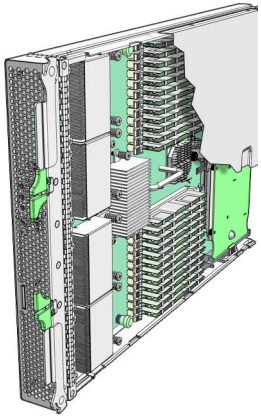
Sun Blade™ X6450 Server Module Operating System Installation Guide



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Contents

Preface

This *Sun Blade X6450 Server Module Operating System Installation Guide* contains detailed procedures for installing operating systems on the server module.

Product Updates

For product updates that you can download for the Sun Blade X6450 server module, please visit the following Web site:

`http://www.sun.com/servers/blades/downloads.jsp`

The site contains updates for firmware and drivers, as well as CD-ROM `ISO` images.

Related Documentation

For a description of the document set for the Sun Blade X6450 server module, see the Where To Find Documentation sheet that is packed with your system and also posted at the product's documentation site. Go to the following URL, then navigate to your product.

`http://docs.sun.com/app/docs/prod/blade.x6450`

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

For Solaris™ and other documentation, go to:

http://docs.sun.com

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 at http://docs.sun.com

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Typographic Conventions

Typeface*	Meaning	Examples
`AaBbCc123`	The names of commands, files, and directories; onscreen computer output	Use `dir` to list all files.
`AaBbCc123`	What you type, when contrasted with onscreen computer output	`> ipconfig` `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* have administrator privileges to do this. To delete a file, type `del` *filename*.
AaBbCc123	Titles of dialog boxes, text in dialog boxes, options, menu items and buttons.	**1. On the** `File` **menu, click** Extract All**.**

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

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

Sun Blade X6450 Server Module Operating System Installation Guide, part number 820-3536-11.

CHAPTER 1

Overview

This chapter presents an overview for installing an operating system (OS) on a Sun Blade X6450 server module. The Sun Blade X6450 supports several operating systems, and for each OS there are several different installation methods. This document covers installation of supported Solaris, Linux, and VMware operating systems only.

Note – To install the Windows Server Operating System on the Sun Blade X6450 server module, see the *Sun Blade X6450 Server Module Windows Operating System Installation Guide*.

This chapter includes the following sections:

Installing an OS on Your Server Module

Before installing an OS on your server module, review the following sections for an understanding of the prerequisites and the decision-making process.

Prerequisites

Complete the following tasks before you can begin the installation.

- Install the server hardware.
- (Optional) Configure the service processor.
- Install and configure any network hardware, including a bootable disk device.
- (Optional) configure the boot device in the BIOS.

Note – See the *Sun Blade X6450 Installation Guide* for an overview of network hardware, and for instructions to configure the boot device.

- Gather needed information, such as IP address and netmask.
- (Linux only) Create a driver CD or use the Sun™ Installation Assistant (SIA), which is the recommended procedure.

  See the documentation for your particular Linux OS. For information about the SIA, see the *Sun Installation Assistant for Windows and Linux User's Guide*, and `http://www.sun.com/systemmanagement/sia.jsp`.

Things You Must Decide

In addition, you must decide the following:

1. Which operating system are you installing?

TABLE 1-1 Supported Operating Systems

Operating System	Minimum required OS for E7220, L7345, E7320, E7340 CPUs	Minimum required OS for L7445, L7455, E7440, E7450 CPUs
Solaris Operating System	Solaris 10 5/08 (64-bit)	Solaris 10 05/08 (64-bit) + patch 137112-03
Red Hat Enterprise Linux Operating System (RHEL)	RHEL4.6 (32- and 64-bit) RHEL 5 (64-bit)	RHEL 4.7 (32- and 64-bit) RHEL 5.2 (64-bit)
Windows 2008	Windows 2008 (32- and 64-bit)	Windows 2008 (32- and 64-bit)
Windows 2003	Windows 2003 SE and EE (32- and 64-bit)	Windows 2003 SE and EE (32- and 64-bit)
SUSE Linux Enterprise Server (SLES)	SLES 10 sp1 (64-bit) SLES 9 sp4 (64-bit)	SLES 10 sp2 (64-bit)
VMware ESX	ESX 3.0.2 u1 (max 64Gb RAM)	ESX 3.5 u2

Note – To install the Windows operating system, see the *Sun Blade X6450 Windows Operating System Installation Guide*.

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2. Are you configuring the server for diskless booting?

Operating System	Relevant Documentation on Diskless Configurations
Solaris 10	See "Installing the Solaris 10 OS" on page 37 or *Solaris 10 Installation Guide: Network-Based Installations* at `http://docs.sun.com/app/docs/doc/817-5504`
Red Hat Linux	See *Red Hat Enterprise Linux System Administration Guide* at `https://www.redhat.com/docs/manuals/enterprise/`
VMware ESX	See `http://www.vmware.com/support/pubs/`

3. Which installation method will you use?

Method	Solaris	Red Hat	SLES	VMware
Install from distribution media (CD/DVD) on the server via USB-attached external CD/DVD drive	Yes	Yes	Yes	Yes
Install from distribution media (CD/DVD) via keyboard, video and monitor switch (KVMS)	Yes	Yes	Yes	Yes
Install from network using Preboot Execution Environment (PXE)	Yes	Yes	Yes	Yes

Note – For information on remote KVMS devices, see "Using a Remote Control Application (KVMS)" on page 4.

4. Will you need to update the operating system and drivers?

   In general, you need to perform updates after the operating system has been installed. For an update, see the appropriate chapter that corresponds to the OS you will install.

What to Do Next

The chapters in this guide provide detailed installation information. For relevant procedures, see the appropriate chapter of this guide for your particular OS.

You should also gather the installation, administration, and configuration documentation distributed with the operating system. These documents generally accompany the distribution media as printed manuals or are included as PDF files on the medium itself. In many cases, the latest versions of such documents are also downloadable from the web site of the OS vendor.

About Diskless Servers

The Sun Blade X6450 is a diskless server. This means that you cannot install the operating system on a local disk because it does not have one.

There are a number of options that allow you to access disks as if they were local. Most of them require hardware configuration before you can install an operating system.

For configurations that require additional hardware, you must install the hardware before you can install the operating system. You might also need to configure the boot device in the BIOS.

- For an overview of the process, and instructions for configuring the boot device in the BIOS, see the *Sun Blade X6450 Installation Guide.*
- For details on the hardware, see the documentation that came with the hardware.

Using a Remote Control Application (KVMS)

The Sun Blade X6450 server module supports industry-standard KVMS with devices connected to it through the service processor. This ability allows you to mount and boot from a remote CD/DVD, or an ISO file image.

Your server module might have one of two service processors:

- Embedded Lights Out Manager (ELOM)
- Integrated Lights Out Manager (ILOM)

The following sections describe how to configure KVMS on each.

▼ To Mount a CD/DVD or Equivalent ISO Image File Using ELOM

1. **Locate your installation CD/DVD or the equivalent ISO images.**
2. **Connect to the ELOM Service Processor web GUI.**
3. **Click the Remote Control tab.**
4. **Click the Redirection tab.**
5. **Click the Launch Redirection button to start the JavaRConsole application.**
6. **Start CD/DVD redirection.**

   From the JavaRConsole Storage/Mount Device menu, you can redirect the CD in two ways:

   - If you are installing a physical CD into the remote console CD-ROM drive, insert the CD into the drive and select CD-ROM.
   - If you are using an ISO image installed on the remote console, select `ISO Image` and provide the location of the ISO file.

   The distribution media (or ISO file) is now mounted. When you power on the server module, it will appear in the BBS popup (boot list) menu as `Virtual CD/DVD`.

For more information about setting up a remote KVMS connection to your server with the ELOM Remote Console application, see the *Sun Blade X6450 Embedded Lights Out Manager Administration Guide.*

▼ To Mount a CD/DVD or Equivalent ISO Image File Using ILOM

1. **Locate your installation CD/DVD or the equivalent ISO images.**
2. **Connect to the ILOM.**

   The Versions screen appears.

3. **Change the mouse mode from absolute to relative if you are installing one of the following operating systems.**

   RHEL 4.x, SLES, or VMware (with older Linux kernel).

   a. **Click the Remote Control tab.**

   b. **Click the Mouse Mode Settings tab.**

c. **Select Relative Mouse Mode.**

d. **Select Save.**

The ILOM displays a message, then reboots itself.

e. **When the ILOM has rebooted, re-establish the remote session.**

4. **Click the Remote Control tab.**

The Remote Control screen appears.

5. **Click the Launch Redirection button.**

The ILOM remote console appears.

6. **In the Devices menu, select the following:**

- CD ROM if you are using a physical CD.
- CD ROM Image if you are using an ISO file.

Depending on your selection, a dialog directs you to select either a CD/DVD drive, or a file.

7. **Select the CD/DVD drive, or the ISO file.**

The distribution media (or ISO file) is now mounted. When you power on the server module, it will appear in the BBS popup (boot list) menu as `Virtual CD/DVD`.

For more information about setting up a remote KVMS connection to your server with the ILOM Remote Console application, see the *Sun Integrated Lights Out Manager 2.0 User Guide.*

Dongle Cable Connections

If you choose to do a local installation, you must connect a dongle cable directly to the server module.

The dongle cable connection appears in FIGURE 1-1.

Note – The dongle cable has either three of four connectors. FIGURE 1-1 shows a dongle with four connectors.

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1. **Connect a USB hub to one of the USB connectors on the dongle.**
2. **Connect a keyboard, mouse, and CD drive to the USB hub or to the other USB connector.**

3. **Connect a monitor to the VGA port.**

FIGURE 1-1 Dongle Cable Connections

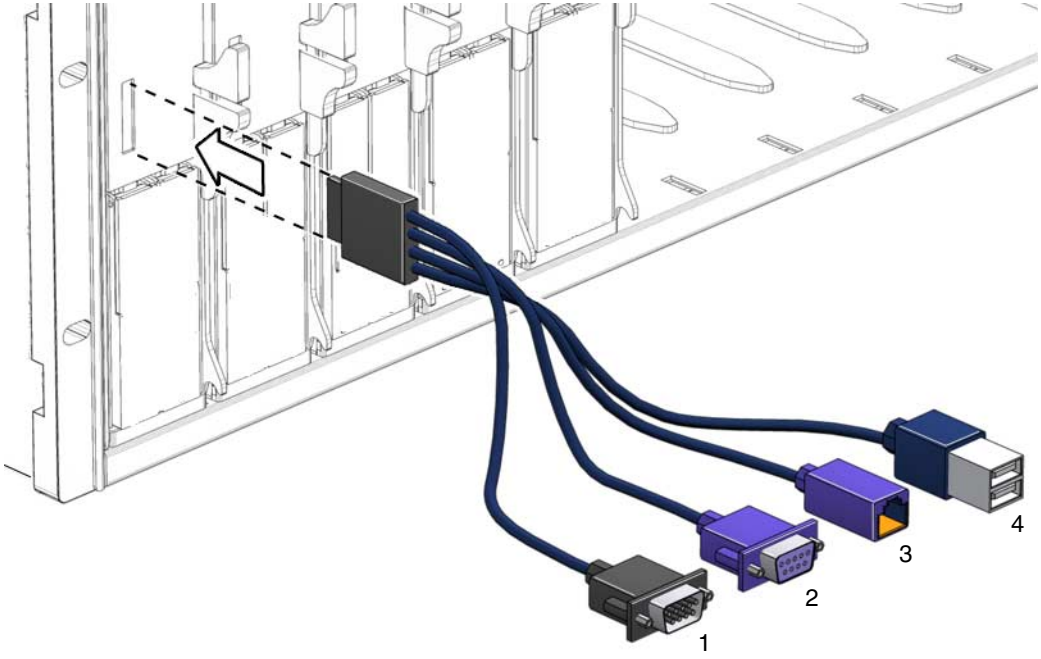

Figure Legend

1	DB9 serial console to server module ELOM. **Note -** This connector is not present on a three-connector dongle.
2	VGA video connector.
3	RJ-45 connector. • On a three-connector dongle, this connector provides serial access to the ELOM. • On a four-connector dongle, this connector is unused.
4	Dual USB connectors.

CHAPTER 2

Using the Sun Installation Assistant

This chapter describes operating system installation options using the Sun Installation Assistant (SIA). You can choose to install a Linux operating system on your server using SIA.

About the Sun Installation Assistant (SIA)

The Sun Installation Assistant (SIA) is a tool that assists in the installation of supported Linux operating systems (OS). With SIA, you can install the OS, the appropriate drivers, and if necessary, additional system software by simply booting the SIA media and following the prompts.

SIA does not automate the OS installation process. You still need to follow the vendor installation procedures for your OS, but you do not have to inventory your system hardware, search out and download device drivers most recently supported by Sun, nor will you need to create a separate driver CD. SIA does that work for you.

Features and Benefits

SIA provides the following features and benefits:

- Bootable media from either a local drive attached to the server (CD/DVD or USB flash drive), a remote redirected network drive (virtual CDROM or ISO image), or a PXE network boot.
- Identification of your platform hardware and installed option cards.

- Identification of the operating system media and the supported device drivers that are required for your system.

  Note that SIA does not provide the operating system software. The operating system software must be provided by the customer during the SIA installation.
- Assisted operating system installation on platform-supported bootable media (hard disk, compact flash).
- Installation (if required) of the most recent OS-level device driver(s) supported by Sun, and system software required for your system.
- Option to upgrade server BIOS and Service Processor (SP) firmware on supported servers.
- Script-based unattended SIA installation of a supported Linux OS from a Linux-based PXE server.
- Intuitive error messages if an error or unexpected condition occurs during the installation.
- Event log file readily available, if required, at the `/root` of the newly installed server.

How to Get Started Using SIA

The following information will help you get started using SIA.

- For a complete list of supported Sun server platforms, refer to the SIA information page at:

  `http://www.sun.com/systemmanagement/sia.jsp`
- The Sun Installation Assistant CD ships with most Sun servers that support the x64 processor architecture. You can also download the latest ISO CD image of the Sun Installation Assistant from the Sun Download page at:

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

  Updates to the SIA program can be obtained easily during the SIA installation by using the Remote Update option in the SIA.
- The *Sun Installation Assistant for Windows and Linux User's Guide* (820-3357) describes using SIA with your server. It can be downloaded from the Sun documentation web site at:

  `http://docs.sun.com`

CHAPTER 3

Installing the Red Hat Enterprise Linux OS

This chapter provides procedures for installing Red Hat Enterprise Linux (RHEL) operating system on a Sun Blade X6450 server module. If you have installed RHEL software on other Intel servers, you are already familiar with how to install it on a Sun Blade X6450 server module.

This chapter describes three methods of installing the RHEL OS on your server module:

- A RHEL distribution CD in a local CD-ROM.
- A RHEL distribution CD in a remote CD-ROM that is accessed using the ELOM's Remote Console application.
- An installation from the network, using a Preboot Execution Environment (PXE) image stored on a PXE server on your local network or from an image stored elsewhere on your network.

This chapter contains the following sections:

Before You Begin

This section provides RHEL reference information.

Sun Installation Assistant

The Sun Installation Assistant (SIA) is a convenient, front-end application designed to assist you in installing supported versions of Linux on your server. SIA supplements the standard installation utilities and procedures that ship with your operating system; it does not replace them. For more on the SIA, see Chapter 2 and the *Sun Installation Assistant for Windows and Linux User's Guide* (820-3357), and `http://www.sun.com/systemmanagement/sia.jsp`.

Installation Overview

Installing RHEL software consists of the following procedures:

1. Install the RHEL software. See either:
   - "Installing the RHEL OS From Distribution Media" on page 14.
   - "Installing the RHEL OS From a PXE Server" on page 15.
2. Update the RHEL software. See "Updating the RHEL Operating System" on page 16.
3. Update the server-specific software. See "Updating the Server-Specific Software" on page 17.

RHEL Installation and Administration Documentation

Before you install the RHEL software, consult the following RHEL documentation.

TABLE 3-1 Sources for RHEL Documentation

Document	Description	Where to Find
README file	Contains late-breaking information about system requirements and system configuration for your version of the RHEL software.	On the RHEL CD 1, and online from http://www.redhat.com/docs/
Red Hat Enterprise Linux Quick Installation Guide	Brief printed guide containing useful information to assist you during the installation of RHEL.	Included with the RHEL distribution media
Red Hat Enterprise Linux Installation Guide	Full version of the printed *Quick Installation Guide.*	Included on the Red Hat Documentation CD, and available for download from http://www.redhat.com/docs/
Red Hat Enterprise Linux Introduction to System Administration	Introductory information for RHEL system administrators.	Available for download from http://www.redhat.com/docs/manuals/enterprise/
Red Hat Enterprise Linux System Administration Guide	Information about customizing the RHEL software.	Available for download from http://www.redhat.com/docs/manuals/enterprise/
System Administration for Diskless Booting	Information about configuring your server and Red Hat Linux for diskless booting.	Available for download as the *Red Hat Enterprise Linux Installation Guide for the x86, Itanium™, and AMD64 Architectures* at http://www.redhat.com/docs/manuals/enterprise/
Red Hat Enterprise Linux Security Guide	Guide for securing the RHEL software.	Available for download from http://www.redhat.com/docs/manuals/enterprise/

Use the table below to identify the installation task and the relevant procedure.

TABLE 3-2 Installation Tasks and Procedures

Installation Task	See Procedure
Install using the Sun Installation Assistant.	*Sun Installation Assistant for Windows and Linux User's Guide*
Install RHEL from distribution media.	"Installing the RHEL OS From Distribution Media" on page 14
Install RHEL from a PXE server.	"Installing the RHEL OS From a PXE Server" on page 15
Update RHEL software.	"Updating the RHEL Operating System" on page 16

Installing the RHEL OS From Distribution Media

RHEL provides both a text mode and an easy-to-use graphical interface for installing and configuring the operating system. At the boot prompt, you can select the interface that you want to use. Both options are shown later in this section.

Required Items

Installation from distribution media requires the following items:

- Sun Blade X6450 server module.
- RHEL media CD set.
- If you are doing a local install (not a remote KVMS session) you need:
  - USB keyboard and mouse
  - USB CD/DVD
  - Monitor
  - Dongle connector to plug into the front slot of the server module

▼ To Install RHEL From Distribution Media

1. **Connect your CD/DVD device.**

- If you are using a CD/DVD connected to the USB:

a. **Connect the USB CD/DVD drive into the USB port of the dongle.**

b. **Insert the RHEL Distribution CD 1 into the DVD/CD drive connected to the server module.**

- If you are using a KVMS, mount the CD/DVD or an equivalent ISO image using KVMS, as described in "Using a Remote Control Application (KVMS)" on page 4.

2. **Power on the system.**

a. **Press F8 during POST to enter the BBS Pop-up.**

A boot device list appears.

b. **Select the CD/DVD device from the boot list.**

- If you are connecting over USB, select `USB CD/DVD`.
- If you are connecting over a KVMS, select `Virtual CD/DVD`.

The server boots from the selected media and displays a `boot:` menu.

3. **At the `boot` prompt, select one of the following:**

- For text mode, type the following command:

```
boot: linux text
```

- For graphical mode, press Enter.

4. **Refer to the *Red Hat Enterprise Linux Installation Guide* to guide you through the remainder of the installation process.**

5. **Update the operating system.**

See "Updating the RHEL Operating System" on page 16.

If the installation process does not recognize the CD inserted, please refer to the *Sun Blade X6450 Server Module Product Notes*.

Installing the RHEL OS From a PXE Server

This procedure describes how to configure your server module to initiate the request to download the boot image file from the PXE/DHCP server and how to install the RHEL boot image on your server module.

Before You Begin

Before you configure your server to install RHEL from a PXE server, you need to do the following:

- Configure your Linux network to support a PXE server. See the Red Hat Linux documentation.
- Install a RHEL image on that Linux PXE server.

▼ To Install RHEL From a PXE Server

1. **Connect the server module to the same network as the PXE server, and power on the server module.**
2. **During POST, press the F12 key.**

   The PXE client connects to the PXE server and attempts to obtain an IP address from the DHCP server.
3. **When prompted, press the F8 key to begin downloading the PXE boot image.**
4. **At the `boot:` prompt, type the label you gave the image when you installed a RHEL image on the PXE server.**

   The RHEL installation image is downloaded onto the target server module.
5. **To configure the Linux operating system for your server, refer to the manual that is shipped with your RHEL media kit.**
6. **Update the operating system files.**

   See "Updating the RHEL Operating System" on page 16.

Updating the RHEL Operating System

This procedure describes how to update the RHEL operating system.

Because software is constantly being updated, your distribution media might not contain the most up-to-date versions of the operating system.

Follow this procedure after your operating system is installed.

▼ To Update the RHEL Operating System

1. **Navigate to the Red Hat web site.**

   http://rhn.redhat.com

2. **Follow the instructions to update your RHEL operating system.**

   You need your enterprise account information to download the updated ISO images. An enterprise account is an account that the customer creates to access Red Hat's support network after purchasing the RHEL media kit.

Updating the Server-Specific Software

This section describes how to install server-specific software from the Tools and Drivers CD.

The following procedures assume that you have already installed the RHEL OS and updates.

All files are located on the Tools and Drivers CD.

The updates include:

- Sun StorageTek™ RAID Manager (SSTRM)
- AST2000 Driver
- LSI Driver
- MegaRAID Storage Manager (MSM)

▼ To Install SSTRM

Note – This utility is only required for server modules equipped with a Sun Blade RAID 5 Expansion Module.

---

1. **Type the command:**

   cd /mnt/linux/tools/ASM/*name***/manager**

   where *name* is x86 for 32-bit, or x86_64 for 64-bit.

2. **Type the command:**

   - For 32-bit:

     rpm -ihv StorMan-5.50.i386.rpm

- For 64-bit:

  rpm -ihv `StorMan-5.50.x86_64.rpm`

When the `rpm` command is done, you can start and use the SSTRM utility.

▼ To Install the AST2000 Driver

1. **Type the commands:**

   ```
   cd /mnt/linux/drivers/video
   cp lxdrv.tar.gz /tmp
   tar -zxf /tmp/lxdrv.tar.gz
   ```

2. **Follow the instruction in** `README.txt` **to install the drivers.**
3. **When you are done, reboot the system to initialize the new driver:**

   ```
   reboot
   ```

▼ To Install the LSI Driver

Note – This driver is only required for server modules equipped with a Sun Blade RAID 0/1 G2 Expansion Module.

---

1. **Type the commands:**

   ```
   cd /mnt/linux/drivers/lsi
   ```

   - For RHEL 4.6, 32-bit:

     rpm -ivh mptlinux-redhat4.0-3.13.04.00-1.i686.rpm

   - For RHEL 4.6, 64-bit:

     rpm -ivh mptlinux-redhat4.0-3.13.04.00-1.x86_64.rpm

   - For RHEL 5.0, 64-bit:

     rpm -ivh mptlinux-4.00.42.00-1-rhel5.x86_64.rpm

2. **When the** `rpm` **command is done, reboot the system to initialize the new driver:**

   ```
   reboot
   ```

▼ To Install the MegaRAID Storage Manager

Note – This utility is only required for server modules equipped with a Sun Blade RAID 0/1 G2 Expansion Module.

---

1. **Type the commands:**

   ```
   cd /mnt/linux/tool/MSM/
   cp MSM_linux_installer-2.35-01.tar.gz /tmp
   tar -zxf /tmp/MSM_linux_installer-2.35-01.tar.gz
   ```

2. **Follow the instruction in** `README.txt` **to install the utility.**

   When you are done, you can start and use the MSM utility.

CHAPTER 4

Installing the SUSE Linux Enterprise Server Operating System

This chapter provides instruction for installing the SUSE Linux Enterprise operating system (OS) on a Sun Blade X6450 server module. It includes three methods for installing the SUSE Linux OS on your server:

- A distribution CD in a local CD-ROM.
- A distribution CD in a remote CD-ROM that is accessed using the service processor's Remote Console application.
- An installation from the network, using a Preboot Execution Environment (PXE) image stored on a PXE server on your local network or from an image stored elsewhere on your network.

For a list of supported operating systems, see TABLE 1-1.

This chapter contains the following sections:

Before You Begin

This section provides reference information for supported versions of SUSE Linux. These include:

- SLES9SP4 and later 64 bit only
- SLES10SP1 and later 64 bit only

Sun Installation Assistant

The Sun Installation Assistant (SIA) is a convenient, front-end application designed to assist you in installing supported versions of Linux on your server. SIA supplements the standard installation utilities and procedures that ship with your operating system; it does not replace them. For more on the SIA, see Chapter 2 and the *Sun Installation Assistant for Windows and Linux User's Guide* (820-3357), and `http://www.sun.com/systemmanagement/sia.jsp`.

SUSE Linux Installation and Administration Documentation

TABLE 4-1 lists resources to help you install SUSE Linux on your server.

TABLE 4-1 Installation Resources

Document	Description	Where to Find
README file	Contains late-breaking information about system requirements and system configuration.	Available on SUSE Linux CD 1
Release Notes	Contains Late-breaking release-specific information about the SLES version on your distribution CDs.	Available on SUSE Linux CD 1 under the `docu` directory
SUSE Linux Enterprise Server 10 Start-Up Guide	A short manual that provides a quick introduction to the SLES installation process.	Available on SLES 10 CD 1 in the appropriate language directory under the `docu` directory, as the file `startup.pdf`
SUSE Linux Enterprise Server 10 Installation and Administration Guide	Contains detailed information about planning, deployment, configuration and administration of SLES 10.	Available SLES 10 CD 1 in the appropriate language directory under the `docu` directory, as the file `sles-admin.pdf`
Note - For SLES 9, see the corresponding documentation.		
SUSE Linux Support Site	Provides technical and product support information about the Enterprise Server OS.	`http://www.novell.com/products/server/`

SUSE Linux Installation Methods

Use the table below to identify the installation task and the relevant procedure.

TABLE 4-2 Installation Tasks and Procedures

Installation Task	See Procedure
Install using the Sun Installation Assistant.	*Sun Installation Assistant for Windows and Linux User's Guide*
Install SUSE Linux from local CD/DVD drive.	"Installing the SUSE Linux OS From Distribution Media" on page 23.
Install SUSE Linux from a PXE server.	"Installing the SUSE Linux OS From a PXE Server" on page 24
Update SUSE Linux software.	"Updating the SUSE Linux Operating System" on page 25

Installing the SUSE Linux OS From Distribution Media

SUSE Linux provides an easy-to-use graphical interface for installing and configuring the operating system. Whether you are using distribution CDs to install SUSE Linux from a locally attached CD/DVD drive or from a remote CD/DVD drive attached via KVMS, the installation procedure is fundamentally the same.

Required Items

- Sun Blade X6450 server module.
- SUSE Linux media base CD or DVD set.
- *SUSE Linux Enterprise Server 10 Installation and Administration Guide.*
- If you are doing a local install (not a remote KVMS session) you need:
  - USB keyboard and mouse
  - USB CD/DVD
  - Monitor
  - Dongle connector to plug into the front slot of the server module

▼ To Install SUSE Linux

1. **Connect your CD/DVD device.**
   - If you are using a CD/DVD connected to the USB:
   a. **Connect the USB CD/DVD drive into the USB port of the dongle.**
   b. **Insert the RHEL Distribution CD 1 into the DVD/CD drive connected to the server module.**
   - If you are using a KVMS, mount the CD/DVD or an equivalent ISO image using KVMS, as described in "Using a Remote Control Application (KVMS)" on page 4.
2. **Power on the system.**
   a. **Press F8 during POST to enter the BBS Pop-up.**
   A boot device list appears.
   b. **Select the CD/DVD device from the boot list.**
   - If you are connecting over a physical USB CD ROM drive, select `USB CD/DVD`.
   - If you are connecting over a KVMS, select `Virtual CD/DVD`.

   The server boots from the selected media and displays a `boot:` menu.
3. **Follow the installation instructions provided with the** *SUSE Linux Enterprise Server 10 Installation and Administration Guide* **to complete the installation of the system software.**
4. **Update the operating system.**
   See "Updating the Server-Specific Software Using the Tools and Drivers CD" on page 27**.**
   If the installation process does not recognize the CD inserted, please refer to the *Sun Blade X6450 Server Module Product Notes*.

Installing the SUSE Linux OS From a PXE Server

This procedure describes the final step of installing the SUSE Linux boot image on your server module.

Before You Begin

Before you configure your server to install SUSE Linux from a PXE server, you need to do the following:

- Configure your Linux network to support a PXE server. Refer to the *SUSE Linux Enterprise Server 10 Installation and Administration Guide* on SLES 10 CD 1 (or on the corresponding CD for SLES9 SP4).
- Install a SUSE Linux image on that Linux PXE server.

▼ To Install SUSE Linux From a PXE Server

1. **Connect the server module to the same network as the PXE server, and power on the server module.**
2. **During POST, press the F12 key.**

   The PXE client connects to the PXE server and attempts to obtain an IP address from the DHCP server.
3. **When prompted, press the F8 key to begin downloading the PXE boot image.**
4. **At the `boot:` prompt, type the label you gave the image when you installed a SUSE Linux image on the PXE server.**

   For information about how to configure your SUSE Linux server, refer to the *SUSE Linux Enterprise Server 10 Installation and Administration Guide* on SLES 10 CD 1.

Updating the SUSE Linux Operating System

This procedure describes how to update the SUSE operating system.

Because software is constantly being updated, your distribution media might not contain the most up-to-date versions of the operating system.

Follow this procedure after your operating system is installed.

▼ To Update Your SUSE Linux Operating System Online

1. **Log in as the superuser.**
2. **Type the following command to run the YaST Online Update:**

   # **you**

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

---

3. **If you are 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. Enter the correct proxy URLs in both the HTTP and HTTPS fields.**

Note – 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 type the following command:**

      rug 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. Select the Software tab on the left. Then select Novell Customer Center Configuration and follow the directions.**

   You need your Novell Customer Center user name and password, as well as a SUSE Linux product activation code.

5. **After you are registered, select the Online Update tab to perform the software update.**

Updating the Server-Specific Software Using the Tools and Drivers CD

This section describes how to install server-specific software from the Tools and Drivers CD.

The following procedures assume that you have already installed the SUSE Linux OS and updates.

All files are located on the Tools and Drivers CD.

The updates include:

- Sun StorageTek RAID Manager (SSTRM)
- AST2000 Driver
- LSI Driver
- MegaRAID Storage Manager (MSM)

▼ To Install SSTRM

Note – This utility is only required for server modules equipped with a Sun Blade RAID 5 Expansion Module.

---

1. **Type the command:**

   cd /mnt/linux/tools/ASM/*name***/manager**

   where *name* is x86 for 32-bit, or x86_64 for 64-bit.

2. **Type the command:**

   - For 32-bit:

     rpm -ihv `StorMan-5.50.i386.rpm`

   - For 64-bit:

     rpm -ihv `StorMan-5.50.x86_64.rpm`

   When the `rpm` command is done, you can start and use the SSTRM utility.

▼ To Install the AST2000 Driver

1. **Type the commands:**

```
cd /mnt/linux/drivers/video
cp lxdrv.tar.gz /tmp
tar -zxf /tmp/lxdrv.tar.gz
```

2. **Follow the instruction in `README.txt` to install the drivers.**
3. **When you are done, reboot the system to initialize the new driver:**

```
reboot
```

▼ To Install the LSI Driver

Note – This driver is only only required for server modules equipped with a Sun Blade RAID 0/1 G2 Expansion Module.

---

1. **Type the commands:**

```
cd /mnt/linux/drivers/lsi
```

   - For SLES9 SP4, 64 bit:

     ```
     rpm -ivh mptlinux-sles9.0-3.13.04.00-1.x86_64.rpm
     ```

   - For SLES10 SP1, 64 bit:

     ```
     rpm -ivh mptlinux-4.00.42.00-1-sles10.x86_64.rpm
     ```

2. **When the rpm command is done, reboot the system to initialize the new driver:**

```
reboot
```

▼ To Install the MegaRAID Storage Manager

Note – This utility is only required for server modules equipped with a Sun Blade RAID 0/1 G2 Expansion Module

---

1. **Type the commands:**

```
cd /mnt/linux/tool/MSM/
cp MSM_linux_installer-2.35-01.tar.gz /tmp
tar -zxf /tmp/MSM_linux_installer-2.35-01.tar.gz
```

2. **Follow the instruction in `README.txt` to install the drivers.**
   When you are done, you can start and use the MSM utility.

CHAPTER 5

Installing VMware ESX

This chapter provides the procedures for installing VMware ESX on a Sun Blade X6450 server module.

This chapter contains the following sections:

The Sun Blade X6450 server module currently supports the following versions of VMware ESX:

- ESX 3.0.2 update 1 or later
- ESX 3.5

Note – ESX 3.0.2 supports up to 64 GB of memory. For configurations with more than 64 GB of memory, use ESX 3.5.

This chapter describes how to install VMware ESX using an image downloaded from the VMware web site. You can complete the installation using an ISO file, or you can burn it to a CD.

Note – To install VMware ESX using PXE, see the corresponding user's guide on the VMware web site:
`http://www.vmware.com/support/pubs/vi_pubs.html`.

VMware ESX currently supports only SAS HDD configurations.

Task Map for VMware ESX 3 Installation

Consult the following table to determine which sections in this document are relevant to the installation tasks that you want to perform.

Installation Task	Relevant Section
Collect information about your system and the installation process.	"VMware Installation and Administration Documentation" on page 32
Review the VMware ESX installation requirements.	"VMware ESX Installation Requirements" on page 33
Download the ISO image and burn it to a CD if necessary.	"To Download the VMware ESX ISO Image" on page 33
Begin installing the VMware ESX software using a local or network-attached CD or virtual CD drive.	"To Install VMware ESX From Distribution Media" on page 34
Update the VMware ESX software.	"Updating VMware ESX" on page 35

VMware Installation and Administration Documentation

Before you begin installing VMware ESX software on your server module, consult the following required documents for VMware ESX installation, at: `http://www.vmware.com/support/pubs/vi_pubs.html`.

- *Introduction to Virtual Infrastructure*
- *Quick Start Guide*
- *Installation and Upgrade Guide*
- *Basic System Administration*
- *Virtual Infrastructure Web Access Administrator's Guide*
- *Server Configuration Guide*

To prepare for a PXE installation, see the *VMware Installation and Upgrade Guide for Virtual Infrastructure 3*.

VMware ESX Installation Requirements

Installing VMware ESX on your server module requires the following:

- Because there is no built-in CD-ROM, choose either one of the following:
  - External USB DVD/CD-ROM drive connected to the server module.
  - Virtual CD drive redirected through Java remote console (only if no physical drive is present).
- CD-ROM or ISO image of VMware ESX.
- If you are doing a local install (not a remote KVMS session) you need:
  - USB keyboard and mouse
  - USB CD/DVD
  - Monitor
  - Dongle connector to plug into the front slot of the server module

Downloading the VMware ESX ISO Image

To install the VMware ESX ISO image, you must first download an ISO image of the software installation CD.

▼ To Download the VMware ESX ISO Image

From:

1. **Download the ISO image using a network-connected system with CD-burning capabilities from:**

   `http://www.vmware.com/download/vi/eval.html`

2. **If required, burn the image to a CD.**

   If you are going to use Java Remote Console to directly mount the ISO image, you do not need to burn a CD.

Installing VMware ESX From Distribution Media

The following procedure applies to installing VMware ESX from a local CD-ROM, or a virtual CD-ROM redirected from Java Console. Before you continue with this procedure, review the "Task Map for VMware ESX 3 Installation" on page 32.

Installation from distribution media requires the following items:

- Sun Blade X6450 server module.
- VMware ESX CD set.
- If you are doing a local installation (not a KVMS session), you need:
  - USB keyboard and mouse
  - USB CD/DVD
  - Monitor
  - Dongle connector to plug into the front slot of the server module

▼ To Install VMware ESX From Distribution Media

1. **Connect your CD/DVD device.**
   - If you are using a CD/DVD connected to the USB:

   a. **Connect the USB CD/DVD drive into the USB port of the dongle.**

   b. **Insert the CD into the DVD/CD drive connected to the server module.**
   - If you are using a KVMS, mount the CD/DVD or an equivalent ISO image using KVMS, as described in "Using a Remote Control Application (KVMS)" on page 4.

2. **Power on the server module.**

   a. **Press F8 during POST to enter the BBS Pop-up.**

   A boot device list appears.

   b. **Select the CD/DVD device from the boot list.**
   - If you are connecting over USB, select `USB CD/DVD`.
   - If you are connecting over a KVMS, select `Virtual CD/DVD`.

   The server boots from the selected media and displays a `boot:` menu.

3. **Choose which mode to work in:**

- To access graphical mode, press ENTER.
- To work in text mode, type the following:

```
esx text
```

4. **Refer to the** *Installation and Upgrade Guide for VMware Infrastructure* **to guide you through the installation process.**

   From your network-connected system go to:

   http://www.vmware.com/support/pubs/vi_pubs.html.

Updating VMware ESX

When VMware ESX images are available for updates, you can download them from:

http://www.vmware.com/support

Required Patches

After installing ESX on server modules with Intel Xeon 7200-series (dual core) CPUs, the following patch must be installed:

- ESX350-200802412-BG for ESX 3.5
- ESX-1003524 for ESX 3.0.2. u1

For more information on how to download and install the patch see VMware's website:

http://support.vmware.com/selfsupport/download/#wlp_s3portal_pages_downloadPatch_page

CHAPTER 6

Installing the Solaris 10 OS

Use this chapter in conjunction with the referenced Solaris 10 documentation to install the Solaris™ Operating System (Solaris OS) on a Sun Blade X6450 server module. This chapter contains the following sections:

Before You Begin

Before you begin installing the Solaris 10 OS, review the information in this section.

Note – The installation procedures in this chapter are intended for experienced system administrators who are familiar with using the Solaris OS on an x86 platform.

Minimum System Requirements

TABLE 6-1 lists the minimum system requirements.

TABLE 6-1 Minimum System Requirements

Requirement	Description
Hardware requirements	The server hardware and the initial service processor configuration must be installed before you install the Solaris OS.
Minimum Solaris OS	Solaris 10 5/08 for Sun Blade X6450 server module. Download or order the media for Solaris 10 at: `http://www.sun.com/software/solaris/get.jsp`
Memory to install	Memory size is between 4 GB and 64 GB.
Disk space	12 Gbytes or greater.
Swap area	512 MB is the default size.
x86/x64 processor requirements	x86/x64 120 MHz or faster processor is recommended. Hardware floating-point support is required.
BIOS	Industry-standard x86/x64 BIOS (resident in FLASH). The BIOS must be able to boot from CD or DVD media.

Additional Software Information

- The Tools and Drivers CD is available online. It contains updates and additional software. For updates on Solaris 10 versions and hardware compatibility, go to:

  `http://www.sunsolve.sun.com`

- The Solaris 10 OS box contains the CD and DVD media and documentation that you need to install the Solaris OS software for both the SPARC and x86 platforms. For a Sun Blade X6450 server module, use the media for x86 platforms.
- With Solaris 10 08/07, we recommend that you apply the patch 125370-06, followed by patch 127112-10. Apply these patches in sequence.

Installation Methods

The Sun Blade X6450 server module supports several methods for installing the Solaris OS. TABLE 6-2 lists the installation methods and points to the relevant section or document.

Note – The Solaris OS provides additional methods of installation, such as booting over a wide area network (WAN). However, the Sun Blade X6450 server module supports only those methods listed in TABLE 6-2.

TABLE 6-2 Installation Methods

Method	Description	Section or Document
Install from DVD or CD-ROM media.	Use the Solaris Installation Program on the CD or DVD media to install one server interactively.	"Installing the Solaris OS From Distribution Media" on page 44.
Install from the network using PXE.	You need a PXE installation to install the Solaris OS over the network from remote DVD or CD images or to automate the installation process and install several systems with a JumpStart installation. To boot over the network using PXE, you need to set up an install server and a DHCP server, and configure the BIOS on each server to boot from the network.	To set up for a PXE installation, see "x86: Guidelines for Booting with PXE," in the *Solaris 10 Installation Guide: Network-Based Installations.* To boot using PXE, see "Booting a Server Over the Network Using PXE" on page 43.
Install from a serial console.	Use a serial console to install the Solaris OS in a PXE-based network installation.	"Using a Serial Console to Install the Solaris OS" on page 45.
Perform a diskless boot.	Boot the Solaris OS on a server module without a hard drive. Use this method with a PXE-based network installation.	"x86: Booting and Installing Over the Network PXE," in the *Solaris 10 Installation Guide: Network-Based Installations.*

Where to Find Solaris 10 Information

The installation procedures in this chapter reference several Solaris OS documents. Solaris OS documentation is available from the web at `http://docs.sun.com/.`

At the above URL, select Solaris 10 to display the list of documents in the Solaris 10 Documentation Collection.

- See the Solaris 10 installation guides at `http://docs.sun.com/app/docs/coll/1236.5`
- See the Solaris 10 administration guides at `http://docs.sun.com/app/docs/coll/47.16`
- See information about upgrading your system at `http://docs.sun.com/app/docs/doc/817-5505`

- See troubleshooting information in Appendix A at:
  http://docs.sun.com/app/docs/doc/817-5504

Solaris 10 documentation is also available on the Solaris Documentation DVD included with your Solaris OS software.

Task Map for Initial Solaris OS Installation

A task map for initial Solaris OS installation is presented in TABLE 6-3. The table lists the task, a description of each task, and the section or document.

TABLE 6-3 Task Map for Initial Solaris OS Installation

Task	Description	Source
Set up your server.	Install your server hardware and configure the service processor.	*Sun Blade X6450 Server Module Installation Guide* (820-3535)
Review the *Sun Blade X6450 Server Module Product Notes*.	The product notes contain late-breaking news about the Solaris OS software and patches.	*Sun Blade X6450 Server Module Product Notes* (820-3538)
Review the system requirements.	Verify that your server meets the minimum system requirements.	TABLE 6-1
Locate the Solaris OS documentation.	The Solaris OS documentation included with your software contains most of what you need to know about installation.	"Where to Find Solaris 10 Information" on page 39
Install the Solaris OS.	Choose an installation method and locate the installation instructions.	TABLE 6-2
Install additional software, if necessary.	The Solaris OS drivers for the server are bundled in the Solaris OS. However, you may need to install additional software from the Tools and Drivers CD.	*Sun Blade X6450 Server Module Product Notes*
Install patches, if necessary.	Patches are available from the SunSolve Patch Portal at http://www.sunsolve.sun.com.	*Sun Blade X6450 Server Module Product Notes*

Preparing to Install the Solaris OS

You need to gather information about your system before you install the Solaris OS. The amount of planning and initial set up that you need to perform varies depending on whether you are preparing for a local installation from DVD or CD, or you are preparing for a Preboot Execution Environment (PXE)-based network installation.

You also need to obtain the appropriate media for your installation.

Media	Title
DVD	Solaris 10 OS *version** DVD
CD-ROM	Solaris 10 OS *version* Software CDs Solaris 10 *version* Languages for x86 Platforms CD Tools and Drivers CD
Patches	See the *Sun Blade X6450 Server Module Product Notes* for information about patches.

* Replace *version* with the version of the Solaris Operating System you want to install.

Installation Prerequisites

You must complete the following tasks before you install the Solaris OS.

1. **Verify that your system meets the minimum system requirements (see TABLE 6-1).**

   If you are using the Solaris Installation Program GUI or text installer, you need a local DVD-ROM or CD-ROM drive or network connection, keyboard, and monitor. For more information, see the *Solaris 10 Installation Guide: Basic Installations*. Refer to your platform supplement for hardware questions.

2. **Gather the information you need to install the Solaris OS.**

   See the "Checklist for Installation" in Chapter 1 of the *Solaris 10 11/06 Installation Guide: Basic Installations*, at `http://docs.sun.com/app/docs/doc/819-6394/`.

   For a non-networked system, you need to know the host name of the system you are installing and the language and the locales that you intend to use on the system.

   For a networked system, use the checklist to gather the following information:

   - Host name of the system that you are installing

- Language and locales that you intend to use on the system
- IP address of the name server
- Subnet mask
- Type of name service (for example, DNS, NIS, or NIS+)
- IP address of the gateway
- Domain name
- Host name of the name server
- IP address of the name server
- Root password

3. **If you are installing the Solaris OS over the network, you need to set up a PXE-based network installation before you install the Solaris OS.**

   For information about setting up a PXE-based network installation, see the *Solaris 10 11/06 Installation Guide: Network-Based Installations* at `http://docs.sun.com/app/docs/doc/819-6395`.

Note – Consult the appropriate platform guide that ships with Solaris 10 for detailed information about remote installation using USB. If USB-based installation is not supported, use PXE.

Booting a Server in a GRUB-Based Environment

Starting with the Solaris 10 1/06 release, the open-source GNU Grand Unified Bootloader (GRUB) has been implemented on x86-based systems that are running the Solaris OS. GRUB is the boot loader that is responsible for loading a boot archive into a system's memory. The boot archive contains the kernel modules and configuration files that are required to boot the system. For more information about GRUB, see the `grub`(5) man page.

For information about how to boot a server module that is running the Solaris 10 OS in a GRUB-based environment, refer to the *Solaris 10 System Administration Guide: Basic Administration* at:

`http://docs.sun.com/app/docs/doc/819-2379`

Booting a Server Over the Network Using PXE

Use this procedure along with the instructions in *Solaris 10 Installation Guide: Networked-Based Installations*.

The Sun Blade X6450 server module implements the Intel Preboot Execution Environment (PXE) specification required for a PXE network boot. PXE technology provides your server with the capability to boot the Solaris OS over the network using the Dynamic Host Configuration Protocol (DHCP). Using a PXE-based network installation, you can install the Solaris OS onto a server from the network with remote CD or DVD images. You can also automate the installation process and install the Solaris OS on several server modules using a JumpStart scenario.

A PXE network boot is a direct network boot.

Before You Begin

To boot over the network by using PXE, you first need to do the following:

- Set up an install server.
- Add the server module clients to be installed.
- Set up a DHCP server.

▼ To Boot a Server Over the Network Using PXE

Perform the tasks in "Guidelines for Booting with PXE," in the *Solaris 10 11/06 Installation Guide: Network-Based Installations*, located at `http://docs.sun.com/app/docs/doc/819-6394`.

If you have already set up the systems you need for a PXE boot, review the Task Map (TABLE 6-3) to verify that you have performed all the steps.

- **Boot the server over the network by using PXE.**

  Complete the steps in *Solaris 10 11/06 Installation Guide: Network-Based Installations* at `http://docs.sun.com/app/docs/doc/819-6394`. Follow the onscreen instructions.

  When the BIOS screen appears, press F12 to tell the BIOS to perform a network boot from the PXE server.

Installing the Solaris OS From Distribution Media

Use this procedure to install the Solaris OS on your server module from CD or DVD media. This procedure describes an interactive installation using the Solaris Installation Program.

The Solaris Installation Program on the Solaris 10 OS media can be run with a graphical user interface (GUI) or as an interactive text installer in a console session. The GUI or command-line interface (CLI) uses wizard screens to guide you step-by-step through installing the OS.

Before You Begin

Perform the tasks described in "Preparing to Install the Solaris OS" on page 41.

Installation from distribution media requires the following items:

- Sun Blade X6450 server module.
- Solaris distribution media set.
- If you are doing a local install (not a remote KVMS session) you need:
  - USB keyboard and mouse
  - USB CD/DVD
  - Monitor
  - Dongle connector to plug into the front slot of the server module

▼ To Install the Solaris OS From Distribution Media

1. **Connect your CD/DVD device.**
   - If you are using a CD/DVD connected to the USB:
   a. **Connect the USB CD/DVD drive into the USB port of the dongle.**
   b. **Insert the CD into the DVD/CD drive connected to the server module.**
   - If you are using a KVMS, mount the CD/DVD or an equivalent ISO image using KVMS, as described in "Using a Remote Control Application (KVMS)" on page 4.

2. **Power on the server module.**

   a. **Press F8 during POST to enter the BBS Pop-up.**

      A boot device list appears.

   b. **Select the CD/DVD device from the boot list.**

      - If you are connecting over USB, select `USB CD/DVD`.
      - If you are connecting over a KVMS, select `Virtual CD/DVD`.

      The server boots from the selected media and displays a `boot:` menu.

3. **Continue the installation procedure by performing the steps in the procedure "x86: To Install or Upgrade with the Solaris Installation Program" in Chapter 2 at** `http://docs.sun.com/app/docs/doc/817-0544`**.**

   Start the procedure at Step 4. When prompted, answer the configuration questions to complete the installation.

   You can accept the default values on the screens to format the entire hard disk, use auto layout file systems, and install a preselected set of software. Or you can customize the installation to modify the hard disk layout, modify a Solaris fdisk partition, and select the software that you want to install.

Using a Serial Console to Install the Solaris OS

The Solaris text installer enables you to type information in a terminal or a console window to interact with the Solaris OS Installation Program. Use this procedure to use a serial console to install the Solaris 10 OS on a your server module with a PXE-based network installation.

Before You Begin

Before you set up the serial console, you need to set up the following systems for a PXE-based network installation:

- An install server
- A DHCP server

For information about how to set up these systems, see *Solaris 10 11/06 Installation Guide: Network-Based Installations* at `http://docs.sun.com/app/docs/doc/819-6395`.

▼ To Use a Serial Console to Install the Solaris OS

Note – For Steps 1 through 3, see the *Solaris 10 11/06 Installation Guide: Network-Based Installations* at `http://docs.sun.com/app/docs/doc/819-6395`.

1. **Connect a terminal to the serial port on the service processor.**

   A terminal can be a VT100, a PC running terminal emulation, or a terminal server.

2. **Set the terminal to receive at 9600 baud.**

3. **Add an x86 install client to an install server and specify a boot device to use during the installation.**

   If you specify the boot device when you set up the install client, you are not prompted for this information by the Device Configuration Assistant during the installation.

   The examples below use the following values:

   - Client MAC address – `00:07:e9:04:4a:bf`
   - Server IP address (GRUB only) – `192.168.0.123`
   - Client macro name (GRUB only) – `01000039FCF2EF`

   Use the commands specified in the following examples for the operating system version that you are using:

   - For a Solaris 10 3/05 system:

```
# cd /export/boot/Solaris_10/Tools
# ./add_install_client -d -e "00:07:e9:04:4a:bf" \
  -b "console=ttyb" \
  -b "bootpath=/pci@0,0/pci1022,7450@1/pci8086,1011@1" i86pc
```

   - For Solaris 10 1/06 or later system with GRUB booting:

```
# cd /export/boot/Solaris_10/Tools
# ./add_install_client -d -e “00:07:e9:04:4a:bf” \
  -b “consolatory” i86pc
# dhtadm -A -m 01000039FCF2EF \
-d ":BootSrvA=192.168.0.123:BootFile=01000039FCF2EF:”
# pntadm -f 01 -A $CLIENT_IP -i 01000039FCF2EF \
  -m 01000039FCF2EF $CLIENT_NET
```

Note – See the man pages for these commands for more information about the commands and options.

4. **Log in to the service processor CLI as an Administrator.**
5. **Type the command to start the serial console:**
   - If you are connected to an ELOM:

     ```
     start /SP/AgentInfo/console
     ```

   - If you are connected to an ILOM

     ```
     start /SP/Console
     ```

6. **Boot the server module.**

   Follow the instructions in *Solaris 10 11/06 Installation Guide: Network-Based Installations* at `http://docs.sun.com/app/docs/doc/817-6395`. When prompted, press F12 at the BIOS to boot using PXE.

   After the system is installed, log in to the system and use the `eeprom` command to change `bootenv.rc`:

   ```
   eeprom input-console=ttyb
   ```

Updating the Server-Specific Software

This section describes how to install server-specific software from the Tools and Drivers CD.

The following procedures assume that you have already installed the SUSE Linux OS and updates.

All files are located on the Tools and Drivers CD.

The updates include:

- Sun StorageTek RAID Manager (SSTRM)

▼ To Install SSTRM

Note – This utility is only required for server modules equipped with a Sun Blade RAID 5 Expansion Module.

1. **Type the commands:**

   ```
   cd /mnt/solaris/tools/ASM/SSTRM
   pkgadd -d StorMan.pkg
   ```

2. **Follow the instructions on the screen to complete the installation.**

   When the installation is done, you can start and use the SSTRM utility.

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