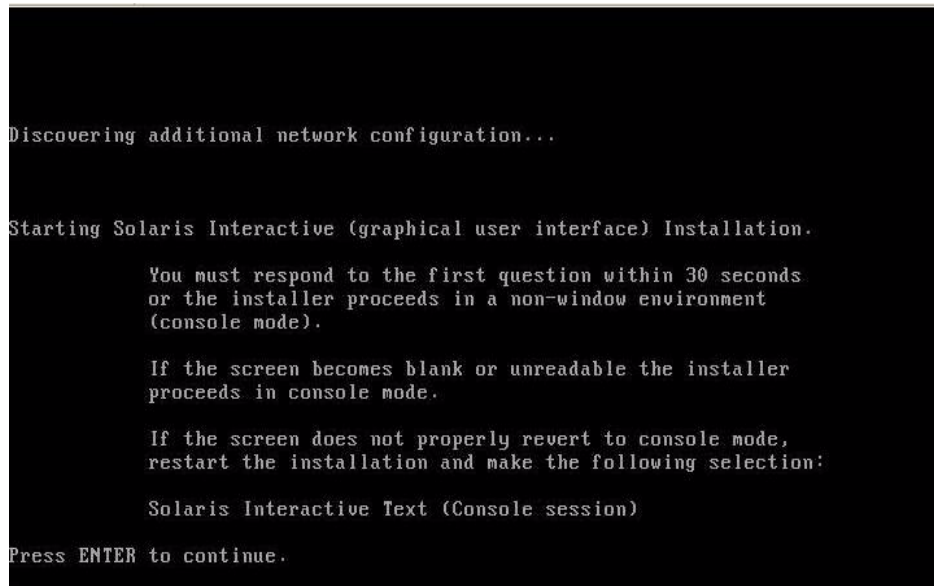
Note – The screens that are displayed on your system might differ depending on the type of interface you chose to configure in Step 6. The sample screens appearing in this procedure are based on the default Graphical User Interface (GUI) option (option 1).

The system discovers and configures the devices and interfaces. If the system discovers a keyboard, the Configure Keyboard Layout menu appears.

- 7. In the Configure Keyboard Layout menu, select the appropriate keyboard layout, then press Enter.**

The system configures the keyboard layout selection and searches for configuration files.

If you selected a GUI installation in the earlier steps, the next two steps (Step 8 and Step 9) confirm that the GUI is functioning. If you did not select a GUI interface earlier, skip to Step 10.

A screenshot of a terminal window with a black background and white text. The text reads: "Discovering additional network configuration..." followed by "Starting Solaris Interactive (graphical user interface) Installation." Below this, there are three paragraphs of instructions: "You must respond to the first question within 30 seconds or the installer proceeds in a non-window environment (console mode).", "If the screen becomes blank or unreadable the installer proceeds in console mode.", and "If the screen does not properly revert to console mode, restart the installation and make the following selection:". The final line of text is "Solaris Interactive Text (Console session)" and "Press ENTER to continue." at the bottom.

```
Discovering additional network configuration...

Starting Solaris Interactive (graphical user interface) Installation.

    You must respond to the first question within 30 seconds
    or the installer proceeds in a non-window environment
    (console mode).

    If the screen becomes blank or unreadable the installer
    proceeds in console mode.

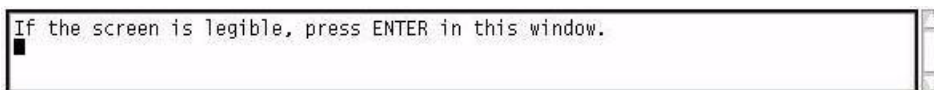
    If the screen does not properly revert to console mode,
    restart the installation and make the following selection:

    Solaris Interactive Text (Console session)

Press ENTER to continue.
```

- 8. In the Discovering Network Configuration and Starting Solaris Interactive Installation screen, press Enter.**

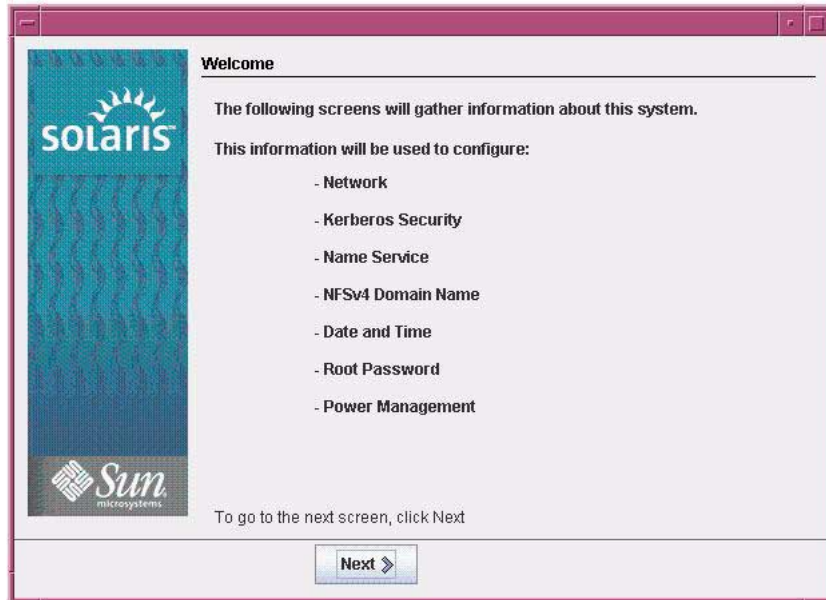
A second screen appears to confirm that the GUI is functioning.

A screenshot of a small rectangular window with a white background and a black border. The text inside reads: "If the screen is legible, press ENTER in this window." followed by a small black square cursor.

```
If the screen is legible, press ENTER in this window.
█
```

- 9. In the screen that is confirming the text shown is legible, press Enter.**
The Language Selection menu appears.
- 10. In the Language Selection menu, type the selected language ID number (0-9), then press Enter.**
After a few moments the Welcome screen appears.

Note – The sample screen shown below reflects the GUI installation program. If you are running a text-based installation interface, the text-based Welcome screen (not shown) will appear.



11. In the Welcome screen, click Next to begin the installation.

If you preconfigured all of the system information, the installation program does not prompt you to enter any configuration information. If you did not preconfigure all the system information, the installation program prompts you for this information on several configuration screens.

12. Continue the normal Solaris installation and, if necessary, refer to the 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 displays the Solaris login prompt.

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

13. Proceed to the section “Post Solaris Installation Tasks” on page 18 to perform the post Solaris configuration tasks.

Post Solaris Installation Tasks

After completing the Solaris installation and rebooting the Solaris Operating System, review the following post installation tasks and, if necessary, perform the tasks that are applicable to your system.

- “Install Critical Solaris Patches” on page 18
- “Install RAID Management Software” on page 19

Note – Some SAS PCIe HBA option cards listed in this section might not yet be available for purchase. To determine which HBA option cards are available for purchase on the Sun Fire X4470 Server, go to the following web site and navigate to the appropriate page: (<http://www.oracle.com/goto/x4470>).

Install Critical Solaris Patches

The following table identifies the critical Solaris patches that are available to install on your system. Review this table to determine which patches, if any, are currently required for installation on your system.

TABLE 2-1 Critical Solaris Patches

Critical Solaris Patch	Description	Download Patch
142901-03	This patch reduces boot time considerably.	
143524-01	This patch provides fixes for systems with the Sun Storage 6 Gb SAS PCIe HBA, Internal.	
142260-02	This patch provides performance fixes for solid state drives (SSDs) and flash devices.	(www.oracle.com/goto/x4470)
143355-02	This patch provides performance fixes for the 10 GbE Intel NIC (1109A).	
142085-03	This patch provides fixes for the qlc QLogic FC HBA driver.	

Install RAID Management Software

If you have a Sun Storage 6 Gb SAS PCIe RAID HBA installed on your server, you should install the RAID management software available on the Tools and Drivers DVD. If you do not install the RAID management software on your system, the Solaris OS will not be able to detect and report disk errors.

For more details about installing the RAID management software, refer to the documentation shipped with the HBA or the *LSI MegaRAID SAS Software User's Guide* at: (<http://www.lsi.com/support/sun/>)

Supported Installation Methods

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

- “Console Outputs” on page 21
- “Installation Boot Media” on page 23
- “Installation Targets” on page 25

Console Outputs

TABLE A-1 lists the consoles you use to capture the output and input of the operating system installation.

TABLE A-1 Console Options for Performing an OS Installation

Console	Description	Setup Requirement
Local console	<p>You can install the OS and administer the server by attaching a local console directly to the server SP.</p> <p>Examples of local consoles include:</p> <ul style="list-style-type: none">• Serial console• VGA console, with USB keyboard and mouse	<ol style="list-style-type: none">1. Attach a local console to the server. For details, see the “Attaching Devices” in the <i>Sun Fire X4470 Server Installation Guide</i> (821-0332).2. At the ILOM prompt, type your 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. <p>For further details about establishing a connection to the server SP, see the Oracle Integrated Lights Out Manager (ILOM) 3.0 Documentation Collection.</p>
Remote console	<p>You can install the OS and administer the server from a remote console by establishing a network connection to the server SP.</p> <p>Examples of remote consoles include:</p> <ul style="list-style-type: none">• Web-based client connection using the ILOM Remote Console application• SSH client connection using a serial console	<ol style="list-style-type: none">1. Establish an IP address for the server SP. For details, see the <i>Sun Fire X4470 Server Installation Guide</i> (821-0332).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 ILOM web interface; 3) redirect the video output from the server to the web client by launching the ILOM Remote Console; 4) enable device redirection (mouse, keyboard, etc.) using the Device menu. For SSH client connection, perform these steps: 1) From a serial console, establish an SSH connection to the server SP (<code>ssh root@ipaddress</code>); 2) log in to the ILOM command-line interface; 3) redirect the serial output from the server to the SSH client by typing start /SP/console. <p>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 Documentation Collection.</p>

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 A-2 Boot Media Options for Performing the OS Installation

Installation Media	Description	Setup Requirement
Local boot media	<p>Local boot media requires a built-in storage device on the server, or an external storage device attached to the server.</p> <p>Supported OS local boot media sources can include:</p> <ul style="list-style-type: none">• CD/DVD-ROM installation media, and, if applicable, floppy device driver media	<ol style="list-style-type: none">1. If your server does not contain a built-in storage device, attach the appropriate storage device to the front panel of the server module using the USB connector on the dongle cable.2. For more information about how to attached local devices to the server, see “Attaching Devices” in the <i>Sun Fire X4470 Server Installation Guide</i> (821-0332).

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

Installation Media	Description	Setup Requirement
Remote boot media	<p>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).</p> <p>Supported OS remote media sources can include:</p> <ul style="list-style-type: none">• 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)	<p>To redirect the boot media from a remote storage device, perform these steps:</p> <ol style="list-style-type: none">1. Insert the boot media into the storage device, for example: For CD/DVD-ROM ISO image, ensure that ISO image(s) are readily available on a network shared location. 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. For device driver floppy media, if applicable, insert floppy media into the external floppy drive. For CD/DVD-ROM, insert media into the built-in or external CD/DVD-ROM drive.2. Establish a web-based client connection to the server ILOM SP and launch the ILOM Remote Console application. For more details, see the Setup Requirements for web-based client connection in TABLE A-1.3. In the Device menu of the 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. <p>For more information about the ILOM Remote Console, see the Oracle Integrated Lights Out Manager (ILOM) 3.0 Documentation Collection.</p>

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

Installation Media	Description	Setup Requirement
Remote Boot Media (<i>continued</i>)	<p>Note - An automated installation image enables you to perform the OS installation on multiple servers. By using an automated image, you can ensure configuration uniformity among many systems.</p> <p>Automated installations use a Pre-boot eXecution Environment (PXE) technology to enable the clients without an operating system to boot remotely to the automated install server that performs the installation of the operating system.</p>	<p>To perform the installation using PXE, perform these steps:</p> <ol style="list-style-type: none"> 1. Configure the network server to export the installation via PXE boot. 2. Make the OS install media available for PXE boot. <p>Note that if you are using an automated OS installation image, you will need to create and provide the automated OS install image, for example:</p> <ul style="list-style-type: none"> - Solaris JumpStart Image - RHEL KickStart Image - SLES AutoYaST Image - Windows WDS Image <p>For detailed instructions for automating the installation setup process, consult the operating system vendor documentation.</p> <ol style="list-style-type: none"> 3. To boot the installation media, select the PXE boot interface card as the temporary boot device.

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

Install Target	Description	Setup Requirement	Supported OS
Local hard disk drive (HDD) or Solid state drive (SSD)	You can choose to install the operating system to any of the drives installed in the server.	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 SSD, refer to the installation guide or service manual provided with your server.	All supported operating systems listed in Appendix D .

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 (SSD).

- The HDD or SDD is properly installed in the server. For details, see the *Sun Fire X4470 Server Installation Guide* (821-0332).
- A console connection is established to the server. For details, see “[Console Options for Performing an OS Installation](#)” on page 22.

▼ View or Edit BIOS Settings for New Installations

1. Reset the power on the server.

For example, to reset the power on a server:

- **From the ILOM web interface**, select the Remote Control --> Remote Power Control tab, then select the Power Cycle option from the Select Action drop-down list box.
- **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 /SYS**

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 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.

Downloading the ISO Image for the Tools and Drivers DVD

Use the download instructions in this appendix if a Tools and Driver DVD was not shipped with your server or, if you need to verify that the Tools and Drivers DVD shipped with your server contains the latest tools and firmware for your server.

ISO Image Download Procedure

Follow the steps in the procedure below to download the ISO image for the Tools and Drivers DVD.

▼ Download the Tools and Drivers DVD Image

1. Go to (<http://www.oracle.com/goto/x4470>) and navigate to the Tools and Drivers DVD download page.
2. Select the platform image for Tools and Drivers DVD.

Supported Operating Systems

TABLE D-1 in this appendix describes the operating systems supported on the Sun Fire X4470 Server at the time this document was published.

For an up-to-date list of the latest operating systems supported on the Sun Fire X4470 Server, go to (<http://www.oracle.com/goto/x4470>) and navigate to the applicable web site.

Supported Operating Systems

Oracle's Sun Fire X4470 Server supports the installation and use of the following operating systems, or a subsequent release of the operating system.

TABLE D-1 Supported Operating Systems

Operating System	Supported Version	Additional Information
Windows	<ul style="list-style-type: none">• 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, Standard Edition (64-bit)• Microsoft Windows Server 2008 R2, Enterprise Edition (64-bit)• Microsoft Windows Server 2008 R2, Datacenter Edition (64-bit)	<ul style="list-style-type: none">• <i>Sun Fire X4470 Server Installation Guide for Windows Operating Systems</i> (821-0701)
Linux	<ul style="list-style-type: none">• Oracle Enterprise Linux (OEL) 5.5 (64-bit)• SUSE Linux Enterprise Server (SLES) 11 (64-bit)• Red Hat Enterprise Linux (RHEL) 5.5 (64-bit)	<ul style="list-style-type: none">• <i>Sun Fire X4470 Server Installation Guide for Linux Operating Systems</i> (821-1213)
Solaris	<ul style="list-style-type: none">• Solaris 10/09 or subsequent release	<ul style="list-style-type: none">• <i>Sun Fire X4470 Server Installation Guide for Oracle Solaris Operating System</i> (821-0700)
Virtual Machine Software	<ul style="list-style-type: none">• Oracle VM 2.2.1• VMware ESX 4.0 U1• VMware ESXi 4.0 U1	<ul style="list-style-type: none">• <i>Sun Fire X4470 Server Installation Guide for Virtual Machine Software</i> (821-1214)

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