Sun Fire™ X2270 Server Linux, VMware, OpenSolaris, and Solaris Operating Systems Installation Guide

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Contents

Preface

The *Sun Fire X2270 Server Linux, WMware, OpenSolaris, and Solaris Operating Systems Installation Guide* contains operating system installation and initial software configuration procedures for bringing the 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 Updates

For product updates that you can download for the Sun Fire X2270 Server, visit the following web site:

`http://www.sun.com/download/index.jsp`

Find the Hardware Drivers section and click x64 Servers & Workstations. The Sun Fire™ X2270 Server site contains updates for firmware and drivers, as well as CD-ROM `.iso` images.

Related Documentation

Refer to the following table to identify other documentation that is currently available for the Sun Fire X2270. You can access these documents online at:

http://docs.sun.com/app/docs/prod/sf.2270

Title	Content	Part Number	Format
Sun Fire X2270 Server Product Notes	Late-breaking information about the server.	820-5608	PDF HTML
Sun Fire X2270 Server Getting Started Guide	Basic installation information for setting up the server.	820-5610	PDF Print
Sun Fire X2270 Server Installation Guide	Detailed installation information for setting up the server.	820-5604	PDF HTML Print option
Sun Fire X2270 Server Linux, VMware, OpenSolaris, and Solaris Operating Systems Installation Guide	Installation instructions for the Linux, VMware, OpenSolaris, and Solaris operating systems.	820-5606	PDF HTML
Sun Fire X2270 Server Windows Operating System Installation Guide	Installation instructions for the Windows Server operating system.	820-7143	PDF HTML
Sun Installation Assistant for Windows and Linux User's Guide	Instructions for using the Sun Installation Assistant to install the Windows and Linux operating systems.	820-3357	PDF HTML
Sun Fire X2270 Server Service Manual	Information and procedures for maintaining and upgrading the server.	820-5607	PDF HTML
Sun x64 Servers Diagnostics Guide	Information for diagnosing and troubleshooting the server.	820-6750	PDF HTML
x64 Servers Utilities Reference Manual	Information for using applications and utilities common to x64 servers and server modules.	820-1120	PDF HTML
Sun Integrated Lights Out Manager 2.0 User's Guide	ILOM features and tasks that are common to servers and server modules that support ILOM.	820-1188	PDF HTML

Title	Content	Part Number	Format
Sun Integrated Lights Out Manager (ILOM) 2.0 Supplement for Sun Fire X2270 Server	ILOM information that is specific to the server.	820-5609	PDF HTML
Sun Integrated Lights Out Manager (ILOM) 3.0 Documentation Collection	Information for the initial setup to ILOM, ILOM conceptual information, and procedures that can be performed using the ILOM web interface, command-line interface, SNMP, and IPMI.	820-5523 820-6410 820-6411 820-6412 820-6413	PDF HTML
Sun Integrated Lights Out Manager (ILOM) 3.0 Supplement for Sun Fire X2270 Server	ILOM information that is specific to the server.	821-0039	PDF HTML
Sun Fire X2270 Server Safety and Compliance Manual	Hardware safety and compliance information for the server.	820-5605	PDF
Important Safety Information for Sun Hardware Systems	Multilingual hardware safety and compliance information for all Sun hardware systems.	816-7190	Print
Accessing Sun Product Documentation	Multilingual information that provides the URL to Sun online documentation.	820-0541	Print

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

Documentation, Support, and Training

Sun Function	URL
Sun Documentation	`http://docs.sun.com`
Support	`http://www.sun.com/support/`
Training	`http://www.sun.com/training/`

Using UNIX Commands

This document might not contain information about basic UNIX® commands and procedures such as shutting down the system, booting the system, and configuring devices. Refer to the following for this information:

- Software documentation that you received with your system
- Solaris™ Operating System documentation, which is at:

  http://docs.sun.com

Third-Party Web Sites

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Typographic Conventions

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

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

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`http://www.sun.com/hwdocs/feedback`

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

Sun Fire X2270 Linux, VMware, OpenSolaris, and Solaris Operating Systems Installation Guide, 820-5606-12.

CHAPTER 1

Planning the Operating System Installation

This chapter identifies the information you need to properly plan the installation of an operating system onto a Sun Fire X2270 Server.

This chapter contains the following topics:

Supported Operating Systems

The Sun Fire X2270 Server supports the installation and use of the following operating systems, or a subsequent release of the operating systems.

TABLE 1-1 Supported Operating Systems

Operating System	Supported Version	For More Information, see
Linux	• Red Hat Enterprise Linux (RHEL) 4.8, 32-bit and 64-bit • RHEL 5.3, 64-bit • SUSE Linux Enterprise Server (SLES) 10 SP2, 64-bit • SLES 11, 64-bit	• "Installing Red Hat Enterprise Linux" on page 15 • "Installing SUSE Linux Enterprise Server" on page 29
VMware	• VMware ESX 3.5 Update 4 • VMware ESXi 3.5 Update 4 • VMware ESX 4.0 • VMware ESXi 4.0	• "Installing VMware" on page 43
OpenSolaris	• OpenSolaris 2009.06 and later	• "Installing OpenSolaris" on page 77
Solaris	• Solaris 10 10/08 and later	• "Installing Solaris 10" on page 57
Windows	• Microsoft Windows Server 2003 Enterprise Edition (R2 with SP2, or SP2) (32-bit and 64-bit) • Microsoft Windows Server 2003 Standard Edition (R2 with SP2, or SP2) (32-bit and 64-bit) • Microsoft Windows Server 2008, Standard Edition (32-bit or 64-bit) • Microsoft Windows Server 2008, Enterprise Edition (32-bit or 64-bit) • Microsoft Windows Server 2008, Datacenter Edition (32-bit or 64-bit) • Microsoft Windows Server 2008 R2, Standard Edition (32-bit or 64-bit) • Microsoft Windows Server 2008 R2, Enterprise Edition (32-bit or 64-bit) • Microsoft Windows Server 2008 R2, Datacenter Edition (32-bit or 64-bit)	• *Sun Fire X2270 Server Windows Operating System Installation Guide* (820-7143)

Preinstalled OpenSolaris or Solaris Image

The OpenSolaris 2009.06 or Solaris 10 Operating System image, if ordered, is shipped preinstalled on the hard disk drive. If you need to install another operating system on this drive, you can choose to:

- Partition the local drive to remove the preinstalled OS image

or

- Partition the local drive to support a dual-boot operating system configuration

The Linux, OpenSolaris, and Solaris operating system installation procedures described later in this guide explain the appropriate point in the installation program where you can either partition the drive to remove the preinstalled OS image or to support a dual-boot operating system configuration.

Note – To configure the preinstalled OpenSolaris 2009.06 or Solaris 10 OS image, see either the OpenSolaris 2009.06 or the Solaris 10 OS Preinstalled OS chapter in the *Sun Fire X2270 Server Installation Guide* for details.

Installation Prerequisites

The following requirements must be met prior to installing an operating system.

TABLE 1-2 OS Installation Prerequisites

Requirement	Mandatory or Optional	For More Information, See:
The server is mounted and powered-on in a rack.	Mandatory	• *Sun Fire X2270 Server Installation Guide*
For systems equipped with an SP, the SP network management port on the server is configured with an IP address.	Mandatory	• *Sun Fire X2270 Server Installation Guide* or • *Sun Integrated Lights Out Manager 2.0 User's Guide* or *Sun Integrated Lights Out Manager 3.0 Documentation Collection.*
Select a console option and a media option for performing the installation, as well as an installation target.	Mandatory	• "Installation Methods" on page 5
Ensure that factory-default settings in the BIOS utility are set.	Recommended* *For local disk drive OS installation targets.	• "Verifying BIOS Settings for New Installations" on page 9

TABLE 1-2 OS Installation Prerequisites *(Continued)*

Requirement	Mandatory or Optional	For More Information, See:
Gather the applicable vendor operating system installation documentation. **Note -** Use operating system vendor documentation in conjunction with the operating system instructions in this guide.	Recommended	• Applicable operating system vendor documentation: •Red Hat Enterprise Linux documentation collection at: http://www.redhat.com/docs/manuals/enterprise/ •SUSE Linux Enterprise Server documentation collection at: http://www.novell.com/documentation/suse •VMware documentation at: http://www.vmware.com/support/pubs/vi_pubs.html •OpenSolaris 2009 documentation at: http://dlc.sun.com/osol/docs/content/2009.06/getstart/ •Solaris 10 10/08 Release and Installation Collection at: http://docs.sun.com/app/docs/prod/solaris.10
Ensure that you have the Tools & Drivers CD that was provided with your server. **Note -** If device drivers are required for your OS installation, the device drivers are provided on the Tools & Drivers CD.	Mandatory	• Sun Fire X2270 Server Tools & Drivers CD or • Download version of the Tools & Drivers CD for the Sun Fire X2270 Server is available at: http://www.sun.com/servers/x64/x2270/downloads.jsp
Review the *Sun Fire X2270 Server Product Notes* for late-breaking news about supported operating system software and patches.	Recommended	• *Sun Fire X2270 Server Product Notes*

Installation Methods

To determine which installation method is best for your infrastructure, consider the options and requirements summarized in the following sections:

Console Outputs

TABLE 1-3 lists the consoles that you can use to capture the output and input of the operating system installation.

TABLE 1-3 Console Options for Performing an OS Installation

Console	Description	Setup Requirement
Local Console	You can install the OS and administer the server by attaching a local console directly to the server SP. **Note -** An example of a local console is a serial console.	1. Attach a local console to the server. For details, see "Connecting the Cables" in the *Sun Fire X2270 Server Installation Guide*. 2. For systems without an SP, the video output is automatically routed to the local console. 3. For systems equipped with an SP, do the following: a. At the ILOM prompt, type your ILOM user name and password. b. For serial console connections only, establish a connection to the host serial port by typing **`start /SP/console`**. The video output is automatically routed to the local console. For further details about establishing a connection to the server SP, see either the *Sun Integrated Lights Out Manager 2.0 User's Guide* or the *Sun Integrated Lights Out Manager 3.0 Documentation Collection*.

TABLE 1-3 Console Options for Performing an OS Installation *(Continued)*

Console	Description	Setup Requirement
Remote Console* *For servers equipped with an SP	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 Sun ILOM Remote Console application • SSH client connection using a serial console	1. Establish an IP address for the server SP. For details, see either the *Sun Integrated Lights Out Manager 2.0 User's Guide* or the *Sun Integrated Lights Out Manager 3.0 Documentation Collection*. 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 Sun ILOM Remote Console; then 4) enable device redirection (mouse, keyboard, etc.) in the Device menu. •For SSH client connection, perform these steps: 1) From a serial console, establish an SSH connection to the server SP (`ssh root@`*ipaddress*); 2) log in to the ILOM command-line interface, then 3) redirect the video 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 Sun ILOM Remote Console, see either the *Sun Integrated Lights Out Manager 2.0 User's Guide* or the *Sun Integrated Lights Out Manager 3.0 Documentation Collection*.

Installation Boot Media

You can start the operating system installation to a server by booting a local or remote installation media source. TABLE 1-4 identifies the supported media sources and the setup requirements for each source.

TABLE 1-4 Media Options for Performing the OS Installation

Installation Media	Description	Setup Requirement
Local Boot Media	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 installation media, and, if applicable, floppy device driver media	• To perform this installation using local boot media, perform these steps: 1. If your server does not contain a built-in storage device, attach the appropriate storage device to the the server using a USB connector. 2. For more information about how to attach local devices to the server, see "Connecting the Cables" in the *Sun Fire X2270 Server Installation Guide*.

TABLE 1-4 Media Options for Performing the OS Installation *(Continued)*

Installation Media	Description	Setup Requirement
Remote Boot Media* *For servers equipped with SP	Remote media requires you to boot the install over the network. You can start the network installation 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 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. 2.Establish a web-based client connection to the ILOM server SP and launch the Sun ILOM Remote Console application. For more details, see the Setup Requirements for web-based client connection in TABLE 1-3. 3.In the Device menu of the Sun 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 Sun ILOM Remote Console, see either the *Sun Integrated Lights Out Manager 2.0 User's Guide* or the *Sun Integrated Lights Out Manager 3.0 Documentation Collection*.

TABLE 1-4 Media Options for Performing the OS Installation *(Continued)*

Installation Media	Description	Setup Requirement
Remote Boot Media, *continued*	**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. Automated installations use a Pre-boot eXecution Environment (PXE) technology to enable the clients without an operating system to boot remotely to the automated installation server that performs the installation of the operating system.	• To perform the installation using PXE, perform these steps: 1.Configure the network server to export the installation using a PXE boot. 2.Make the OS installation media available for PXE boot. If you are using an automated OS installation image, you will need to create and provide the automated OS installation image, for example: •Solaris JumpStart Image •RHEL KickStart Image •SLES AutoYaST Image •Windows RIS or WDS Image For detailed instructions for automating the installation setup process, consult the operating system vendor documentation. 3.To boot the installation media, select the PXE boot interface card as the temporary boot device. For details, see the applicable PXE-based operating system installation procedure described later in this chapter.

Installation Targets

TABLE 1-5 identifies the supported installation targets that you can use to install an operating system.

TABLE 1-5 Installation Targets for OS Installations

Installation 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 HDDs or SSDs 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 SDD, refer to the installation guide or the service manual provided with your server.	• All operating systems listed in TABLE 1-1

TABLE 1-5 Installation Targets for OS Installations *(Continued)*

Installation Target	Description	Setup Requirement	Supported OS
Compact Flash Card	If your system is equipped with an optional compact flash card, you can choose to install a Linux or Solaris operating system to the compact flash card.	• Ensure that the compact flash card option is properly installed in the server. For more information about installing this option, see the installation guide or the service manual supplied with your server.	• All Linux and Solaris operating systems listed in TABLE 1-1
Mini DIMMs **Note -** This option is not available on all servers.	If your system is equipped with optional Mini DIMMs, you can choose to install a supported operating system to the Mini DIMMs.	• Ensure that the Mini DIMM options are properly installed in the server. For more information about installing this option, see the installation guide or the service manual supplied with your server.	• All operating systems listed in TABLE 1-1

Verifying BIOS Settings for New Installations

For all new operating system installations on a hard disk 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

In the BIOS Setup utility, you can set optimal defaults, as well as view and edit BIOS settings as needed. Note that all changes you make in the BIOS Setup utility (through F2) are permanent until the next time you change them.

Note – If necessary, you can specify a temporary boot device by pressing F8 during the BIOS start-up. Note that a temporary boot device setting is only in effect for the current system boot. After the system boots from a temporary boot device, the permanent boot device setting specified through F2 (in the BIOS) will be in effect.

Before You Begin

Ensure that the following requirements are met prior to accessing the BIOS Setup utility:

- Server is mounted and powered on in a rack. For details, see the *Sun Fire X2270 Server Installation Guide*.
- Server is equipped with a hard disk drive (HDD) or solid state disk drive (SSD).
- HDD or SSD is properly installed in the server. For details, see the *Sun Fire X2270 Server Service Manual*.
- Console connection is established to the server. For details, see "Console Outputs" on page 5.

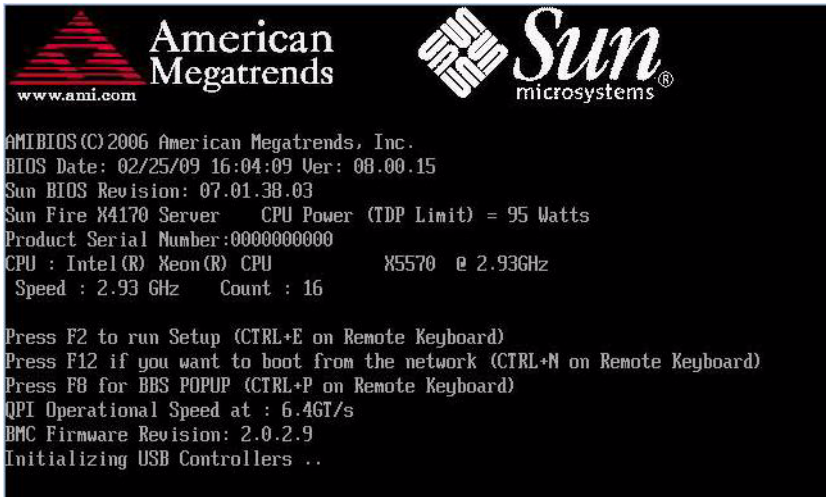
▼ View or Edit BIOS Settings for New Installations

1. **Reset the power on the server.**

   For example:

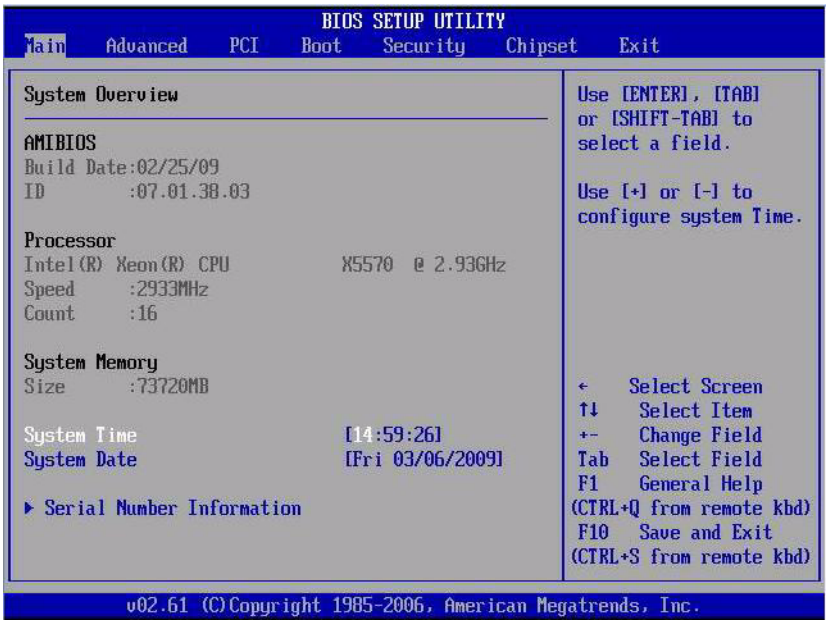
   - **From the ILOM web interface**, select Remote Control --> Remote Power Control, then select the `Power Cycle` option from the Host action drop-down list box.
   - **From the local server**, press the Power button (approximately, 1 second) on the front panel of the server to turn the server off, then press the Power button again to turn the server on.
   - **From the ILOM CLI**, 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 the up or down arrow keys to change between the system time and date selection.

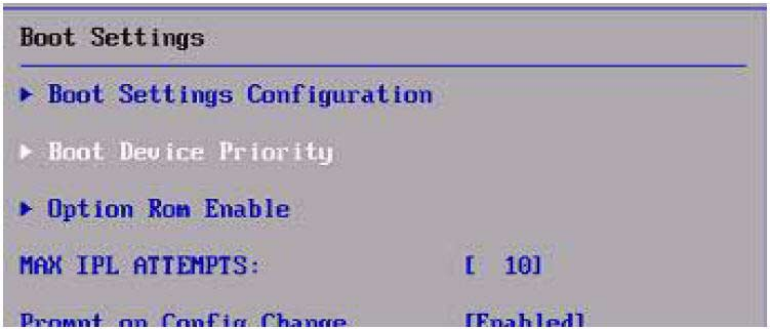
   b. **To change the values in the highlighted fields, use these keys:**

      - 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.**

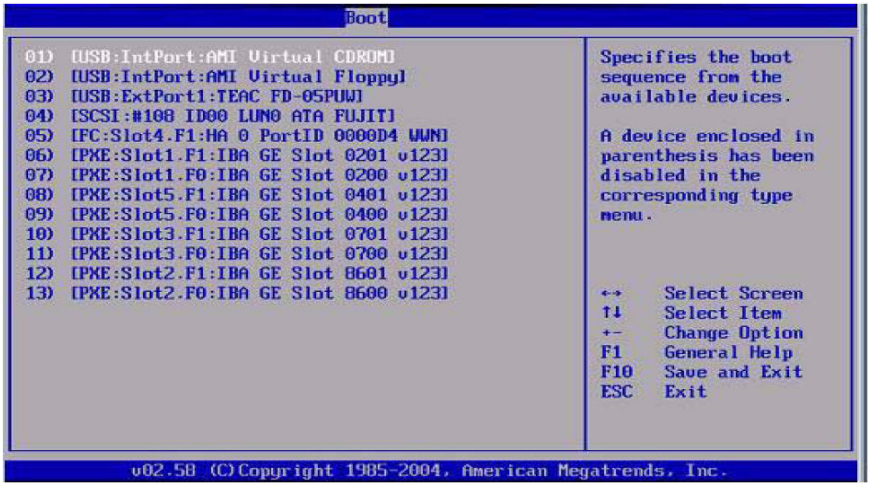
   The Boot Settings menu appears.

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.

Note that the boot device order listed on your screen might differ from the device order shown in the sample screen below.



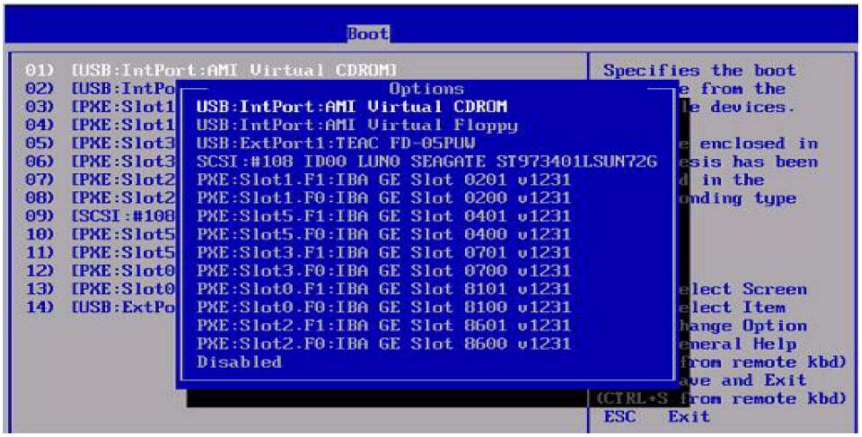
The **first device** in the list has the **highest boot priority**.

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.

Note that the boot options listed on your screen might differ from the options shown in the sample screen below.



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.

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8. To save your changes and exit the BIOS Setup utility, press F10.

Note – When using the Sun 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.

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.

9. In the message dialog, select `OK`, then press Enter.

CHAPTER 2

Installing Red Hat Enterprise Linux

This chapter provides information about installing:

- Red Hat Enterprise Linux v.4.8 (or subsequent release) for x86 (32-bit and 64-bit)
- Red Hat Enterprise Linux v.5.3 (or subsequent release) for x86 (64-bit)

Note – Sun highly recommends that you use the Sun Installation Assistant (SIA) to install the Red Hat Linux operating system on your server. SIA provides and installs the device driver(s), if required, for you. For more information about using SIA to install an operating system, follow the instructions provided in the *Sun Installation Assistant for Windows and Linux User's Guide* (820-3357).

This chapter includes the following topics:

Task Map for the RHEL Installation

Use TABLE 2-1 to preview the installation process defined as a series of tasks. The table identifies the required tasks, describes them, and provides pointers to the instructions for performing the task.

TABLE 2-1 Task Map for the RHEL Installation

Step	Task	Description	Relevant Topic(s)
1	Review installation prerequisites.	Verify that all applicable requirements are met for installing an operating system to your server.	• TABLE 1-2 "Installation Prerequisites" on page 3"
2	Choose an installation method.	Evaluate and select an installation method that meets the needs of your infrastructure.	• "Installation Methods" on page 5
3	Ensure that the BIOS factory defaults are set.	Verify that the factory default settings in the BIOS are set prior to performing the operating system installation.	• "Verifying BIOS Settings for New Installations" on page 9
4	Gather the RHEL installation media.	RHEL OS CD/DVD media and documentation can be purchased from Sun or Red Hat. For a Sun Fire X2270 Server, use the media for x86 platforms.	You can download or order the media for RHEL at the following site: `http//www.redhat.com`
5	Perform the RHEL OS installation.	The install instructions in this chapter explain the initial steps for booting the install media and launching the RHEL installation program. For further information about installing RHEL, you should refer to the RHEL documentation collection at: `http://www.redhat.com/docs/manuals/enterprise/`	• "Installing RHEL4 or RHEL5 Using Local or Remote Media" on page 17 • "Installing RHEL4 or RHEL5 Using PXE Network Environment" on page 24
6	Register RHEL and activate automatic updates (recommended).	After installing RHEL, you should register your system and activate your subscription with Red Hat to retrieve automatic updates to the software.	• Red Hat Enterprise Linux documentation collection at: `http://www.redhat.com/docs/manuals/enterprise/`
7	Install driver(s) post installation, if necessary.	If the RHEL operating system does not include the necessary device drivers to support your system, you might need to install additional device drivers.	• "Installing System Device Driver(s) to Support Additional Hardware" on page 26

Installing RHEL4 or RHEL5 Using Local or Remote Media

The following procedures describe how to boot the RHEL4 or RHEL5 operating system installation from local or remote media. The procedures assume that you are booting the RHEL installation media from one of the following sources:

- RHEL4 or RHEL5 CD or DVD set (internal or external CD/DVD)
- RHEL4 or RHEL5 ISO DVD image (network repository)

Note – If you are booting the installation media from a PXE environment, refer to "Installing RHEL4 or RHEL5 Using PXE Network Environment" on page 24 for instructions.

Refer to the following procedures to install the RHEL OS from local or remote media:

- "Install RHEL4 Using Local or Remote Media" on page 18
- "Install RHEL5 Using Local or Remote Media" on page 21

Before You Begin

Prior to performing the installation, the following requirements must be met:

- All applicable installation prerequisites for installing an operating system should have been met. For further information about these prerequisites, see TABLE 1-2 "Installation Prerequisites" on page 3.
- An installation method (for example: console, boot media, and install target) should have been chosen and established prior to performing the installation. For more information about these setup requirements, see "Installation Methods" on page 5.

Note that the following procedures explain the initial steps for booting the install media and partitioning the drive. For further details about installing RHEL, see RHEL documentation collection at:

`http://www.redhat.com/docs/manuals/enterprise/`

After completing this procedure, you should review and perform the required post installation tasks described later in this chapter. For more details, see "Post RHEL Installation Tasks" on page 26.

▼ Install RHEL4 Using Local or Remote Media

1. **Ensure that the install media is available to boot.**
   - **For Distribution CD/DVD**. Insert the Red Hat 4.8 Distribution media boot disc (CD labeled number 1 or the single DVD) into the local or remote CD/DVD-ROM drive.
   - **For ISO images**. Ensure that the ISO images are available and that the boot disc image (CD labeled number 1 or DVD) has been selected in the ILOM Remote Console application (`Device` menu-->`CD-ROM Image`).

     For additional information about how to set up the install media, see TABLE 1-4 "Installation Boot Media" on page 6.

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

   For example:
   - **From the ILOM web interface**, select Remote Control --> Remote Power Control, then select the `Power Cycle` option from the Host action drop-down list box.
   - **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to power off the server, 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.

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

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3. **In the BIOS power-on self-test screen, press F8 to specify a temporary boot device for the RHEL installation.**

   The Please Select Boot Device menu appears.

4. **In the Boot Device menu, select either the external or virtual CD/DVD device as the first boot device then, press Enter.**

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

   After a few seconds, the splash screen for the Red Hat installation appears. The bottom half of the splash screen lists instructions, function keys, and the boot prompt.

5. **In the Red Hat Enterprise Linux splash screen, press Enter to continue the normal user interactive installation.**

6. **In the Testing CD Media screen, press the Tab key to select `Skip`, then press Enter.**

Note – If you are experiencing problems with the initial setup for the installation, it might be necessary to test the installation CD media by selecting `OK`.

A message appears about running Anaconda, the Red Hat Enterprise Linux system installer. After a few seconds the Red Hat splash screen appears displaying the Welcome screen.

7. **In the Red Hat Welcome screen, click `Next` to continue the installation.**

   The Language screen appears.

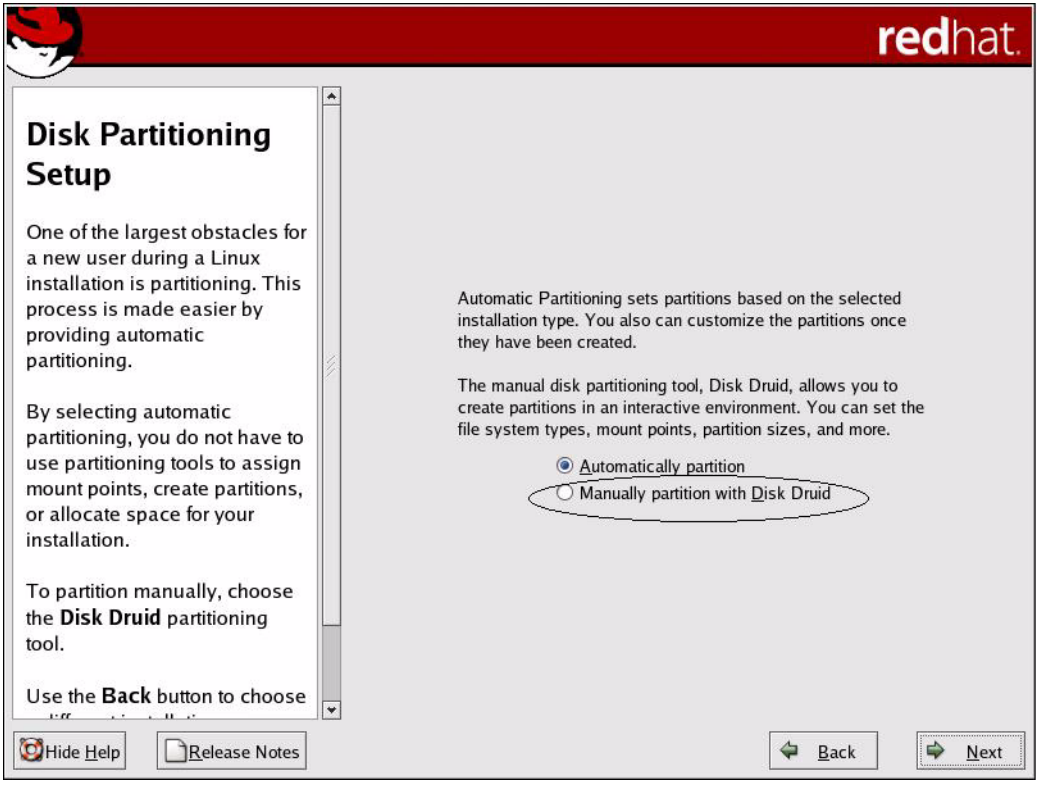
8. **In the Language screen, select the appropriate language, then click `Next`.**

   The Keyboard Configuration screen appears.

9. **In the Keyboard Configuration screen, select the appropriate keyboard configuration, then click `Next`.**

10. **When the Disk Partitioning Setup screen appears, do the following:**

    a. Select the `Manual Partition with Disk Druid` radio button.



b. Partition the disk as appropriate by referring to the instructions presented on the Red Hat disk partitioning screen.

Note – If the OpenSolaris or the Solaris OS is preinstalled on the disk, you can choose to partition the disk to remove the preinstalled OS; or, you can choose to keep the preinstalled OS and partition the disk to support dual-boot operating systems.

---

11. Continue the basic Red Hat installation setup by following the on-screen instructions and Red Hat documentation.

12. Upon completing the basic Red Hat installation setup, perform the following post-installation tasks:

a. Configure your system for automatic updates.

Refer to Red Hat documentation for more information.

b. If required, download and install the latest errata and bug fixes for RHEL4.8 (or subsequent release).

Refer to Red Hat documentation for more information.

c. If required, install additional device drivers.

Refer to "Installing System Device Driver(s) to Support Additional Hardware" on page 26.

▼ Install RHEL5 Using Local or Remote Media

1. **Ensure that the install media is available to boot.**
   - **For Distribution CD/DVD**. Insert the Red Hat 5.3 Distribution media boot disc (CD labeled number 1 or the single DVD) into the local or remote CD/DVD-ROM drive.
   - **For ISO images**. Ensure that the ISO images are available and that the boot disc image (CD labeled number 1 or DVD) has been selected in the ILOM Remote Console application (`Device` menu-->`CD-ROM Image`).

     For additional information about how to set up the install media, see TABLE 1-4 "Installation Boot Media" on page 6.
2. **Reset the power on the server.**

   For example:
   - **From the ILOM web interface**, select Remote Control --> Remote Power Control, then select the `Power Cycle` option from the Host action drop-down list box.
   - **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to power off the server, 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.

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

---

3. **In the BIOS power-on self-test screen, press F8 to specify a temporary boot device for the RHEL installation.**

   The Please Select Boot Device menu appears.

4. **In the Boot Device menu, select either the external or virtual CD/DVD device as the first boot device, then press Enter.**

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

   After a few seconds, the splash screen for the RHEL5 installation appears. The bottom half of the splash screen lists instructions, function keys, and the boot prompt.

5. **In the Red Hat Enterprise Linux splash screen, press Enter to continue the normal user interactive installation.**

6. **In the Language screen, select the appropriate language, then click** `OK`**.**

   The Keyboard Type screen appears.

7. **In the Keyboard Type screen, select the appropriate keyboard configuration, then click** `OK`**.**

   The Installation Method screen appears.

8. **In the Installation Method screen, select the appropriate installation method (Local CDROM or NFS Image), then click** `OK`**.**

   The CD Found screen appears.

9. **In the CD Found screen, click** `Skip`**.**

   The Red Hat Enterprise Linux 5 screen appears.

10. **In the Red Hat Enterprise 5 screen, click** `Next`**.**

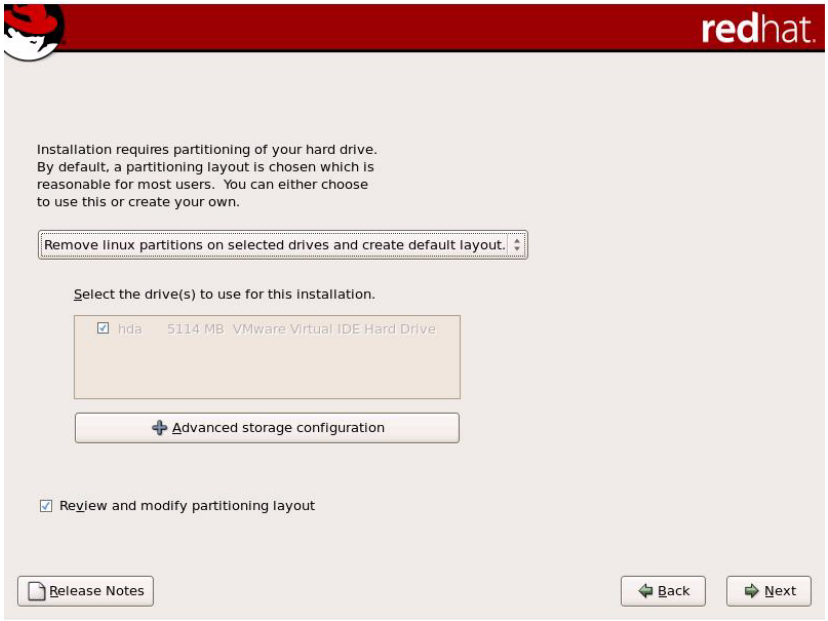
    The Installation Number dialog appears.

11. **In the Installation Number dialog, enter the "Installation number" or click** `Skip entering installation number`**, then click** `OK`**.**

    The Disk Partition Setup screen appears.

12. **In the Disk Partition Setup screen, do the following:**

    a. **Select the option for** `Remote Linux partition on selected drives and create default layout` **or manually partition the disk using the** `Create custom layout` **option of Disk Druid.**



b. Partition the disk as appropriate by referring to the instructions presented on the Red Hat disk partitioning screen.

Note – If the OpenSolaris or the Solaris OS is preinstalled on the disk, you can choose to partition the disk to remove the preinstalled OS; or, you can choose to keep the preinstalled OS and partition the disk to support dual-boot operating systems.

---

13. **Continue the basic Red Hat installation setup by following the on-screen instructions and Red Hat documentation.**

14. **After completing the basic Red Hat installation setup, perform the following post-installation tasks:**

    a. Configure your system for automatic updates.

    Refer to Red Hat documentation for more information.

    b. If required, download and install the latest errata and bug fixes for RHEL5.3 (or subsequent release).

    Refer to Red Hat documentation for more information.

c. **If required, install additional device drivers.**

Refer to "Installing System Device Driver(s) to Support Additional Hardware" on page 26.

Installing RHEL4 or RHEL5 Using PXE Network Environment

This section describes how to boot the RHEL 4 or RHEL 5 from a PXE network environment using a customer-provided KickStart image. It assumes that you are booting the remote RHEL installation media from one of the following sources:

- RHEL4 or RHEL5 CD or DVD set (internal or external CD/DVD)
- RHEL4 or RHEL5 ISO DVD image or KickStart image (network repository)

Note – KickStart is Red Hat's automated installation method. It enables a system administrator to create a single image containing the settings for some or all installation and configuration parameters that are normally provided during a typical Red Hat Linux installation. Typically, a KickStart image is placed on a single network server and read by multiple systems for installation.

Note – If you received RHEL4 CDs from Sun, you might need to upgrade the RHEL4 operating system to Update 7 immediately after completing the installation.

Before You Begin

The following requirements must be met prior to performing the RHEL PXE installation:

- If you are using a KickStart image to perform the installation, you must:
  - Create a KickStart file.
  - Create a boot media with the KickStart file or make the KickStart file available on the network.

  Follow the KickStart installation instructions in the *Red Hat Enterprise Linux 4: Administration Guide* (`http://www.redhat.com/docs`).
- To use PXE to boot the installation media over the network, you must:
  - Configure the network (NFS, FTP, HTTP) server to export the installation tree.

- Configure the files on the TFTP server necessary for PXE booting.
- Configure the Sun Fire X2270 Server MAC network port address to boot from the PXE configuration.
- Configure Dynamic Host Configuration Protocol (DHCP).

Follow the PXE network installation instructions in the *Red Hat Enterprise Linux 4: Administration Guide* (`http://www.redhat.com/docs`).

▼ Install RHEL4 or RHEL5 Using Network PXE Boot

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

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

   For example:

   - **From the ILOM web interface**, select Remote Control --> Remote Power Control, then select the `Power Cycle` option from the Host action drop-down list box.
   - **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to power off the server, 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.

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

---

3. **Press F12 to boot from the network.**

   A message appears prompting you to select the appropriate Ethernet port to perform the network boot.

4. **In the message, select one of the two Ethernet ports listed, then press Enter.**

   After a few seconds, the splash screen for the Red Hat installation appears. The bottom half of the splash screen lists instructions, function keys, and the boot prompt.

5. **After the system boots the RHEL installation program, refer to the following procedures to complete the installation:**

- For RHEL4, refer to Step 5 of "Install RHEL4 Using Local or Remote Media" on page 18
- For RHEL5, refer to Step 5 of "Install RHEL5 Using Local or Remote Media" on page 21.

Post RHEL Installation Tasks

After completing the RHEL installation and rebooting the RHEL operating system, you should perform the following tasks:

- "Installing System Device Driver(s) to Support Additional Hardware" on page 26
  - "Install System Device Drivers Using Local or Remote Media" on page 27
  - "Install the System Device Drivers Using a Network Share or USB Device" on page 28

Installing System Device Driver(s) to Support Additional Hardware

TABLE 2-2 identifies the system device drivers that are available for you to install on your system. Review this table to determine which driver, if any, are currently required for installation on your system.

TABLE 2-2 Additional RHEL Device Drivers

Hardware Device	Device Driver
AST2100 service processor	AST2100 VGA driver
Intel NIC	1GB driver

Before You Begin

The following requirements must be met prior to installing the driver(s) on your system.

- Obtain the required device driver(s) from the Tools & Drivers CD or ISO image.

  The Sun Fire X2270 Server Tools & Drivers CD is provided in the Documentation and Media Kit, which is a customer orderable option. If necessary, you can also download an ISO image of the Tools & Drivers CD at: `http://www.sun.com/servers/x64/x2270/downloads.jsp`.

- If your server *does not* contain an SP, obtain the `linux.zip` file from the Sun download site. The `linux.zip` file contains the Linux drivers from the Sun Fire X2270 Tools & Drivers CD. If necessary, download the file at: `http://www.sun.com/servers/x64/x2270/downloads.jsp`.
- Established installation environment (console, boot media, install target). For more information, see "Installation Methods" on page 5.

Note – This installation method includes directing the server output to the local console or to the Sun ILOM Remote Console when a local or remote CD/DVD drive is used. For more information, see setup requirements for remote boot media in "Installation Boot Media" on page 6.

▼ Install System Device Drivers Using Local or Remote Media

If your server has an onboard CD/DVD drive or an attached CD/DVD drive, you can install the drivers directly, using the Tools & Drivers CD.

1. **Prepare the installation media by performing one of the following tasks:**
   - **For distribution CD/DVD**. Insert the Tools & Drivers CD into the local or remote CD/DVD-ROM drive.
   - **For customer-provided ISO image**. In the `Device` menu of the Sun ILOM Remote Console, select `CD-ROM` image to specify the location of the customer-provided CD image.
2. **Change to the mounted USB CD/DVD directory by typing the following command:**

   # **cd** <*mount_point*>**/drivers/linux/red_hat**
3. **Run the install script by typing the following command:**

   # **sh install.sh**

   The system device drivers are now installed. The script prompts you to reboot the system for changes to take effect.
4. **Reboot the server.**

▼ Install the System Device Drivers Using a Network Share or USB Device

Alternately, if your server *does not* contain an SP, you can install device drivers from a shared network location or from a locally attached USB device. To install the device drivers, perform the following steps:

1. **If you have not already downloaded the file, download the `linux.zip` file from the Sun download web site.**

   Download and unzip the contents of the `linux.zip` file to a USB flash device or shared network location that will be accessible during the installation.

2. **Change to the mounted USB device or shared network location by typing the following command:**

   # **cd** <*mount_point*>

3. **Run the install script by typing the following command:**

   # **sh install.sh**

   The system device driver(s) are now installed. The script prompts you to reboot the system for changes to take effect.

4. **Reboot the Sun Fire X2270 Server.**

CHAPTER 3

Installing SUSE Linux Enterprise Server

This chapter provides information about installing:

- SUSE Linux Enterprise Server 10 SP2 (or subsequent release) for x86 (64-bit)
- SUSE Linux Enterprise Server 11 (or subsequent release) for x86 (64-bit)

Note – Sun highly recommends that you use the Sun Installation Assistant (SIA) to install the SUSE Linux operating system on your server. SIA provides and installs the device driver(s), if required, for you. For more information about using SIA to install an operating system, follow the instructions provided in the *Sun Installation Assistant for Windows and Linux User's Guide* (820-3357).

This chapter includes the following topics:

Task Map for the SLES Installation

Use TABLE 3-1 to preview the installation process defined as a series of tasks. The table identifies the required tasks, describes them, and provides pointers to the instructions for performing the task.

TABLE 3-1 Task Map for the SLES Installation

Step	Task	Description	Relevant Topic(s)
1	Review installation prerequisites.	Verify that all applicable requirements are met for installing an operating system to your server.	• TABLE 1-2 "Installation Prerequisites" on page 3"
2	Choose an installation method.	Evaluate and select an installation method that meets the needs of your infrastructure.	• "Installation Methods" on page 5
3	Ensure that the BIOS factory defaults are set.	Verify that the factory default settings in the BIOS are set prior to performing the operating system installation.	• "Verifying BIOS Settings for New Installations" on page 9
4	Gather the SLES installation media.	SLES OS CD/DVD media and documentation can be purchased from Sun or Novell. For a Sun Fire X2270 Server, use the media for x86 platforms.	You can download or order the media for SLES at the following site: `http//www.novell.com`
5	Perform the SLES OS installation.	The installation instructions in this chapter explain the initial steps for booting the installation media and partitioning the drive. For further information about installing SLES, refer to the SUSE Linux Enterprise Server documentation collection from Novell at: `http://www.novell.com/documentation/suse`	• "Installing SLES10 or SLES11 Using Local or Remote Media" on page 31 • "Installing SLES10 or SLES 11 Using a PXE Network Environment" on page 36
6	Register SLES and configure automatic updates (recommended).	If the SLES installation media does not contain the most up-to-date version of the SLES OS, follow the instructions in this chapter to update the SLES operating system.	• "Updating the SLES Operating System" on page 39
7	Install driver(s) post installation, if necessary.	If the SLES operating system does not include the necessary device drivers to support the hardware on your system, you might need to install additional device drivers.	• "Installing System Device Driver(s) to Support Additional Hardware" on page 41

Installing SLES10 or SLES11 Using Local or Remote Media

The following procedure describes how to boot the SLES 10 (SLES10) or SLES 11 (SLES11) operating system from local or remote media. It assumes that you are booting the SLES installation media from one of the following sources:

- SLES10-SP2 or SLES11 CD or DVD set (internal or external CD/DVD)
- SLES10-SP2 or SLES11 ISO DVD image (network repository)

Note – If you are booting the installation media from a PXE environment, refer to "Installing SLES10 or SLES 11 Using a PXE Network Environment" on page 36 for boot instructions.

Refer to the following procedures to install the SLES OS from local or remote media:

- "Install SLES10 Using Local or Remote Media" on page 32
- "Install SLES11 Using Local or Remote Media" on page 34

Before You Begin

Prior to performing the installation, the following requirements must be met:

- All applicable installation prerequisites for installing this operating system should have been met. For further information about these prerequisites, see TABLE 1-2 "Installation Prerequisites" on page 3.
- An installation method (for example: console, boot media, and installation target) should have been chosen and established prior to performing the installation. For more information about these setup requirements, see "Installation Methods" on page 5.

Note that the following procedure explains the initial steps for booting the installation media and launching the SLES installation program. For further details about installing SLES, see the SUSE Linux Enterprise Server documentation collection from Novell at: `http://www.novell.com/documentation/suse`.

After completing this procedure, you should review and perform the required post installation tasks described later in this chapter. For more details, see "Post SLES Installation Tasks" on page 39.

▼ Install SLES10 Using Local or Remote Media

1. **Ensure that the installation media is available to boot.**
   - **For Distribution CD/DVD**. Insert the SLES10 boot disc (CD labeled number 1 or DVD) into the local or remote CD/DVD-ROM drive.
   - **For ISO images**. Ensure that the ISO images are available and that the boot disc image (CD labeled number 1 or DVD) has been selected in the ILOM Remote Console application (`Device` menu --> `CD-ROM Image`).

   For additional information about how to set up the installation media, see TABLE 1-4 "Installation Boot Media" on page 6.

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

   For example:
   - **From the ILOM web interface**, select Remote Control --> Remote Power Control, then select the `Power Cycle` option from the Host action drop-down list box.
   - **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to power off the server, 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.

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

---

3. **In the BIOS power-on self-test screen, press F8 to specify a temporary boot device for the SLES installation.**

   The Please Select Boot Device menu appears.

4. **In the Boot Device menu, select either the external or virtual CD/DVD device as the first boot device, then press Enter.**

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

   After a few seconds the SUSE initial boot screen appears.

5. **In the initial SUSE boot installation screen, use the tab key to select the second option `Installation`, then press Enter.**

   This option continues the normal user interactive installation process.

   The Language screen appears.

Note – The Language screen might take several minutes to appear.

6. **In the Language screen, select the appropriate language option, then click** `Next`**.**

   The License Agreement screen appears.

7. **In the SUSE Linux Novell License Agreement screen, click** `Accept`**.**

   The SUSE YaST installation program initializes. The YaST graphical installation screen appears.

   Depending on the AutoYaST file configuration, the YaST Language Selection screen might appear.

8. **If the YaST Language Selection screen appears, specify which language to use.**

   Depending on the AutoYaST file configuration, the YaST Installation Mode screen might appear.

9. **If the YaST Installation Mode screen appears, select** `New Installation`**, then click** `OK` **to continue.**

   The system's hardware is detected. The YaST Installation Settings screen appears.

10. **In the YaST Installation Settings screen, do the following:**

    a. **Click the** `Partitioning` **option.**

    b. **Select** `Create Custom Partition`**, then click** `OK`**.**

    c. **Partition the disk as appropriate.**

       Refer to the YaST Partitioning instructions for more information.

Note – If the OpenSolaris or the Solaris OS is preinstalled on the disk, you can choose to partition the disk to remove the preinstalled OS; or, you can choose to keep the preinstalled OS and partition the disk to support dual-boot operating systems.

11. **Continue the basic installation setup until all the SLES OS files are installed and the system reboots.**

12. **After completing the basic installation setup, refer to the YaST documentation to perform the following tasks:**

    a. **Create a password for your account.**

    b. **Configure and test the Internet access and network settings.**

c. **Register the OS, then download available updates to the operating system.**

   Alternatively, see "Updating the SLES Operating System" on page 39 to manually update your SLES OS.

13. **Review and, if necessary, perform the post installation tasks described later in this chapter.**

    Refer to "Post SLES Installation Tasks" on page 39.

▼ Install SLES11 Using Local or Remote Media

1. **Ensure that the installation media is available to boot.**

   - **For Distribution CD/DVD**. Insert the SLES11 boot disc (CD labeled number 1 or DVD) into the local or remote CD/DVD-ROM drive.
   - **For ISO images**. Ensure that the ISO images are available and that the boot disc image (CD labeled number 1 or DVD) has been selected in the ILOM Remote Console application (`Device` menu --> `CD-ROM Image`).

   For additional information about how to set up the installation media, see TABLE 1-4 "Installation Boot Media" on page 6.

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

   For example:

   - **From the ILOM web interface**, select Remote Control --> Remote Power Control, then select the `Power Cycle` option from the Host action drop-down list box.
   - **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to power off the server, 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.

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

---

3. **In the BIOS power-on self-test screen, press F8 to specify a temporary boot device for the SLES installation.**

   The Please Select Boot Device menu appears.

4. **In the Boot Device menu, select either the external or virtual CD/DVD device as the first boot device, then press Enter.**

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

   After a few seconds the SUSE initial boot screen appears.

5. **In the initial SUSE boot installation screen, use the tab key to select the second option** `Installation`**, then press Enter.**

   This option continues the normal user interactive installation process.

   The Welcome screen appears.

Note – The Welcome screen might take several minutes to appear.

---

6. **In the Welcome screen, use the tab key to navigate to the Language drop-down menu.**

   a. **Select the appropriate language option, then tab to the Keyboard Layout.**

   b. **Select the appropriate keyboard layout, then tab to the License Agreement.**

   c. **Click** `I Agree to the License Terms`**, then tab to and click** `Next`**.**

      The Media Check screen appears.

7. **In the Media Check screen, click** `Start Check` **to verify your installation media, or alternatively, click** `Next` **to continue with the installation.**

   The Installation Mode screen appears.

8. **In the Installation Mode screen, select** `New Installation`**, then click** `Next` **to continue.**

   The Clock and Time Zone screen appears.

9. **In the Clock and Time Zone screen, select the appropriate Region and Time Zone, then click** `Next` **to continue.**

   The Server Base Scenario screen appears.

10. **In the Server Base Scenario screen, select** `Physical Machine` **(this is usually the correct option),** `Virtual Machine`**, or** `Xen Virtualization Host`**, then click** `Next` **to continue.**

    The Installation Settings screen appears.

11. **In the Installation Settings screen, do the following:**

    a. **Click the** `Partitioning` **option.**

    b. **Select** `Create Custom Partition`**, then click** `OK`**.**

c. **Partition the disk as appropriate.**

Refer to the YaST Partitioning instructions for more information.

Note – If the OpenSolaris or the Solaris OS is preinstalled on the disk, you can choose to partition the disk to remove the preinstalled OS; or, you can choose to keep the preinstalled OS and partition the disk to support dual-boot operating systems.

---

12. **Continue the basic installation setup until all the SLES OS files are installed and the system reboots.**
13. **After completing the basic installation setup, refer to the YaST documentation to perform the following tasks:**

    a. **Create a password for your account.**

    b. **Configure and test the Internet access and network settings.**

    c. **Register the OS, then download available updates to the operating system.**

    Alternatively, see "Updating the SLES Operating System" on page 39 to manually update your SLES OS.
14. **Review and, if necessary, perform the post installation tasks described later in this chapter.**

    Refer to "Post SLES Installation Tasks" on page 39.

Installing SLES10 or SLES 11 Using a PXE Network Environment

This section describes how to boot SLES10 or SLES11 from a PXE network environment. It assumes that you are booting the installation media from one of the following sources:

- SLES10-SP2 or SLES11 CD or DVD set (internal or external CD/DVD)
- SLES10-SP2 or SLES11 ISO DVD image or AutoYaST image (network repository)

AutoYaST enables you to install the SLES operating system on multiple systems. For information about how to prepare an automated installation using AutoYaST, refer to the Novell SUSE documentation collection at:

`http://www.novell.com/documentation/suse`

Before You Begin

The following requirements must be met prior to performing the SLES installation from a PXE network book environment:

- If you are using AutoYaST to perform the installation, you must:
  - Create the AutoYast profile.

  Follow the AutoYaST installation instructions in the SUSE Linux Enterprise 10 or SUSE Linux Enterprise 11 documentation.
- To use PXE to boot the installation media over the network, you must:
  - Configure the network (NFS, FTP, HTTP) server to export the installation tree.
  - Configure the files on the TFTP server necessary for PXE booting.
  - Configure the Sun Fire X2270 Server MAC network port address to boot from the PXE configuration.
  - Configure Dynamic Host Configuration Protocol (DHCP).

  Follow the setup instructions for booting SUSE media over the network in the SUSE Linux Enterprise 10 or SUSE Linux Enterprise 11 documentation.

  After completing this procedure, you may need to perform the tasks for "Post SLES Installation Tasks" on page 39.

▼ Install SLES10 or SLES11 Using Network PXE Boot

1. **Ensure that the PXE network environment is properly set up and the SLES installation media is available for PXE boot.**
2. **Reset the power on the server.**

   For example:

   - **From the ILOM web interface**, select Remote Control --> Remote Power Control, then select the `Power Cycle` option from the Host action drop-down menu.
   - **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to power off the server, 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.

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

3. **Press F8 to specify a temporary boot device.**

   The Please Select Boot Device menu appears listing the available boot device.

4. **In the Boot Device menu, select the PXE installation boot device (physical port) that is configured to communicate with your network installation server.**

   The network bootloader loads and a boot prompt appears. Wait for the five second time-out and the installation kernel will begin to load.

   The SUSE Linux Novell License Agreement screen appears.

5. **In the SUSE Linux Novell License Agreement screen, click** `Accept`**.**

   The SUSE YaST installation program initializes. The YaST graphical installation screen appears.

   Depending on the AutoYaST file configuration, the YaST Language Selection screen might appear.

6. **If the YaST Language Selection screen appears, specify which language to use.**

   Depending on the AutoYaST file configuration, the YaST Installation Mode screen might appear.

7. **If the YaST Installation Mode screen appears, select** `New Installation`**, then click** `OK` **to continue.**

   The system's hardware is detected. The YaST Installation Settings screen appears.

8. **In the YaST Installation Settings screen, do the following:**

   a. **Click the** `Partitioning` **option.**

   b. **Select** `Create Custom Partition`**, then click** `OK`**.**

   c. **Partition the disk as appropriate.**

      Refer to the YaST Partitioning instructions for more information.

Note – If the OpenSolaris or the Solaris OS is preinstalled on the disk, you can choose to partition the disk to remove the preinstalled OS; or, you can choose to keep the preinstalled OS and partition the disk to support dual-boot operating systems.

9. **Continue the basic installation setup until all the SLES OS files are installed and the system reboots.**

10. **After completing the basic installation setup, refer to the YaST documentation to perform the following tasks:**

    a. **Create a password for your account.**

    b. **Configure and test the Internet access and network settings.**

    c. **Register the OS, then download available updates to the operating system.**

    Alternatively, see "Updating the SLES Operating System" on page 39 to manually update your SLES OS.

11. **Review and, if necessary, perform the post installation tasks described later in this chapter.**

    Refer to "Post SLES Installation Tasks" on page 39.

Post SLES Installation Tasks

After completing the SLES10 or SLES11 installation, review the following post installation tasks and, if necessary, perform the tasks that are applicable to your system.

Updating the SLES Operating System

The SLES OS installation media might not contain the most up-to-date versions of the SLES OS. The following procedure describes how to update the SLES OS on your server.

▼ Update the SLES Operating System

1. **Log in as superuser.**

2. **Type the following command to run the YaST Online Update:**

   ```
   # you
   ```

   Note that YaST can operate in both text and graphical modes. These directions apply to both.

3. **If your server is behind a network firewall and need to use a proxy server to access the Internet, you must first configure YaST with the correct proxy information.**

   a. **Select the Network Services tab on the left, then the Proxy screen on the right. Type the correct proxy URLs in both the HTTP and HTTPS fields.**

Note – In order for the online `update` service to function correctly through a network HTTP proxy, the following additional configuration step must be performed.

---

   b. **Exit the YaST utility and run the following command:**

      `run set-prefs proxy-url` <*Proxy_URL*>

      Where *Proxy_URL* is the fully qualified URL of your proxy server (for example: `http://`*proxy.yourdomain*`:3128/`).

   c. **After successfully running the command, launch YaST again.**

4. **Register with the Novell Customer Center.**

Note – You will need your Novell Customer Center user name and password, as well as an SLES OS product activation code.

---

   a. **Select the Software tab on the left.**

   b. **Select Novell Customer Center Configuration and follow the directions.**

5. **Once registered, select the Online Update tab to perform the software update.**

Installing System Device Driver(s) to Support Additional Hardware

TABLE 3-2 identifies the system device drivers that are available for you to install on your system. Review this table to determine which drivers, if any, are currently required for installation on your system.

TABLE 3-2 Additional SLES Device Drivers

Hardware Device	Device Driver
AST2100 service processor	AST2100 VGA driver
Intel NIC	1GB driver

Before You Begin

The following requirements must be met prior to installing the driver(s) on your system.

- Obtain the required device driver(s) from the Tools & Drivers CD or ISO image.

  The Sun Fire X2270 Server Tools & Drivers CD is provided in the Documentation and Media Kit, which is a customer orderable option. If necessary, you can also download an ISO image of the Tools & Drivers CD at: `http://www.sun.com/servers/x64/x2270/downloads.jsp`.

- If your server *does not* contain an SP, obtain the `linux.zip` file from the Sun download site. The `linux.zip` file contains the Linux drivers from the Sun Fire X2270 Tools & Drivers CD. If necessary, download the file at: `http://www.sun.com/servers/x64/x2270/downloads.jsp`.

- Established installation environment (console, boot media, installation target). For more information, see "Installation Methods" on page 5.

▼ Install System Device Drivers Using Local or Remote Media

If your server has an on-board CD/DVD drive or an attached CD/DVD drive, you can install the drivers directly, using your server Tools & Drivers CD.

1. **Ensure that the system device driver media is available to boot.**
   - **For distribution CD/DVD**. Insert the Tools & Drivers CD into the local or remote CD/DVD-ROM drive.

- **For customer-provided ISO image**. In the `Device` menu of the Sun ILOM Remote Console, select `CD-ROM` image to specify the location of the customer-provided CD image.

For additional information about how to set up the installation media, see TABLE 1-4 "Installation Boot Media" on page 6.

2. **Change to the mounted USB CD/DVD directory by typing the following command:**

   # **cd** <*mount_point*>**/drivers/linux/suse**

3. **Run the install script by typing the following command:**

   # **sh install.sh**

   The system device drivers are now installed. The script prompts you to reboot the system for changes to take effect.

4. **Reboot the server.**

▼ Install the System Device Drivers Using a Network Share or USB Device

Alternately, if your server *does not* contain an SP, you can install device drivers from a shared network location or from a locally attached USB device. To install the device drivers, perform the following steps:

1. **If you have not already downloaded the file, download the `linux.zip` file from the Sun download web site.**

   Download and unzip the contents of the `linux.zip` file to a USB flash device or shared network location that will be accessible during the installation.

2. **Change to the mounted USB device or shared network location by typing the following command:**

   # **cd** <*mount_point*>

3. **Run the install script by typing the following command:**

   # **sh install.sh**

   The system device driver(s) are now installed. The script prompts you to reboot the system for changes to take effect.

4. **Reboot the Sun Fire X2270 Server.**

CHAPTER 4

Installing VMware

This chapter summarizes the necessary steps for installing the following VMware versions:

- VMware ESX/ESXi 3.5 Update 4
- VMware ESX/ESXi 4.0

In particular, this chapter includes specific information for selecting a network interface card (NIC) for the VMware service console.

Note – VMware ESX 3.5 was formerly named as VMware ESX Server 3.5 and VMware ESXi 3.5 as VMware ESX Server 3i version 3.5.

This chapter includes the following topics:

Task Map for the VMware Installation

Use TABLE 4-1 to preview the installation process defined as a series of tasks. The table identifies the required tasks, describes them, and provides pointers to the instructions for performing the task.

TABLE 4-1 Task Map for the VMware Installation

Step	Task	Description	Relevant Topic(s)
1	Review installation prerequisites.	Verify that all applicable requirements are met for installing an operating system to your server.	• "Installation Methods" on page 5
2	Choose an installation method.	Evaluate and select an installation method that meets the needs of your infrastructure.	• "Installation Methods" on page 5
3	Ensure that the BIOS factory defaults are set.	Verify that the factory default settings in the BIOS are set prior to performing the operating system installation.	• "Verifying BIOS Settings for New Installations" on page 9
4	Gather the VMware installation software.	A VMware ESX license can be purchased from Sun or Vmware. VMware ESXi is available as a free download from VMware.	You can download the software for VMware ESX/ESXi 3.5 Update 4 or ESX/ESXi 4.0 from the following site: `http://www.vmware.com/`
5	Perform the VMware ESX or ESXi OS installation.	The installation instructions in this chapter explain the initial steps for booting the installation media. For further information about installing VMware ESX and ESXi, refer to the VMware documentation at: • For ESX/ESXi 3.5 Update 4: `http://www.vmware.com/support/pubs/vi_pubs.html` • For ESX/ESXi 4.0: `http://www.vmware.com/support/pubs/vs_pubs.html`	• "Installing VMware ESX or ESXi Using Local or Remote Media" on page 45
6	Update the VMware operating system, if necessary.	The VMware ESX or ESXi installation media might not contain the most up-to-date versions of the operating system. Follow the instructions in this chapter to update the ESX or ESXi operating system.	• "Update the ESX or ESXi Operating System" on page 55

Installing VMware ESX or ESXi Using Local or Remote Media

The following procedures summarize the steps for installing VMware (ESX or ESXi) from local or remote installation media.

The following procedures assume you are booting the VMware installation software from one of the following sources:

- VMware ESX or ESXi CD or DVD (internal or external CD/DVD)
- VMware ESX or ESXi ISO software image (network repository)

Note – If you want to use a CD/DVD for installation, you must create it. VMware does not provide the OS software on media. It is only available as a download.

Refer to the following procedures to install the VMware OS from local or remote media:

- "Install VMware ESX 3.5 Update 4 From Local or Remote Media" on page 46
- "Install VMware ESXi 3.5 Update 4 From Local or Remote Media" on page 48
- "Install VMware ESX 4.0 From Local or Remote Media" on page 51
- "Install VMware ESXi 4.0 From Local or Remote Media" on page 54

Before You Begin

Prior to performing the installation, the following requirements must be met:

- All applicable installation prerequisites for installing an operating system should have been met. For further information about these prerequisites, see TABLE 1-2 "Installation Prerequisites" on page 3.
- An installation method (for example: console, boot media, and installation target) should have been chosen and established prior to performing the installation. For more information about these setup requirements, see "Installation Methods" on page 5.

Note that the following procedures explain the initial steps for booting the installation media and launching the VMware ESX or ESXi installation program.

After completing this procedure, you might need to update VMware ESX or ESXi with the latest updates and patches. For more details, see "Update the ESX or ESXi Operating System" on page 55.

▼ Install VMware ESX 3.5 Update 4 From Local or Remote Media

1. **Ensure that the installation media is available to boot.**
   - **For CD/DVD distribution media**. Insert the VMware ESX media boot disk into the local or remote USB CD/DVD-ROM drive.
   - **For ISO images**. Ensure that the ISO images are available and that the boot disk image has been selected in the ILOM Remote Console application (`Device menu --> CD-ROM Image`).

   For additional information about how to set up the installation media, see TABLE 1-4 "Media Options for Performing the OS Installation" on page 6.

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

   For example:
   - **From the ILOM web interface**, select `Remote Control --> Remote Power Control`, then select the `Power Cycle` option from the Host action list box.
   - **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to power off the server, then press the Power button again to power on the server.

Note – The next events occur very quickly; therefore, focused attention is needed for the following steps. 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 power-on self-test screen, press F8 to specify a temporary boot device for the VMware installation.**

   The Please Select Boot Device menu appears.

4. **In the Boot Device menu, select either the external or virtual CD/DVD device as the first boot device, then press Enter.**

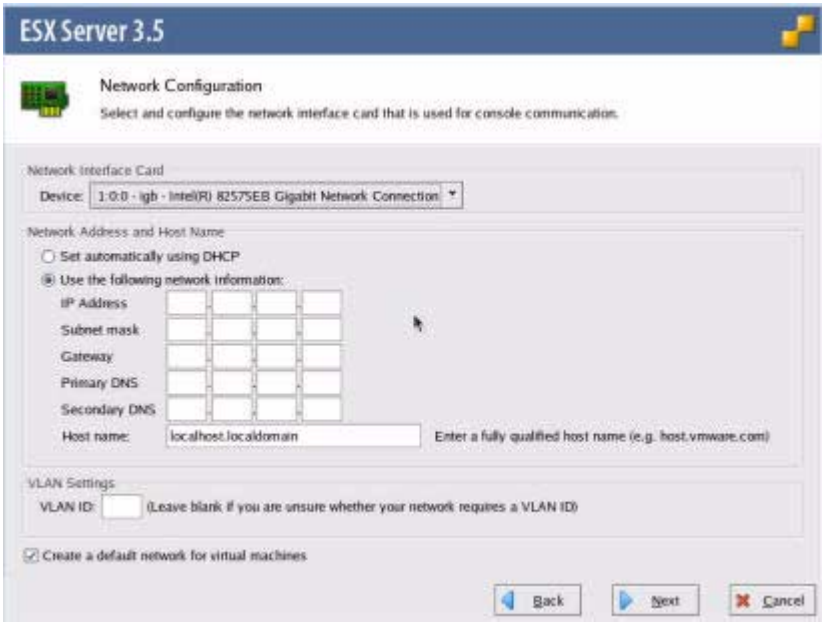
   The device strings listed in the Boot Device menu are in the following format: *device type*, *slot indicator*, and *product ID string*.

   After a few seconds, the splash screen for the VMware installation appears.

5. **Refer to the VMware installation documentation for ESX to assist you through the installation process.**

   For installation documentation, see:
   `http://www.vmware.com/support/pubs/vi_pubs.html`

   During the installation procedure, a Network Configuration dialog appears.



6. **In the Network Interface Card field, click the Device drop-down menu and select the desired network adapter.**

   A live network adapter (that is, an adapter connected to the network) must be specified for the VMware service console (vmnic0). To determine how to translate the PCI bus labels to the physical ports on a NIC, see "Translate Network Interface Card PCI Bus Number to Physical Network Port" on page 55.

Note – If you are not sure which network adapter to select, contact your network administrator.

---

7. **To configure the network interface card, do one of the following:**

   - To auto-configure the network adapter, select `Set automatically using DHCP`, and click **Next**.

     Or

   - To manually configure the network adapter, select `Use the following network Information`, enter the network settings and host name, and click **Next**.

8. **Refer to the VMware installation documentation for ESX and complete the installation.**

   For installation documentation, see:
   `http://www.vmware.com/support/pubs/vi_pubs.html`

9. **If necessary, update the ESX or ESXi Server software with the latest updates and patches.**

   Refer to "Update the ESX or ESXi Operating System" on page 55.

▼ Install VMware ESXi 3.5 Update 4 From Local or Remote Media

1. **Ensure that the installation media is available to boot.**
   - **For CD/DVD distribution media**. Insert the VMware ESXi media boot disk into the local or remote USB CD/DVD-ROM drive.
   - **For ISO images**. Ensure that the ISO images are available and that the boot disk image has been selected in the ILOM Remote Console application (`Device menu --> CD-ROM Image`).

   For additional information about how to set up the installation media, see TABLE 1-4 "Media Options for Performing the OS Installation" on page 6.

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

   For example:
   - **From the ILOM web interface**, select `Remote Control --> Remote Power Control`, then select the `Power Cycle` option from the Host action list box.
   - **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to power off the server, then press the Power button again to power on the server.

Note – The next events occur very quickly; therefore, focused attention is needed for the following steps. 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 power-on self-test screen, press F8 to specify a temporary boot device for the VMware installation.**

   The Please Select Boot Device menu appears.

4. **In the Boot Device menu, select either the external or virtual CD/DVD device as the first boot device, then press Enter.**

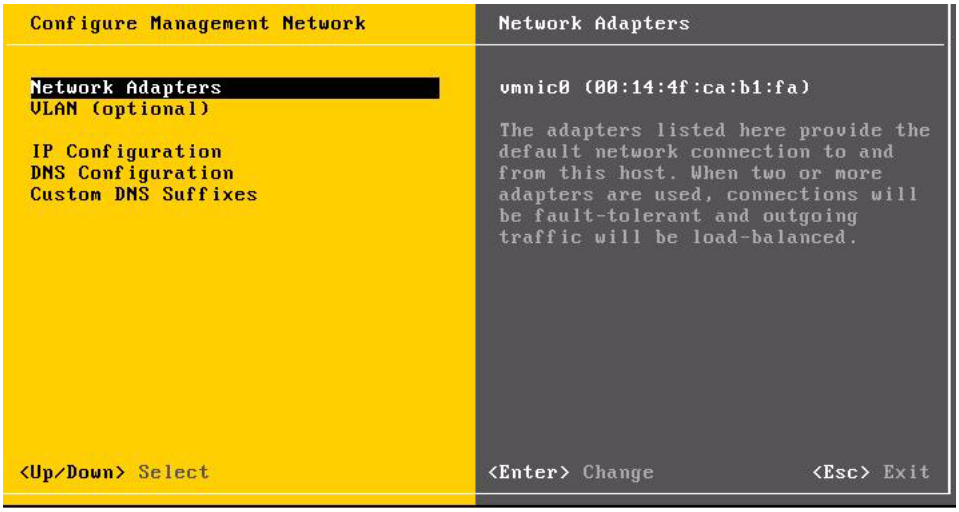
   The device strings listed in the Boot Device menu are in the following format: *device type*, *slot indicator*, and *product ID string*.

   After a few seconds, the splash screen for the VMware installation appears.

5. **Refer to the VMware installation documentation for ESXi 3.5 Update 4 to assist you through the installation process.**

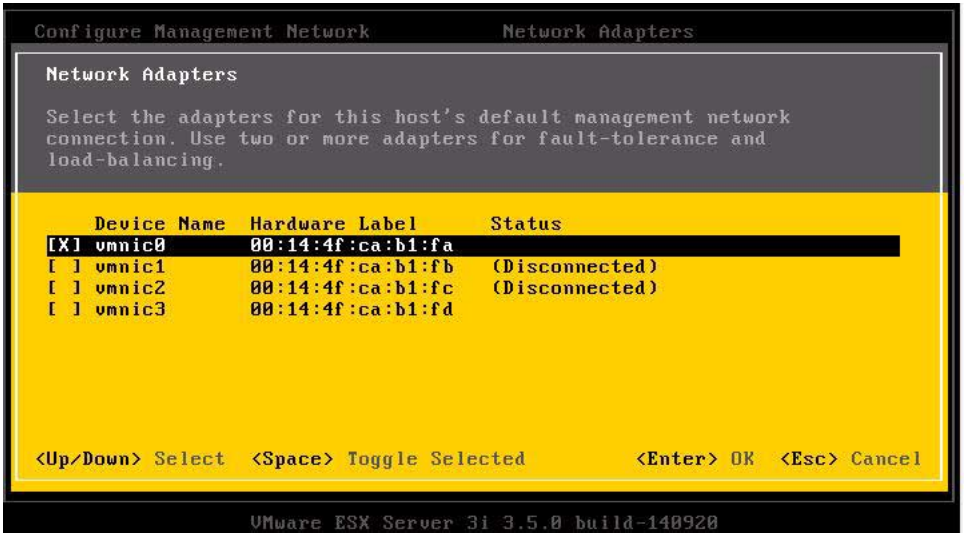
   For installation documentation, see:
   http://www.vmware.com/support/pubs/vi_pubs.html

   During the installation procedure, the following Network Configuration dialog appears.



6. **Under Configure Management Network, select Network Adapters, and press Enter.**

   The Network Adapters dialog appears.



7. **In Network Adapters dialog, select a live network adapter (that is, an adapter connected to the network) for the VMware service console (vmnic0) and press Enter.**

   A live network adapter (that is, an adapter connected to the network) must be specified for the VMware service console (vmnic0). Notice that the MAC address that is associated with the server's physical network port (NET0 or NET1) is displayed in the Hardware Label column. Therefore, you can use the MAC address to determine which of the server's physical network ports is being displayed. For example, to determine the MAC address for each server network port, simply enter the following command in the Sun ILOM command-line interface (CLI) for each server network port:

   -> **show /SYS/MB/NET***n*

   Where is *n* is 0 or 1.

   If the network adapter shown in the above dialog were associated for network port NET0, then the CLI command `show /SYS/MB/NET0`, would produce the following output, where the `fru_serial_number` field lists the MAC address.

```
-> show /SYS/MB/NET0
  /SYS/MB/NET0
  Targets:

  Properties:
    type = Network Interface
    ipmi_name = MB/NET0
    fru_name = GIGABIT ETHERNET CONTROLLERS
    fru_manufacturer = INTEL
    fru_part_number = 82575EB
    fru_serial_number = 00:14:4f:ca:b1:fa
    fault_state = OK
    clear_fault_action = (none)
```

Note – If you are not sure which network adapter to select, contact your network administrator.

8. **Refer to the VMware installation documentation for ESXi and complete the installation.**

   For installation documentation, see:
   http://www.vmware.com/support/pubs/vi_pubs.html

9. **If necessary, update the ESX or ESXi Server software with the latest updates and patches.**

   Refer to "Update the ESX or ESXi Operating System" on page 55.

▼ Install VMware ESX 4.0 From Local or Remote Media

1. **Ensure that the installation media is available to boot.**
   - **For CD/DVD distribution media**. Insert the VMware ESX media boot disk into the local or remote USB CD/DVD-ROM drive.
   - **For ISO images**. Ensure that the ISO images are available and that the boot disk image has been selected in the ILOM Remote Console application (`Device menu --> CD-ROM Image`).

   For additional information about how to set up the installation media, see TABLE 1-4 "Media Options for Performing the OS Installation" on page 6.

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

   For example:
   - **From the ILOM web interface**, select `Remote Control --> Remote Power Control`, then select the `Power Cycle` option from the Host action list box.
   - **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to power off the server, then press the Power button again to power on the server.

Note – The next events occur very quickly; therefore, focused attention is needed for the following steps. 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 power-on self-test screen, press F8 to specify a temporary boot device for the VMware installation.**

   The Please Select Boot Device menu appears.

4. **In the Boot Device menu, select either the external or virtual CD/DVD device as the first boot device, then press Enter.**

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

   After a few seconds, the splash screen for the VMware installation appears.

5. **Refer to the VMware installation documentation for ESX to assist you through the installation process.**

   For installation documentation, see:
   `http://www.vmware.com/support/pubs/vi_pubs.html`

   During the installation procedure, a Network Configuration dialog appears.

6. **In the Network Adapter field, click the drop-down menu and select the desired network adapter, and click Next.**

   A live network adapter (that is, an adapter connected to the network) must be specified for the VMware service console (vmnic0). Each network adapter that is live has a green check mark next to it as shown in the above dialog. Also, notice that the MAC address that is associated with the server's physical network port (NET0 or NET1) is displayed. Therefore, you can use the MAC address to determine which of the server's physical network ports is being displayed. For example, to determine the MAC address for each server network port, simply enter the following command in the Sun ILOM command-line interface (CLI) for each server network port:

   -> **show /SYS/MB/NET***n*

   Where is *n* is 0 or 1.

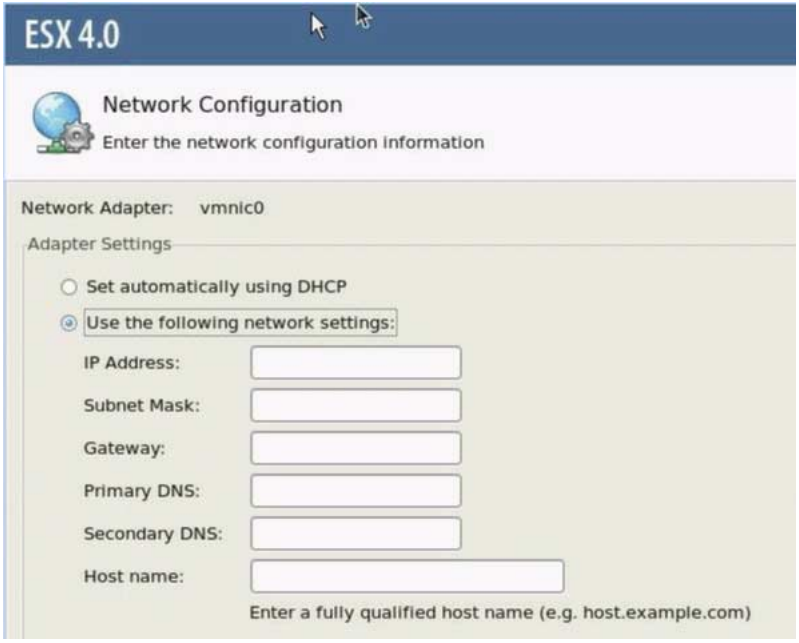
   If the network adapter shown in the above dialog were associated for network port NET0, then the CLI command `show /SYS/MB/NET0`, would produce the following output, where the `fru_serial_number` field lists the MAC address:

```
-> show /SYS/MB/NET0
  /SYS/MB/NET0
  Targets:

  Properties:
    type = Network Interface
    ipmi_name = MB/NET0
    fru_name = GIGABIT ETHERNET CONTROLLERS
    fru_manufacturer = INTEL
    fru_part_number = 82575EB
    fru_serial_number = 00:21:28:3d:ec:04
    fault_state = OK
    clear_fault_action = (none)
```

Note – If you are not sure which network adapter to select, contact your network administrator.

A second ESX 4.0 Network Configuration dialog appears.



7. **Select a network adapter configuration method.**

   Do one of the following:

   - To auto-configure the network adapter, select `Set automatically using DHCP`, and click **Next**.

     Or

   - To manually configure the network adapter, select `Use the following network settings`, enter the network settings, and click **Next**.

8. **Refer to the VMware installation documentation for ESX and complete the installation.**

   For installation documentation, see:
   `http://www.vmware.com/support/pubs/vs_pubs.html`

9. **If necessary, update the ESX or ESXi Server software with the latest updates and patches.**

   Refer to "Update the ESX or ESXi Operating System" on page 55.

▼ Install VMware ESXi 4.0 From Local or Remote Media

1. **Ensure that the installation media is available to boot.**
   - **For CD/DVD distribution media**. Insert the VMware ESXi media boot disk into the local or remote USB CD/DVD-ROM drive.
   - **For ISO images**. Ensure that the ISO images are available and that the boot disk image has been selected in the ILOM Remote Console application (`Device menu --> CD-ROM Image`).

   For additional information about how to set up the installation media, see TABLE 1-4 "Media Options for Performing the OS Installation" on page 6.

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

   For example:
   - **From the ILOM web interface**, select `Remote Control --> Remote Power Control`, then select the `Power Cycle` option from the Host action list box.
   - **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to power off the server, then press the Power button again to power on the server.

Note – The next events occur very quickly; therefore, focused attention is needed for the following steps. 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 power-on self-test screen, press F8 to specify a temporary boot device for the VMware installation.**

   The Please Select Boot Device menu appears.

4. **In the Boot Device menu, select either the external or virtual CD/DVD device as the first boot device, then press Enter.**

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

   After a few seconds, the splash screen for the VMware installation appears.

5. **Refer to the VMware installation documentation for ESXi to assist you through the installation process. For installation documentation, see:**
   `http://www.vmware.com/support/pubs/vs_pubs.html`

6. **If necessary, update the ESX or ESXi Server software with the latest updates and patches.**

   Refer to "Update the ESX or ESXi Operating System" on page 55.

Translate Network Interface Card PCI Bus Number to Physical Network Port

This section provides information to help you identify the appropriate network interface card to configure for the VMware service console. To translate the PCI bus numbering or network interface cards populated in a Sun Fire X2270 Server, refer to the following table.

TABLE 4-2 Sun Fire X2270 Server Bus Numbering Translations for On-Board Ethernet

PCI Bus:Device:Function	Port Label
1:0:0	NET 0
1:0:1	NET 1

Update the ESX or ESXi Operating System

The VMware ESX or ESXi installation media might not contain the most up-to-date versions of the operating system.

If necessary, update the ESX or ESXi Server software with the latest updates and patches. For download instructions, see this web site:

http://support.vmware.com/selfsupport/download/

CHAPTER 5

Installing Solaris 10

This chapter provides information about installing the Solaris 10 10/08 Operating System (Solaris 10 OS) on a Sun Fire X2270 Server.

This chapter includes the following topics:

For information describing how to configure the preinstalled Solaris 10 OS image, see the *Sun Fire X2270 Server Installation Guide* (820-5604) for setup instructions.

Task Map for the Solaris 10 Installation

Use TABLE 5-1 to preview the installation process defined as a series of tasks. The table identifies and describes the tasks required, and provides pointers to the instructions for performing that task.

TABLE 5-1 Task Map for the Solaris 10 Installation

Step	Task	Description	Relevant Topic(s)
1	Review installation prerequisites.	Verify that all applicable requirements are met for installing an operating system to a Sun Fire X2270 Server.	• TABLE 1-2 "Installation Prerequisites" on page 3
2	Choose an installation method.	Evaluate and select an installation method that meets the needs of your infrastructure.	• "Installation Methods" on page 5
3	Ensure that the BIOS factory defaults are set.	Verify that the factory default settings in the BIOS are set prior to performing the operating system installation.	• "Verifying BIOS Settings for New Installations" on page 9
4	Gather the Solaris 10 10/08 installation media.	The Solaris 10 OS is shipped with the CD and DVD media and documentation that you will need to install the Solaris OS for both SPARC and x86 platforms. For a Sun Fire X2270 Server, use the media for x86 platforms.	• You can download or order the media for Solaris 10 10/08 at `http://www.sun.com/servers/blades/downloads.jsp`
5	Perform the Solaris 10 10/08 OS installation.	The install instructions in this chapter explain the initial steps for booting the install media and launching the Solaris installation program. For further information about installing Solaris 10 10/08, refer to the *Solaris 10 Installation Guide: Basic Installations* (817-0544).	• "Installing Solaris 10 Using Local or Remote Media" on page 59 or • "Installing Solaris 10 OS Using PXE Network Environment" on page 65
6	Install driver(s) post installation, if necessary.	After performing the operating system installation, if applicable, install the required operating system device drivers for your system.	• "Installing System Device Driver(s) to Support Additional Hardware" on page 71

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 10/08 CD or DVD set (internal or external CD/DVD)
- Solaris 10 10/08 ISO DVD image (network repository)

Note – If you are booting the installation media from a PXE environment, refer to "Installing Solaris 10 OS Using PXE Network Environment" on page 65 for instructions.

Before You Begin

Prior to performing the installation, the following requirements must be met:

- All applicable installation prerequisites for installing an operating system should have been met. For further information about these prerequisites, see TABLE 1-2 "Installation Prerequisites" on page 3.
- 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 "Installation Methods" on page 5.

Note that the following procedure explains the initial steps for booting the install media and launching the Solaris installation program. For further details about installing Solaris 10, see the *Solaris 10 Installation Guide: Basic Installations* (817-0544).

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 Configuration" on page 71.

▼ Install Solaris 10 Using Local or Remote Media

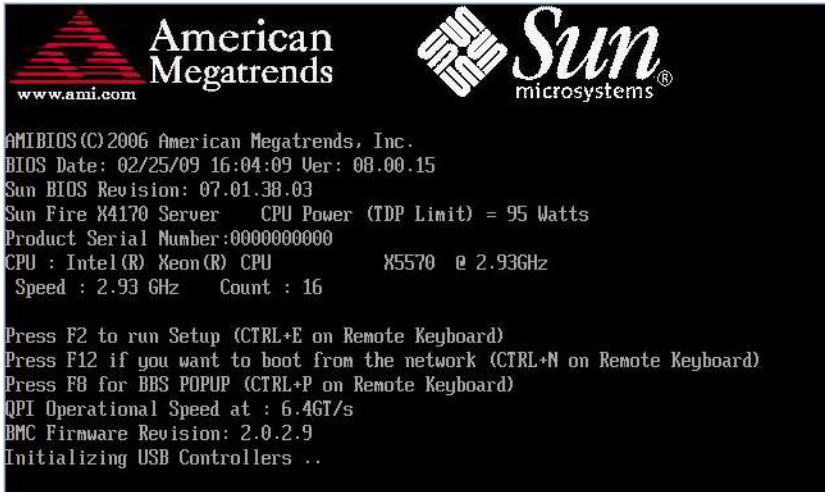
1. **Ensure that the install media is available to boot.**
   - **For distribution CD/DVD**. Insert the Solaris 10 Distribution media (CD labeled 1 or the single DVD) into the local or remote CD/DVD-ROM drive.
   - F**or ISO image**. Ensure that the ISO images are available and that the ILOM Remote Console application is aware of the first ISO image location.

     For additional information about how to set up the install media, see TABLE 1-4 "Installation Boot Media" on page 6.

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

   For example:
   - **From the ILOM web interface**, select Remote Control --> Remote Power Control, then select the `Power Cycle` option from the Host 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 turn the server on.
   - **From the ILOM CLI on server SP**, type: **`reset /SYS`**

   The BIOS screen appears.

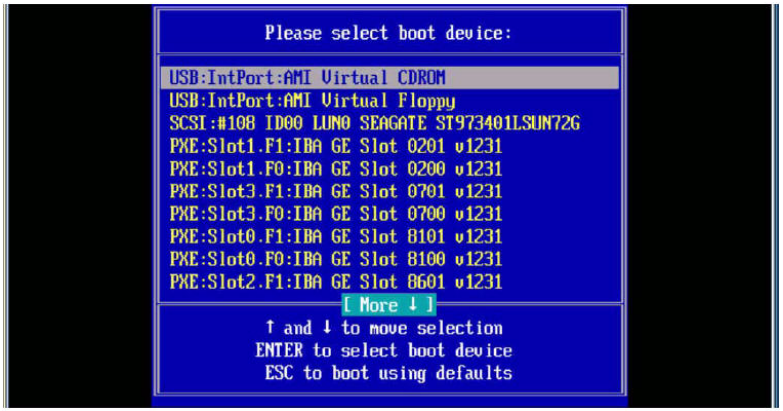


Note – The next events occur very quickly; therefore, focused attention is needed for the following steps. Please watch carefully for these messages as they appear on the screen for a brief time.

---

3. **In the BIOS power-on self-test screen, press F8 to specify a temporary boot device for the Solaris installation.**

   The Please Select Boot Device menu appears.



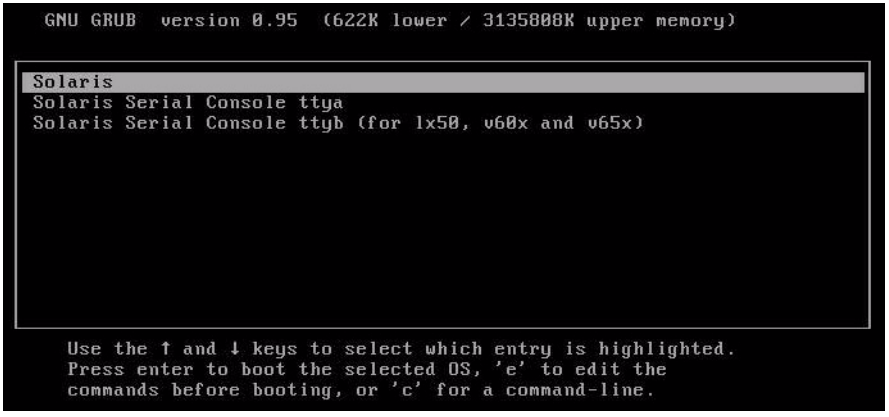
4. **In the Boot Device menu, select either the external or virtual CD/ DVD device as the first (temporary) boot device, then press Enter.**

   In the previous sample figure, the virtual CD/DVD device is specified as the first boot device.

   The device strings listed on 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 the ILOM Remote Console application, you need to select (in the Boot Device menu) the `AMI Virtual CDROM`.

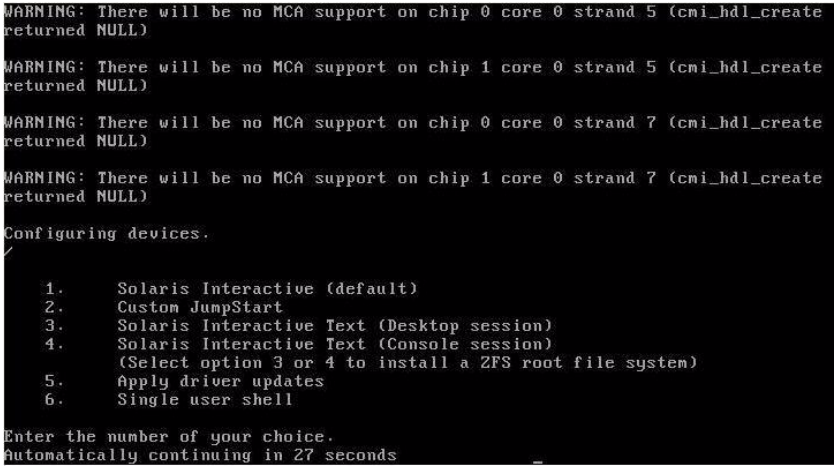
   The GRUB menu appears.



5. **In the GRUB menu, select `Solaris`, 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 (`-B console=ttya`).

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)**

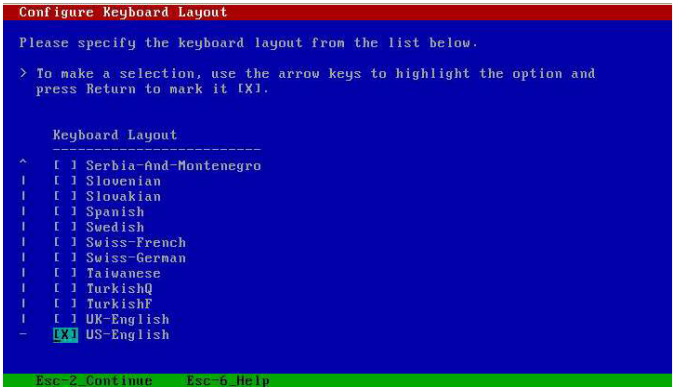
     Type 1 then press Enter.
   - **Text Installer From Desktop Session**

     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 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).

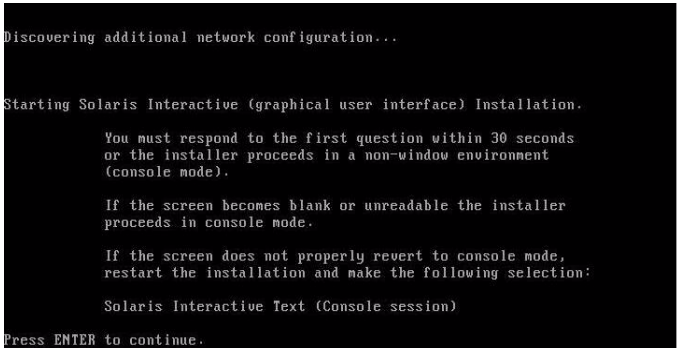
The system discovers and configures the devices and interfaces. If the system discovers a keyboard, the Configure Keyboard Layout menu appears.



7. **In the Configure Keyboard Layout menu, select the appropriate keyboard layout, then press F2 to continue.**

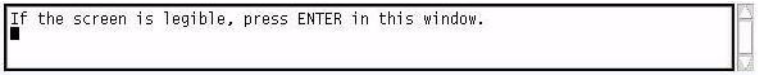
   The system configures the keyboard layout selection and searches for configuration files.

   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.



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

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



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 Solaris 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 Solaris Welcome screen (not shown) will appear.

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

    The Solaris installation program will display 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 screens) 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** "Post Solaris Installation Configuration" on page 71 **to perform the post Solaris configuration tasks.**

Installing Solaris 10 OS Using 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 10/08 CD or DVD set (internal or external CD/DVD)
- Solaris 10 10/08 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 Installation Guide: Custom JumpStart and Advanced Installations* (817-5506).

Before You Begin

The following requirements must be met prior to performing 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 X2270 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 Installation Guide: Network Installations* (817-0544).

- 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 Installation Guide: Custom JumpStart and Advanced Installations* (817-5506).

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 Configuration" on page 71.

▼ 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 the "Planning to Install From Network" sections in the *Solaris 10 Installation Guide: Network Installations* (817-0544).

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

   For example:

   - **From the ILOM web interface**, select Remote Control --> Remote Power Control, then select the `Power Cycle` option from the Host 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 turn the server on.
   - **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. Watch carefully for these messages as they appear on the screen for a brief time.

---

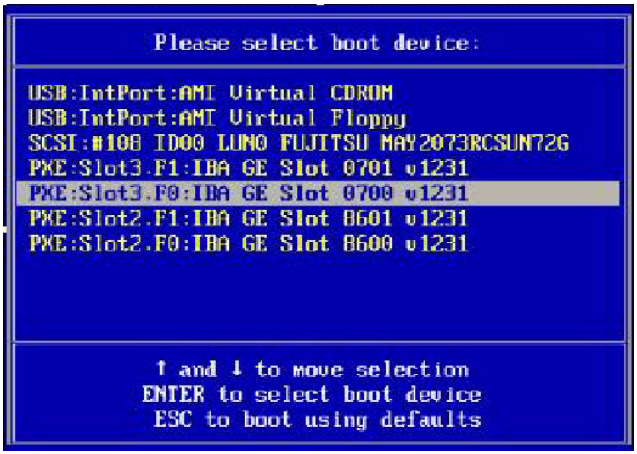
3. **In the BIOS power-on self-test (POST) screen, press F8 to specify a temporary boot device.**

   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.

   Note that the options listed on the following sample Boot Device menu might differ from the options shown on your Boot Device menu.

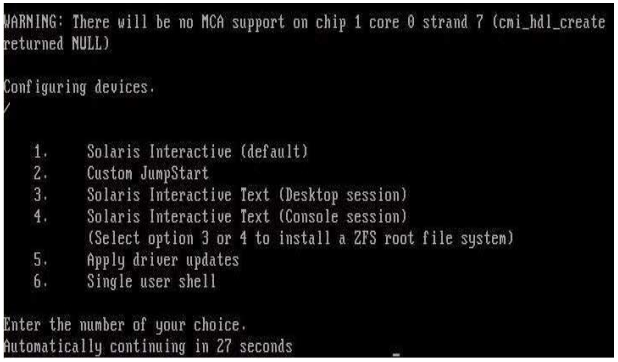


The GRUB menu appears.

5. **In the GRUB menu, select** `Solaris`**, 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 (`-B console=ttya`).

The system loads the Solaris disk image into memory. This process might 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)**

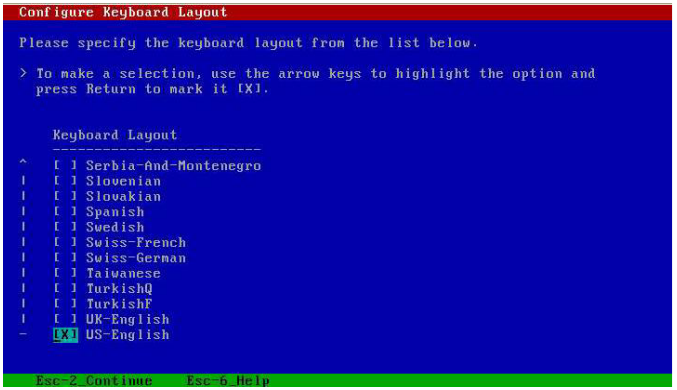
     Type 1 then press Enter.
   - **Text Installer From Desktop Session**

     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 from this point on are based on the default Graphical User Interface (GUI) option (option 1).

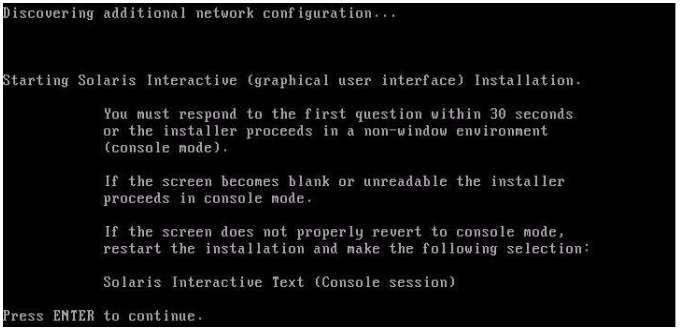
The system discovers and configures the devices and interfaces. If the system discovers a keyboard, the Configure Keyboard Layout menu appears.



7. **In the Configure Keyboard Layout menu, select the appropriate keyboard layout, then press F2 to continue.**

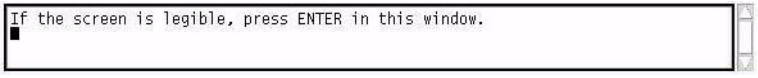
   The system configures the keyboard layout selection and searches for configuration files.

   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.



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

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



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 Solaris 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 Solaris Welcome screen (not shown) will appear.

11. **In the Solaris 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 screens) 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** "Post Solaris Installation Configuration" on page 71 **to perform the post Solaris configuration tasks.**

Post Solaris Installation Configuration

After completing the Solaris installation and rebooting the Solaris Operating System, you should perform the following tasks:

Installing System Device Driver(s) to Support Additional Hardware

TABLE 5-2 identifies system device drivers that are available for you to install on your system. Review this table to determine which driver, if any, are currently required for installation on your system.

TABLE 5-2 Additional Solaris Device Driver

Hardware Device	Device Driver
AST2100 service processor	AST2100 VGA driver

Before You Begin

The following requirements must be met prior to installing the driver(s) on your system.

- Obtain the required device driver(s) from the Sun Fire X2270 Server Tools & Drivers CD or the Sun Fire X2270 Tools & Drivers CD ISO image.

  The Sun Fire X2270 Server Tools & Drivers CD is provided in the Documentation and Media Kit, which is a customer orderable option. If necessary, you can also download an ISO image of the Tools & Drivers CD at: `http://www.sun.com/servers/x64/x2270/downloads.jsp`.

- If your server *does not* contain an SP, obtain the `sx86.zip` file from the Sun download site. The `sx86.zip` file contains the Solaris drivers from the Sun Fire X2270 Tools & Drivers CD. If necessary, download the file at: `http://www.sun.com/servers/x64/x2270/downloads.jsp`.

- Established installation environment. For more information, see "Installation Methods" on page 5.

Note – This installation method includes directing the server output to the local console or to the Sun ILOM Remote Console when a local or remote CD/DVD drive is used. For more information about redirecting devices to the Sun ILOM Remote Console, see "Installation Boot Media" on page 6.

▼ Install System Device Driver Using Local or Remote Media

If your server has an on-board CD/DVD drive or an attached CD/DVD drive, you can install the drivers directly, using the Tools & Drivers CD.

1. **Do one of the following:**
   - **For distribution CD/DVD**. Insert the Tools & Drivers CD into the local or remote CD/DVD-ROM drive.
   - **For customer-provided ISO image**. In the `Device` menu of the Sun ILOM Remote Console, select `CD-ROM` image to specify the location of the customer-provided CD image.
2. **Change to the mounted CD/DVD directory by typing the following command:**

   # **cd** <*mount_point*>/**drivers/solaris/sx86**
3. **Run the install script by typing the following command:**

   # **sh install.sh**

   The system device driver(s) are now installed. The script prompts you to reboot the system for changes to take effect.
4. **Reboot the Sun Fire X2270 Server.**

▼ Install the System Device Driver Using a Network Share or USB Device

Alternately, if your server *does not* contain an SP, you can install device drivers from a shared network location or from a locally attached USB device. To install the device drivers, perform the following steps:

1. **If you have not already downloaded the file, download the `sx86.zip` file from the Sun download web site.**

   Download and unzip the contents of the `sx86.zip` file to a USB flash device or shared network location that will be accessible during the installation.

2. **Change to the mounted USB device or shared network location by typing the following command:**

   `# cd <mount_point>`

3. **Run the install script by typing the following command:**

   `# sh install.sh`

   The system device driver(s) are now installed. The script prompts you to reboot the system for changes to take effect.

4. **Reboot the Sun Fire X2270 Server.**

Install Critical Solaris Patches

TABLE 5-3 identifies the critical Solaris patches available to install on your system. You should review this table to determine which patch, if any, are currently required for installation on your system.

TABLE 5-3 Critical Solaris Patches

Critical Solaris Patch	Description	Download Patch
138626-02	The Gigabit Ethernet (igb) driver could send a package larger than max_frame_size. This known issue (CR 6716686) can cause the system to hang on NFS writes over the onboard igb ports.	
138889-02	Performance counter support for Intel processors (CR 6661753). Fix mp_startup() for diskless MP systems (CR 6657646).	
119789-09	IOException can lead to CachingProxyValidationHandler deleting cached file in latest LPS patch (CR 6551967).	
121082-08	Prepatch script for 121081-07 121082-07 uses cc-client-adm which is not Alternate Boot Environment safe (CR 6663550).	
124864-07	Incorrect overload ambiguity message for template function (CR 6377606). Function try-block around main() asserts or core dumps (CR 6428383). Offset of causes prep_star(): unexpected ir_type (CR 6689032). Assertion: (../lnk/tmplmatchargs.cc, line 193) (CR 6728467). Can't run C++ program compiled with -g with Sun Studio Express on Solaris 10 machines (CR 6761222). Incorrect offset computation for struct member >2Gb offset (CR 6763250). Compiler cannot choose the most specialized function (CR 6775001). __func__ in switch statement results in bypassed initialization of local variable (CR 6776456).	www.sunsolve.sun.com
124868-07	lint2n random behavior due to memory corruption (CR 6722341). lint2 core dumps when run with libumem (CR 6763773).	

TABLE 5-3 Critical Solaris Patches *(Continued)*

Critical Solaris Patch	Description	Download Patch
124869-02	Perflib performs incorrect size of work array at dporfs routine call (CR 6534839). Degraded parallel performance for dtrsm (CR 6557146). Perflib BLAS1 routine cscal may produce an arithmetic error on the AMD64 processors (CR 6568225). PERFLIB: The initial value of the input parameter IPIV is not initialized before the call (CR 6577242). PERFLIB: sunperf_version is not found in dynamic libsunperf (CR 6577261). PERFLIB: Application gets segv at runtime (CR 6577632). PERFLIB: SuperLU routines are absent both in static, and dynamic library (CR 6577744).	
124873-06	dbx crash on startup (CR 6717882). dbx loads object and mmap()s it over and over (CR 6726139).	
126496-02	signal 11 compiling with -g (buffer overrun) (CR 6573504).	
126498-11	Incorrect loop iteration on signed/unsigned comparison (x86) (CR 6764759). Out of memory in cse_driver CR 6747860). Wrong optimization of switch statement by cond_elim phase in Sun Studio 12 iropt (CR 6757204). OMP-C: customer code using flush hangs when compiled with mars patch (CR 6761911). Miscompare for an important C benchmark (CR 6765891). Inline asm not working in gst-plugins-good code (CR 6706715). heap corrupted on Linux processing 255.vortex (CR 6757565). struct alignment problem on x86 (CR 6736290). 64bit code with inline breaks when optimized (CR 6547609). tanh giving wrong value on x86 (CR 6773237). compiler/ube Optimization breaks SUNWgnome-img-organizer (CR 6774059).	www.sunsolve.sun.com
126996-04	Processor count off by one because system reports MAX ID, not MAX count (CR 6737408).	

TABLE 5-3 Critical Solaris Patches *(Continued)*

Critical Solaris Patch	Description	Download Patch
127002-04	f95 -C causes compiler SegFault for specific code (CR 6619931). SS12 sparc/x85/linux exists with internal error on compilation of cp2k code (CR 6652329). -native gets wrong cached value when target-identifying code changes, SunWS_cache/prtconf.result... (CR 6732427). When calling system() from Fortran 90 program the value of the environment variable SHELL is ignored (CR 6737448). f90comp has problems matching function arguments (CR 6742477). fpp removes & in & ! combinations, breaks continuation lines (CR 6749384). -Xlist cross reference output omits some loop label references (CR 6750432). f90 INTERNAL COMPILER ERROR questionable temporization in MakeIndependent with -C and where (CR 6752447).	www.sunsolve.sun.com
127144-03	DATA initialization for hollerith in implied-do loop fails with phoenix (CR 6678702). implement fwTargetCon to permit NaN generation (CR 6579540). assert on -LOC() call (CR 6560444).	

CHAPTER 6

Installing OpenSolaris

This chapter provides information about installing the OpenSolaris™ 2009.06 Operating System (OpenSolaris OS) on the Sun Fire X2270 Server.

This chapter includes the following topics:

For setup instructions and information describing how to configure the preinstalled OpenSolaris OS image, see the *Sun Fire X2270 Server Installation Guide* (820-5604).

Task Map for OpenSolaris Installation

Use TABLE 6-1 to preview the installation process defined as a series of tasks. The table identifies and describes the tasks required, and provides pointers to the instructions for performing that task.

TABLE 6-1 Task Map for OpenSolaris Installation

Step	Task	Description	Relevant Topic(s)
1	Review installation prerequisites.	Verify that all applicable requirements are met for installing an operating system to a Sun Fire X2270 Server.	• TABLE 1-2 "OS Installation Prerequisites" on page 3
2	Choose an installation method.	Evaluate and select an installation method that meets the needs of your infrastructure.	• "Installation Methods" on page 5
3	Ensure that the BIOS factory defaults are set.	Verify that the factory default settings in the BIOS are set prior to performing the operating system installation.	• "Verifying BIOS Settings for New Installations" on page 9

TABLE 6-1 Task Map for OpenSolaris Installation *(Continued)*

Step	Task	Description	Relevant Topic(s)
4	Gather OpenSolaris 2009.06 installation media.	The OpenSolaris OS is shipped with the CD and DVD media and documentation that you will need to install the OpenSolaris OS for both SPARC and x86 platforms. For the Sun Fire X2270 Server, use the media for x86 platforms.	• You can download or order the media for the OpenSolaris OS at: `http://opensolaris.org/os/downloads/`
5	Perform the OpenSolaris OS installation.	The installation instructions in this chapter describe the initial steps for booting the installation media and launching the OpenSolaris installation program. For further information about installing OpenSolaris, refer to the Getting Started with OpenSolaris 2009.06 web site at: `http://dlc.sun.com/osol/docs/content/2009.06/getstart/`	• "Installing OpenSolaris OS Using Local or Remote Media" on page 78
6	Install driver(s), post installation, if necessary.	If the OpenSolaris OS does not include the necessary device drivers to support your system, you might need to install additional device drivers.	• "Install System Device Drivers to Support Additional Hardware" on page 86
7	Install SRUs, post installation, if necessary.	If necessary, download and install OpenSolaris Support Repository Updates (SRUs). SRUs provide critical fixes to the OpenSolaris OS.	• "Install Support Repository Updates" on page 86

Installing OpenSolaris OS Using Local or Remote Media

The following procedure describes how to boot the OpenSolaris 2009.06 Operating System installation from local or remote media. It assumes that you are booting the installation media from one of the following sources:

- OpenSolaris 2009.06 (or subsequent release) Live CD/DVD (internal or external CD/DVD)
- OpenSolaris 2009.06 (or subsequent release) Live CD ISO image (network repository)

Before You Begin

Prior to performing the installation, the following requirements must be met:

- All applicable installation prerequisites for installing an operating system should have been met. For further information about these prerequisites, see TABLE 1-2 "OS Installation Prerequisites" on page 3.
- An installation method (for example: console, boot media, and installation target) should have been chosen and established prior to performing the installation. For information about these setup requirements, see "Installation Methods" on page 5.

Note that the following procedure explains the initial steps for booting the installation media and launching the OpenSolaris installation program.

After completing this procedure, you should review and perform the required post installation tasks described later in this chapter. For more details, see "Post OpenSolaris Installation Tasks" on page 86.

▼ Install OpenSolaris OS Using Local or Remote Media

1. **Ensure that the installation media is available to boot.**
   - **For distribution CD/DVD**. Insert the OpenSolaris 2009.06 Distribution media (CD labeled 1 or the single DVD) into the local or remote CD/DVD-ROM drive.
   - **For ISO image**. Ensure that the ISO images are available and that the Sun ILOM Remote Console application is aware of the first ISO image location.

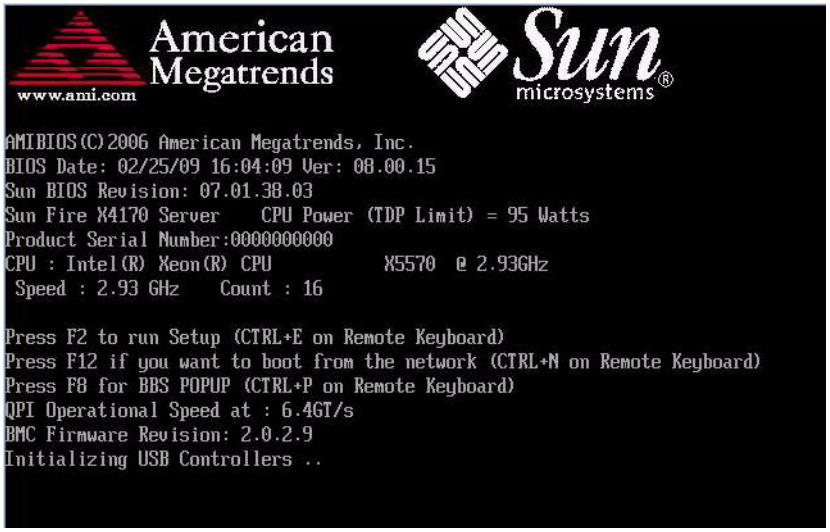
   For additional information about how to set up the install media, see TABLE 1-4 "Media Options for Performing the OS Installation" on page 6.

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 Host 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.



Note – The next events occur very quickly; therefore, focused attention is needed for the following steps. 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 power-on self-test screen, press F8 to specify a temporary boot device for the OpenSolaris installation.**

   The Please Select Boot Device menu appears.

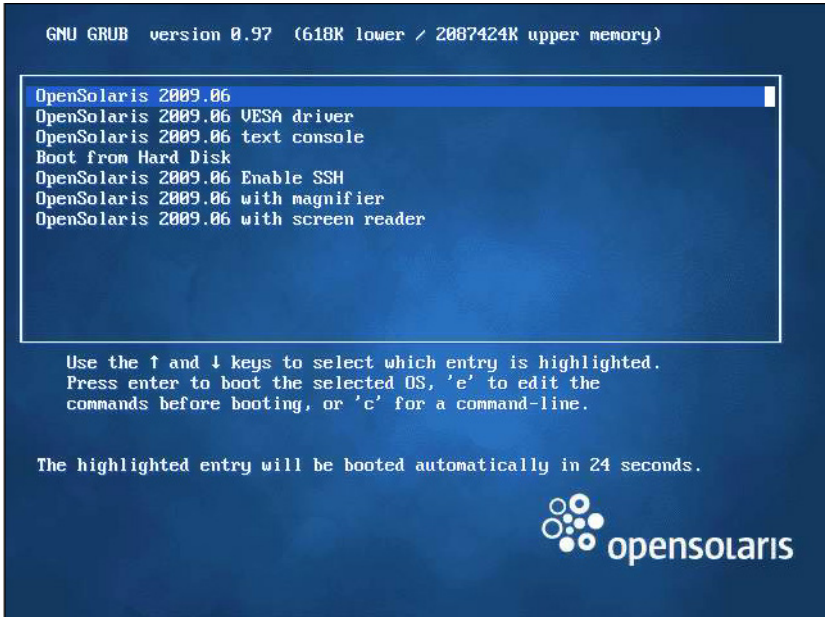
4. **In the Boot Device menu, select either the external or virtual CD/DVD device as the first (temporary) boot device, then press Enter.**

   In the sample Boot Device menu shown in Step 3, the CD/DVDW 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 OpenSolaris installation from the Sun ILOM Remote Console application, select the `AMI Virtual CDROM`, or `CDROM` image as the first boot device.

   The GRUB menu appears.



5. **In the GRUB menu, select** `OpenSolaris 2009.06`**, then press Enter.**

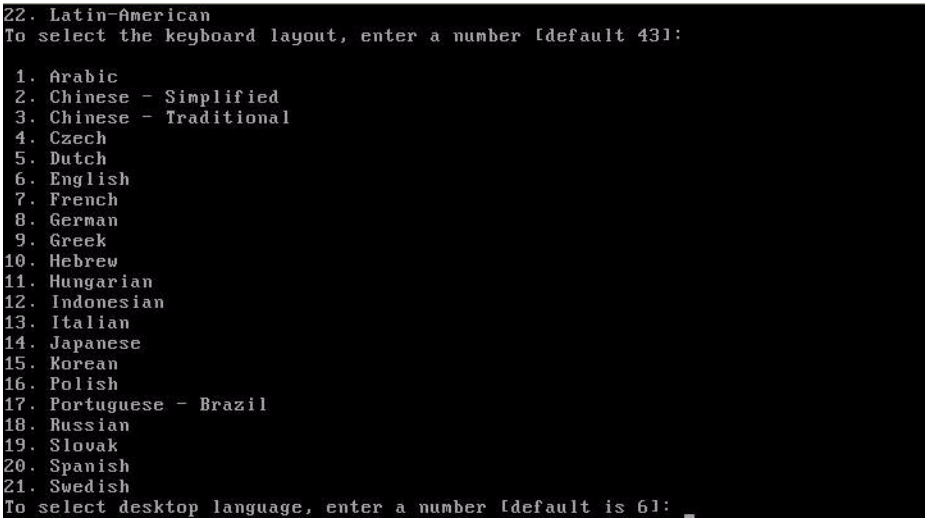
Note – In the GRUB menu, if you want to redirect the install output to a serial console, press "e" to edit the GRUB menu to support a serial console, and use the following command: `-B console = ttya`.

The system loads the OpenSolaris disk image into memory. This process can take several minutes.

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

6. **In the Configure Keyboard Layout menu, select the appropriate keyboard layout, then press Enter to continue.**

   The system configures the keyboard layout selection and searches for configuration files. The Select Desktop Language menu appears.



7. **In the Select Desktop Language menu, select the appropriate desktop language, then press Enter to continue.**

   After a few moments the OpenSolaris 2009.06 desktop appears.

8. **In the OpenSolaris desktop, double-click the Install OpenSolaris icon to begin the OS installation.**

   The OpenSolaris Installer Welcome screen appears.

9. **In the Welcome screen, click Next to begin the installation.**

   The OpenSolaris installation program will display several configuration screens.

10. **Follow the on-screen instructions to complete the OpenSolaris installation.**

    For additional information, refer to the Getting Started with OpenSolaris 2009.06 web site at:

    `http://dlc.sun.com/osol/docs/content/2009.06/getstart`

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

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11. **Proceed to the section** "Post OpenSolaris Installation Tasks" on page 86 **to perform the post OpenSolaris configuration tasks.**

Post OpenSolaris Installation Tasks

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

Install System Device Drivers to Support Additional Hardware

The Device Driver Utility enables you to connect to the Image Packaging System (IPS) and use it to search for device drivers for the devices on your system that do not have a driver attached with them.

To start the Device Driver Utility, click the Device Driver Utility icon on the OpenSolaris desktop.

Install Support Repository Updates

A Support Repository Update (SRU) contains the latest released bug fixes for your OpenSolaris release.

Directions for accessing and installing SRUs can be found at:

`http://sunsolve.sun.com/show.do?target=opensolaris`

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