Sun Blade™ X6270 Server Module Windows Operating System Installation Guide

Sun Microsystems, Inc.
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Contents

Preface

This guide contains instructions for installing the Windows Server 2003 or Windows Server 2008 operating system onto the Sun Blade X6270 Server Module.

Product Updates

For product updates that you can download for the Sun Blade™ X6270 Server Module, visit the following web site:

http://www.sun.com/download/

Find the Hardware Drivers section and click x64 Servers & Workstations. The Sun Blade X6270 Server Module site contains updates for firmware and drivers, as well as CD-ROM ISO images.

Related Documentation

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

http://docs.sun.com/app/docs/prod/blade.x6270

Title	Content	Part Number	Format
Sun Blade X6270 Server Module Product Notes	Late-breaking information about the server module	820-6179	PDF HTML
Sun Blade X6270 Server Module Getting Started Guide	Basic installation information for setting up the server module	820-6181	PDF Print
Sun Blade X6270 Server Module Installation Guide	Detailed installation information for setting up the server module	820-6175	PDF HTML Print option
Sun Blade X6270 Server Module Linux, VMware, OpenSolaris, and Solaris Operating Systems Installation Guide	Installation instructions for the Linux, VMware, and Solaris operating systems	820-6176	PDF HTML
Sun Blade X6270 Server Module Windows Operating System Installation Guide	Installation instructions for the Windows Server operating system	820-6177	PDF HTML
Sun Installation Assistant for Linux and Windows User's Guide	Instructions for using the Sun Installation Assistant (SIA) when installing a Windows or Linux operating system	820-3357	PDF HTML
Sun Blade X6270 Server Module Service Manual	Information and procedures for maintaining and upgrading the server module	820-6178	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 x64 Servers Diagnostics Guide	Information about how to use the diagnostic software tools provided with x64 servers	820-6750	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
Sun Integrated Lights Out Manager (ILOM) Supplement for Sun Blade X6270 Server Module	ILOM information that is specific to the server module	820-6180	PDF HTML

Title	Content	Part Number	Format
Sun Integrated Lights Out Manager (ILOM) Feature Updates and Release Notes	New ILOM software features and release notes	820-7329	PDF
Sun Integrated Lights Out Manager (ILOM) 3.0 Concepts Guide	Information that describes ILOM features and functionality	820-6410	PDF HTML
Sun Integrated Lights Out Manager (ILOM) 3.0 Getting Started Guide	Information and procedures for network connection, logging in to ILOM for the first time, and configuring a user account or a directory service	820-5523	PDF HTML
Sun Integrated Lights Out Manager (ILOM) 3.0 Web Interface Procedures Guide	Information and procedures for accessing ILOM functions using the ILOM web interface	820-6411	PDF HTML
Sun Integrated Lights Out Manager (ILOM) 3.0 CLI Procedures Guide	Information and procedures for accessing ILOM functions using the ILOM CLI	820-6412	PDF HTML
Sun Integrated Lights Out Manager (ILOM) 3.0 SNMP and IPMI Procedures Guide	Information and procedures for accessing ILOM functions using SNMP or IPMI management hosts	820-6413	PDF HTML
Important Safety Information for Sun Hardware Systems	Multilingual hardware safety and compliance information for all Sun hardware systems	816-7190	Print

Translated versions of some of these documents are available at the web site described above in French, Simplified Chinese, and Japanese. 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/`

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, type `rm` *filename*.

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

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Sun Blade X6270 Server Module Windows Operating System Installation Guide, part number 820-6177-11

CHAPTER 1

Planning the Operating System Installation

This chapter identifies the information you need to properly plan the installation of an operating system to a Sun Blade X6270 Server Module.

This chapter contains the following topics:

Supported Operating Systems

The Sun Blade X6270 Server Module 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	Additional Information
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 • Microsoft Windows Server 2008 R2, Enterprise Edition • Microsoft Windows Server 2008 R2, Datacenter Edition	• "Install Windows Server 2003 Operating System" on page 15 • "Install Windows Server 2008 Operating System" on page 39
Linux	• SUSE Linux Enterprise Server (SLES) 10 SP2 (64-bit) • SLES 11 (64-bit) • Red Hat Enterprise Linux (RHEL) 4.7 and 4.8 (32-bit and 64-bit) • RHEL 5.3 (64-bit)	• *Sun Blade X6270 Server Module Linux, VMware, OpenSolaris, and Solaris Operating Systems Installation Guide Guide*
Solaris Open Solaris	• Solaris 10 10/08 and later • OpenSolaris 2009.06 and later	• *Sun Blade X6270 Server Module Linux, VMware, and Solaris Operating Systems Installation Guide*
VMware	• VMware ESX 3.5 Update 4 • VMware ESXi 3.5 Update 4 • VMware ESX Server 4.0 • VMware ESXi Server 4.0	• *Sun Blade X6270 Server Module Linux, VMware, and Solaris Operating Systems Installation Guide*

Preinstalled Solaris 10 or OpenSolaris Image

You can order either a Solaris™ 10 Operating System (OS) image or an OpenSolaris™ OS image preinstalled on the server. If you order a preinstalled image, it is shipped on the hard disk drive. If you need to install another operating system on this drive, you can choose to partition the hard disk drive in one of the following ways:

- Partition the local drive to remove the Solaris 10 or OpenSolaris OS image

or

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

The Windows or Linux operating system installation procedures described later in this guide will walk you through the appropriate point in the installation program where you can either partition the drive to remove the Solaris 10 image or to support a dual boot operating system configuration.

Note – To configure the Solaris 10 or OpenSolaris preinstalled OS image, see the Solaris 10 or OpenSolaris OS chapter, in the *Sun Blade X6270 Server Module Installation Guide* (820-6175) 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	Additional Information
Server module is installed and powered-on in chassis.	Mandatory	• *Sun Blade X6270 Server Module Installation Guide (820-6175)*
The SP network management port on the server is configured with an IP address.	Mandatory	• *Sun Blade X6270 Server Module Installation Guide (820-6175)* *or* • *Sun Integrated Lights Out Manager 2.0 User's Guide (820-1188)*

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

Requirement	Mandatory or Optional	Additional Information
ILOM firmware version installed on server module SP matches the ILOM firmware version installed on the chassis management module (CMM).	Recommended	• ILOM 3.0 Documentation Collection, which is available at http://docs.sun.com/app/docs/prod/int.lights.mgr30#hic • Server software downloads for the Sun Blade X6270 Server Module are available at: http://www.sun.com/servers/x64/x6270/downloads.jsp
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 Setup Utility are set.	Recommended* *For local disk drive OS installation targets.	• "Verify BIOS Settings for New Installations" on page 9
To set up a RAID set on SATA or SAS disk drives configured with a host bus adapter (HBA) (such as REM or FEM), see the documentation supplied with the HBA.	Mandatory*	• *Sun Blade X6270 Server Module Service Manual* (820-6175) for instructions for adding or replacing disk drives in the server. • *Sun™ Disk Management Overview for x64 Sun Fire and Sun Blade Series Servers* (820-6350)
Gather the applicable vendor operating system installation documentation. **Note -** The operating system vendor documentation should be used in conjunction with the operating system instructions in this guide.	Recommended	• Applicable operating system vendor documentation: •Microsoft's Windows 2003 Product Documentation at: http://www.microsoft.com/windowsserver2003/proddoc/default.mspx •Microsoft's Windows 2008 Product Documentation at http://www.microsoft.com/windowsserver2008/en/us/product-documentation.aspx
Ensure that you have the Tools and 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 and Driver DVD.	Mandatory	• Sun Blade X6270 Server Module Tools and Driver DVD or • Download version of the Tools and Driver DVD for the Sun Blade X6270 Server Module are available at: http://www.sun.com/servers/x64/x6270/downloads.jsp
Review the *Sun Blade X6270 Server Module Product Notes* for late breaking news about supported operating system software and patches.	Recommended	• *Sun Blade X6270 Server Module Product Notes*, (820-3972)

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 you 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. Examples of local consoles include: • Serial console • VGA console, with USB keyboard and mouse	1. Attach a local console to the server using a dongle cable. For details, see the "Attaching Devices to the Server" in the *Sun Blade X6270 Server Module Installation Guide* (820-6175). 2. At the ILOM prompt, type your ILOM username and password. 3. 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 local console. For further details about establishing a connection to the server SP, see the *Integrated Lights Out Manager 2.0 User's Guide* (820-1188).

TABLE 1-3 Console Options For Performing An OS Installation *(Continued)*

Console	Description	Setup Requirement
Remote console*	You can install the OS and administer the server from a remote console by establishing a network connection to the server SP. Examples of remote consoles include: • Web-based client connection using the Sun ILOM Remote Console application. • SSH client connection using a serial console.	1. Establish an IP address for the server SP. For details, see the Sun I*ntegrated Lights Out Manager 2.0 User's Guide* (820-1188). 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) sign 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 ILOM, then 3) redirect the serial output from the server to the SSH client by typing **start /SP/console**. For additional information about establishing a remote connection to the ILOM SP or using the Sun ILOM Remote Console, see the *Sun Integrated Lights Out Manager 2.0 User's Guide* (820-1188).

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 Boot 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.	1. If your server does not contain a built-in storage device, attach the appropriate storage device to the front panel of the server module using the USB connector on the dongle cable. 2. For more information about how to attached local devices to the server, see *Attaching Devices to the Server* in the *Sun Blade X6270 Server Module Installation Guide* (820-6175).

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

Installation Media	Description	Setup Requirement
Remote boot media	Remote media requires you to boot the install over the network. You can start the network install from a redirected boot storage device or another networked system that exports the installation over the network using a Pre-Boot eXecution environment (PXE). Supported OS remote media sources can include: • CD/DVD-ROM installation media, and, if applicable, floppy device driver media. • CD/DVD-ROM ISO installation image and, if applicable, floppy ISO device driver media. • Automated installation image (requires PXE boot).	To redirect the boot media from a remote storage device, perform these steps: 1. Insert the boot media into the storage device, for example: •For CD/DVD-ROM, insert media into the built-in or external CD/DVD-ROM drive. •For CD/DVD-ROM ISO image, ensure that ISO image(s) are readily available on a network shared location. •For device driver floppy ISO image, ensure that ISO image, if applicable, is readily available on a network shared location or on a thumb 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 server ILOM 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 the *Sun Integrated Lights Out Manager 2.0 User's Guide* (820-1188).

TABLE 1-4 Boot 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 install 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 via PXE boot. 2. Make the OS install media available for PXE boot. Note that if you are using an automated OS installation image, you will need to create and provide the automated OS install image, for example: •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 you can use to install an operating system.

TABLE 1-5 Installation Targets For OS Installations

Install Target	Description	Setup Requirement	Supported OS
Local hard disk drive (HDD) or Solid state drive (SSD)	You can choose to install the operating system to any of the hard drives installed in the server module.	• 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 service guide provided with your server.	• All operating systems listed in TABLE 1-1.

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

Install Target	Description	Setup Requirement	Supported OS
Fibre Channel (FC) Storage Area Network (SAN) device	For chassis systems equipped with Fibre Channel PCIe Host Bus Adapter (HBA)s, you can choose to install the operating system to an external FC storage device.	• Ensure FC PCIe HBA is properly installed in the chassis and is operating. For more information about installing a HBA in a chassis, refer to the *Sun Blade X6270 Server Module Service Manual* (820-6178). • The SAN must be installed and configured to make the storage visible to the host. For instructions, refer to the documentation supplied with the FC HBA.	• All operating systems listed in TABLE 1-1.

Verify 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.

Tip – 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 the following requirements are met prior to accessing the BIOS Utility.

- Server module is properly installed in a power-on system chassis. For details, see the *Sun Blade X6270 Server Module Installation Guide* (820-6175).
- Server is equipped with a hard disk drive (HDD).
- HDD is properly installed in the server. For details, see the *Sun Blade X6270 Server Module Installation Guide* (820-6175).
- Established console connection 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.**

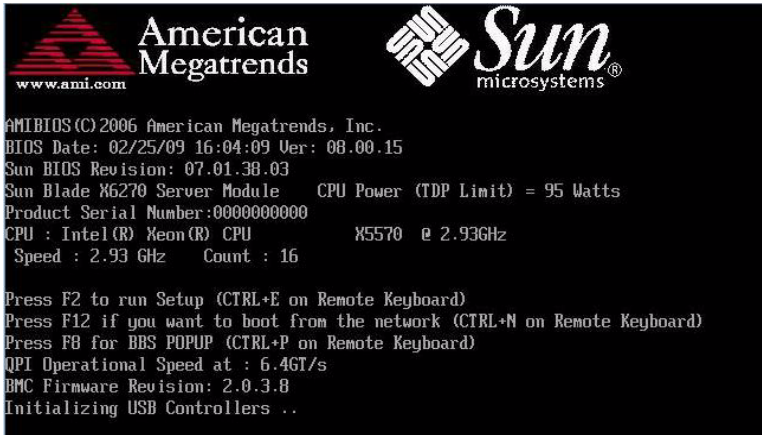
   For example, to reset the power on a server:

   - **From the ILOM web interface**, select `Reset` on the Remote Power Control tab.
   - **From the local server**, press the Power button on the front panel of the server module to turn the server module off, then press the Power button again to power-on the server module.

     For further details about powering on or off the server, see the service manual for your server.
   - **From the ILOM CLI on the server module SP**, type: **`reset /SYS`**
   - **From the ILOM CLI on a CMM**, type: **`reset /CH/BL`*n*`/SYS`**

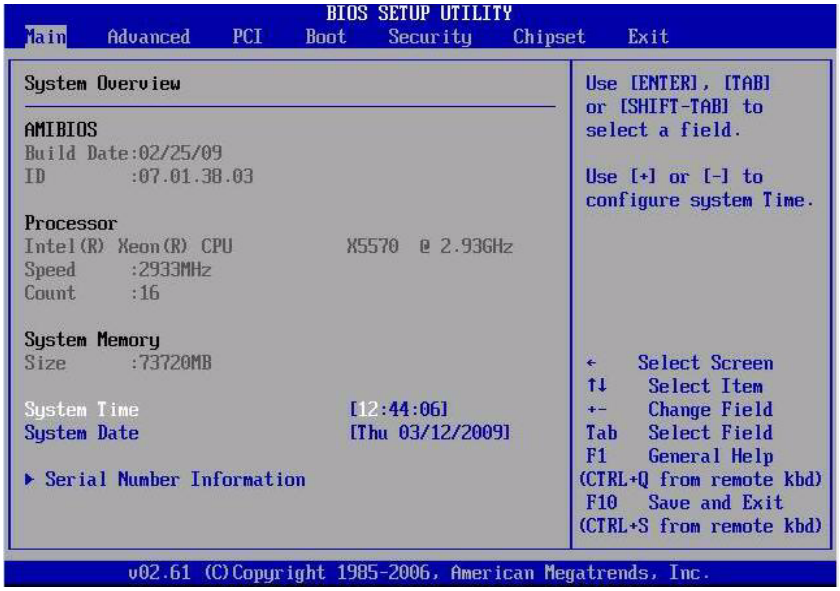
     Where *n* is the slot number of the server module in the chassis

   The BIOS screen appears.



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

   After a few moments, the BIOS Setup utility appears.



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

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

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

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

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

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

   a. **Highlight the values you want to change.**

      Use UP or DOWN arrows to change between the system time and date selection

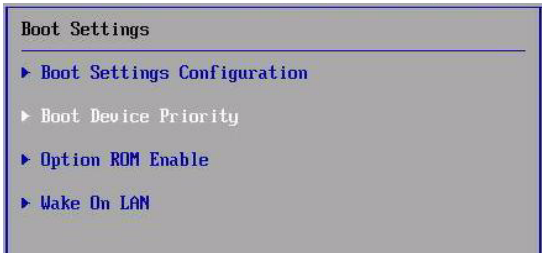
   b. **To change the values in the highlighted fields use these keys:**

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

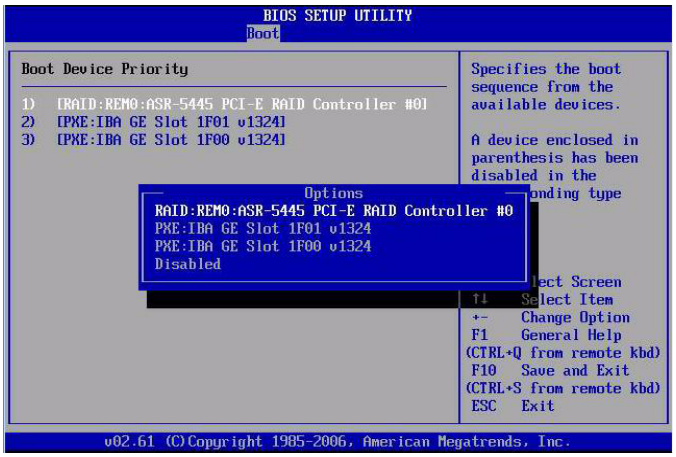
7. **In the Boot Device Priority menu, do the following to edit the first boot device entry in the list:**

   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 may be different from the options shown in the sample screen below.

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.



Tip – The device strings listed on the Boot menu and Options menu are in the format of*: Device Type, Slot Indicator*, and *Product ID String*

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8. To save 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 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.In the message dialog, select OK, then press Enter.

CHAPTER 2

Install Windows Server 2003 Operating System

This chapter provides information about installing the Windows Server 2003 Operating System (OS).

Note – If you want to create a RAID set on your storage drive, the recommended procedure is to create the RAID set on the drive before you install the OS. For more information, see the *Sun Disk Management Overview for x64 Sun Fire and Sun Blade Series Servers* (820-6350).

This chapter includes the following topics:

Task Map for the Windows Server 2003 Installation

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

TABLE 2-1 Task Map for the Windows 2003 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 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.	• "Verify BIOS Settings for New Installations" on page 9
4	Gather the Windows installation media.	The Windows OS is shipped with the CD and DVD media and documentation that you will need to install the Windows OS.	• You can download or order the media for Windows 2003 at `http://www.microsoft.com`
5	Download server-specific drivers or obtain drivers from Tools and Driver CD.	Depending on your system, some device drivers are required to be installed at boot time. You can obtain these drivers from the Sun download site or from the Tools and Drivers CD.	• "Installing Server-Specific Device Drivers" on page 51
6	Prepare mass storage drivers.	Produce the mass storage drivers floppy required for the Windows 2003 installation.	• "Prepare Mass Storage Drivers for Delivery" on page 19

TABLE 2-1 Task Map for the Windows 2003 Installation *(Continued)*

Step	Task	Description	Relevant Topic(s)
7	Perform the Windows OS installation.	Follow the instructions in this chapter to install the Windows 2003 operating system.	• "Install Windows Server 2003 Using Local or Remote Media" on page 24 • "Install Windows Server 2003 Using a PXE Network Environment" on page 32
8	Install driver(s) and post supplemental software, post installation, if necessary.	If the Windows operating system does not include the necessary device drivers to support your system, you may need to install additional device drivers. If your system includes RAID controllers, you may need to install supplemental software to support these controllers.	• "Post Installation" on page 49
9	Enable Wake On LAN feature, if appropriate.	If required, you can enable the Wake On LAN feature for this server.	• "Post Installation" on page 49

Note – The complete Microsoft Windows operating system installation process is not documented in this section. This section walks you through the steps for booting the Windows Server 2003 media, installing drivers (if necessary) at boot, and partitioning the drive. For additional information, consult the Microsoft's Windows 2003 product documentation at:
`http://www.microsoft.com/windowsserver2003/proddoc/default.mspx`

Boot-Time Device Drivers

TABLE 2-2 identifies the device drivers that you may need to install at boot time while performing the Windows Server 2003 installation.

TABLE 2-2 Windows 2003 Server-specific Drivers Installed at Boot Time

Device Driver	Description
Intel SATA Driver	The Intel SATA device driver must be available at boot time if installing to a local SATA hard disk drive (HDD).
LSI SAS/SATA RAID Driver	The LSI SAS/SATA device driver must be available at boot time if installing to a local SAS or SATA hard disk drive (HDD).
Sun StorageTek SAS/SATA RAID Driver	The Sun StorageTek SAS/SATA device driver must be available at boot time if installing to a local SAS or SATA hard disk drive (HDD).
QLogic SAN Driver	The QLogic Fibre Channel (FC) device driver must be installed at installation boot time if your installation target is a QLogic FC Storage Area Network (SAN) device.
Emulex SAN Driver	The Emulex FC device driver must be installed at installation boot time if your installation target is a Emulex FC SAN device.

The boot-time device drivers listed in TABLE 2-2 are included on the Tools and Drivers CD that ships with the server. However, if you do not have the Tools and Drivers CD, you can download these same drivers from the Sun download site. For instructions about downloading the server-specific drivers package, which includes the boot-time device drivers, see "Downloading Server-Specific Drivers" on page 50.

Prepare Mass Storage Drivers for Delivery

This section contains instructions on preparing the necessary mass storage drivers media for a local or remote Windows 2003 installation.

You can choose to prepare the mass storage drivers on a floppy disk or floppy image. See TABLE 2-3 for the sections in this chapter that provide information on these options.

TABLE 2-3 Mass Storage Driver Media Options

Media Option	Section to Read
Floppy Disk Local or Remote	"Create Floppy Disk for Device Drivers" on page 19
Floppy Image	"Prepare Floppy Image for Device Drivers" on page 22

Create Floppy Disk for Device Drivers

Perform the following procedure in this section if you have chosen to create a floppy disk to store the required Windows 2003 device drivers.

Before You Begin

Prior to creating a floppy disk, ensure that the following requirements have been met:

- The system being used to create the floppy disk is connected to a USB floppy drive.
- Floppy disk media is available.
- `FloppyPack_x_x_x.zip` file is available.

  You can obtain the `FloppyPack_x_x_x.zip` file on the Tools and Drivers CD or you can download it from the Sun download site. For instructions about how to download it from Sun, see "Downloading Server-Specific Drivers" on page 50.

Note – The *_x_x_x* number identifies the version of the package (for example, `FloppyPack_1_1_4.zip`).

▼ Create Floppy Disk for Device Driver Installation

Sun provides a *Sun Mass-Storage Driver Disk Creation* wizard to help you create a floppy disk. Follow these steps to create a floppy disk using the *Sun Mass-Storage Driver Disk Creation* wizard.

1. **Start the Sun Mass-Storage Driver Disk Creation wizard from one of the following media sources:**

   - **Tools and Driver s CD**.

     Perform the following steps to start the wizard:

     a. **Insert the Tools and Drivers CD into a Windows system with a CD/DVD drive.**

        The CD will auto-start.

     b. **At the main menu, select Make a Windows Server 2003 Mass Storage Driver Disk, and then proceed to** Step 2**.**

        The Welcome page for the *Mass-Storage Driver Disk Creation* **wizard appears.**

   Or

   - `FloppyPack_x_x_x.zip` **file** (obtained from Sun download site).

     Perform the following steps to copy and extract the files and start wizard.

     a. **On a system running Microsoft Windows software with a floppy drive, copy the** `FloppyPack_x_x_x.zip` **file to a temporary directory.**

     b. **Start Windows Explorer.**

     c. **Navigate to the folder where you placed the downloaded file.**

     d. **Select** `FloppyPack_x_x_x.zip`**.**

     e. **On the** File **menu, click** Extract All**.**

Note – If your version of Windows Explorer does not natively support compressed folders, use a third-party utility to extract the contents of the zip file. Make sure to maintain the directory structure of the folders after extracting them.

---

     f. **Start Windows Explorer and navigate to the folder containing the extracted files.**

     g. **In Windows Explorer, open the directory containing the extracted files and double-click the** `mkfloppy.exe` **wizard, and then proceed to Step 2.**

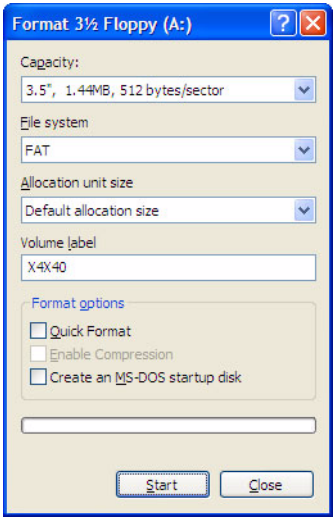
     The Welcome page for the *Mass-Storage Driver Disk Creation* **wizard appears.**

2. **In the Mass-Storage Driver Disk Creation Wizard Welcome page, do the following:**

   a. **Click Next and follow the instructions in the wizard to create the mass storage driver floppy disk for your server.**

   b. **Insert a blank floppy disk into drive A: when prompted.**

      The Format 3 1/2 Floppy dialog appears.



3. **In the Format 3 1/2 Floppy dialog, click the Start button to begin formatting.**

4. **When the floppy disk formatting completes, click the Close button.**

   The Mass-Storage Driver Disk Creation wizard appears.

5. **In the Mass-Storage Driver Disk Creation wizard, click Next and follow the instructions in the wizard to complete the creation of the mass storage driver floppy disk.**

6. **Proceed to** "Install Windows Server 2003 Using Local or Remote Media" on page 24**.**

Prepare Floppy Image for Device Drivers

Perform the following procedure if you have chosen to use the floppy image media to install the required Windows 2003 device drivers.

Before You Begin

Prior to performing the following procedure to prepare the floppy image for device driver installation, ensure that the following requirements have been met:

- Obtain `FloppyPack_x_x_x.zip` driver package from the Tools and Drivers CD or from the Sun download site as described in "Downloading Server-Specific Drivers" on page 50
- The system hosting the Sun ILOM Remote Console must have local or network access to the `FloppyPack_x_x_x.zip` driver package.

▼ Prepare Floppy Image for Device Driver Installation

Follow these steps to prepare the floppy image file containing the device drivers for installation.

1. **Obtain the floppy image file containing the device drivers from one of the following media sources:**

   - **Tools and Drivers CD**.

     Perform these steps to access the floppy package:

     a.Insert the CD into the Sun ILOM Remote Console system.

     b. Navigate to the following directory:

     `windows\w2k3\packages\FloppyPack\image`

     c. Proceed to Step 2**.**

   - `FloppyPack.zip` **file** (from the Sun download site)

     a.Copy the `FloppyPack_x_x_x.zip` **file to a temporary directory.**

b. Start Windows Explorer.

c. Navigate to the temporary folder where you placed the downloaded file.

d. Select `FloppyPack_x_x_x.zip`.

e. On the File menu, click Extract All to a new empty folder.

Note – If your version of Windows Explorer does not natively support compressed folders, use a third-party utility to extract the contents of the zip file. Make sure to maintain the directory structure of the folders after extracting them.

---

f. Navigate to the `image` folder where the extracted files reside then proceed to Step 2.

2. **Copy the appropriate floppy image file to a local or network shared location where the Sun ILOM Remote Console system can access it during the Windows installation.**

   For instructions for enabling image file media redirection in the Sun ILOM Remote Console, see the *Sun Integrated Lights Out Manager 2.0 Users Guide*.

3. **Proceed to** "Install Windows Server 2003 Using Local or Remote Media" on page 24**.**

Install Windows Server 2003 Using Local or Remote Media

The following procedure describes how to boot the Windows 2003 operating system from local or remote media. It assumes you are booting the Windows installation media from one of the following sources:

- Windows CD or DVD (internal or external CD/DVD)
- Windows 2003 ISO image (network repository)

Note – If you are booting the installation media from a PXE environment, refer to "Install Windows Server 2003 Using a PXE Network Environment" on page 32 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 "OS 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.

After completing this procedure, you will need to perform the post installation tasks as described in "Post Installation" on page 49.

▼ Install Windows Server 2003 Using Local or Remote Media

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

   For example:

   - **For distribution CD/DVD —** Insert the Windows 2003 Distribution media (CD labeled #1 or the single DVD) into the local or remote USB CD/DVD-ROM drive.
   - **For ISO image** — Ensure that the ISO images are available and that the ILOM Remote Console application is aware of the first ISO image location.

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

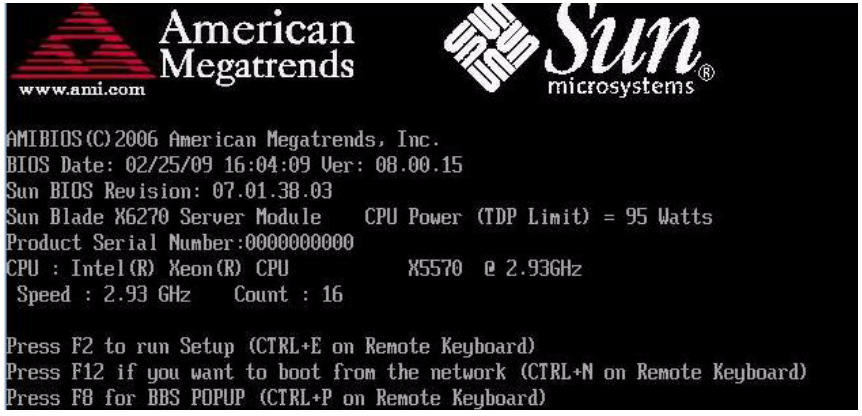
2. **Reset the power cycle.**

   For example:

   - **From the ILOM web interface**, select `Reset` on the Remote Power Control tab.
   - **From the local server**, press the Power button on the front panel of the server to turn the server off, then press the Power button again to power-on the server.
   - **From the ILOM CLI on server SP**, type: **`reset /SYS`**
   - **From the ILOM CLI on a CMM**, type: **`reset /CH/BL`*n*`/SYS`**

     Where *n* is the slot number of server module in chassis.

   The BIOS screen appears.



3. **When the `Press F8 for BBS POPUP` message appears on the BIOS POST screen, press F8 to select a boot device.**

   The Boot Device menu appears.

Note – The screen that appears in your installation may be different depending on the type of disk controller installed in your server.

4. **In the Boot Device menu, select a boot device based on the Windows media installation method you elected to use and press Enter.**

   For example:

   - If you elected to use the Windows local delivery method, select `CD/DVDW`.
   - If you elected to use the ILOM Remote Console method, select AMI `Virtual CDROM`.

5. **When prompted with** `Press any key to boot from CD`**, quickly press any key.**

   The Windows Setup process begins.

6. **When you see the following prompt at the bottom of the Windows Setup dialog, quickly press F6:**

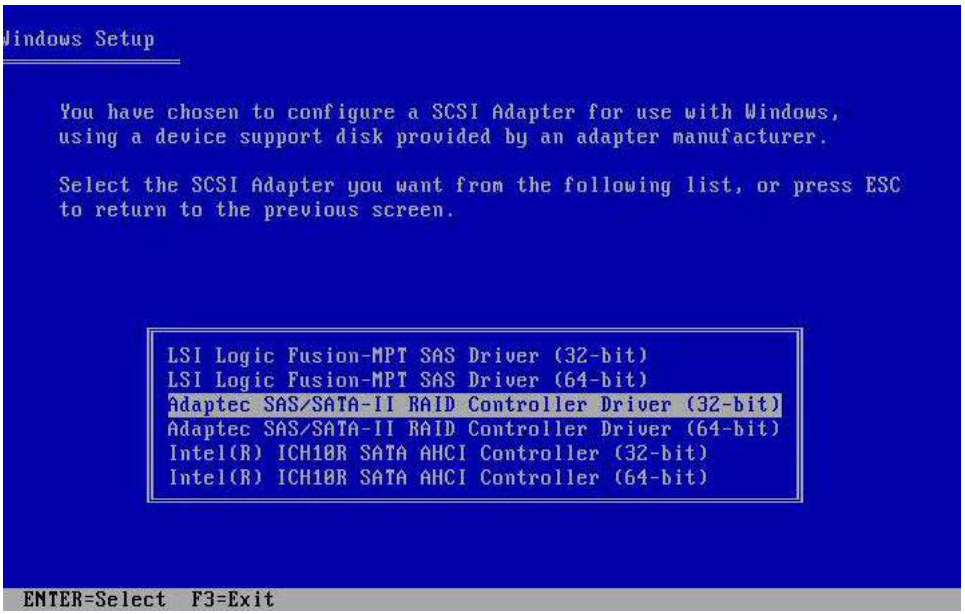
   ```
   Press F6 if you need to install a third party SCSI or RAID
   driver.
   ```

Note – The above prompt lasts for approximately five seconds and is easy to miss. If you do not press F6 while the prompt is displayed, the dialog enabling you to specify additional drivers is not displayed and the installation will fail. If this happens, restart the server on which you are performing the installation and go back to Step 3.

After pressing F6, the setup process continues and the following dialog appears. This dialog gives you the option of specifying additional mass storage devices.

7. **Make sure that the mass storage drivers are accessible according to the mass storage driver installation method that you have selected. For example:**
   - **For Floppy Disk Local —** Select the mass storage driver floppy disk if you are using a local floppy disk.
   - **For Floppy Disk Remote —** Select the mass storage driver floppy disk if you are using the Sun ILOM Remote Console system with an attached floppy drive
   - **For Floppy Image —** Select the appropriate floppy image file if you are using the Sun ILOM Remote Console system.
8. **Press `S` to specify additional devices.**

   A dialog appears listing the available drivers.



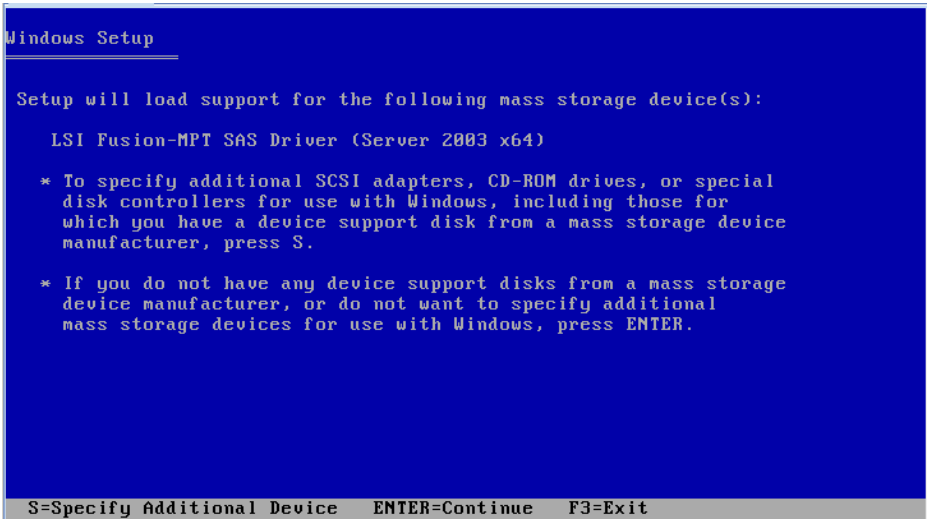
Note – The above dialog will vary depending on the type of mass storage controller driver(s) you are installing.

9. **In the Select Adapter dialog, select the appropriate mass storage controller driver version (Windows 32-bit or 64-bit) that you are installing, and then press Enter.**

   For example:

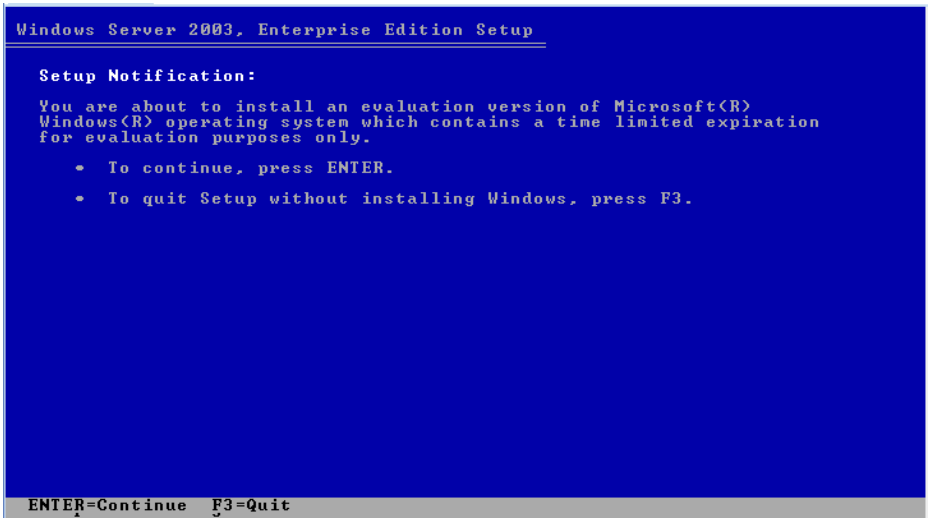
   - **For servers with an LSI-based integrated RAID controller, select:**
     `LSI Logic Fusion - MPT SAS Driver (32-bit or 64-bit)`
   - **For servers with an Adaptec-based integrated RAID controller, select:**
     `SG-XPCIESAS-R SAS/SATA-II RAID Driver (32-bit or 64-bit)`
   - **For servers with an Intel-based integrated disk controller, select:**
     `Intel(R) ICH10R SATA AHCI Controller (32-bit or 64-bit)`

   A dialog similar to the following appears stating that the setup will load support for the specified mass storage device.



10. **Press Enter to continue.**

    The Windows setup process continues and a Setup Notification dialog appears.



11. **In the Setup Notification dialog, press Enter to continue.**

    The Welcome to Setup dialog appears.

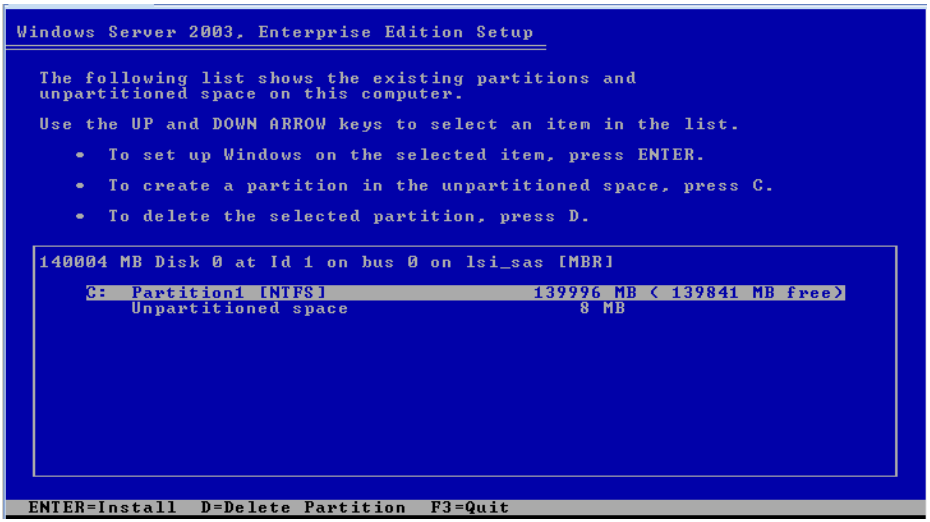
12. **In the Welcome to Setup dialog, press Enter to continue.**

    The Windows Licensing Agreement dialog appears.

13. **To accept the license agreement, press F8.**

    A dialog appears that shows the existing partitions on the server's existing partitions and the unpartitioned space.

Note – Any previous installations on the server's boot disk will cause the partitioning dialog to appear.



14. **To delete the existing partition, press D.**

    A confirmation dialog appears to verify that you really want to delete the partition.

15. **In the confirmation dialog box, press Enter to continue.**

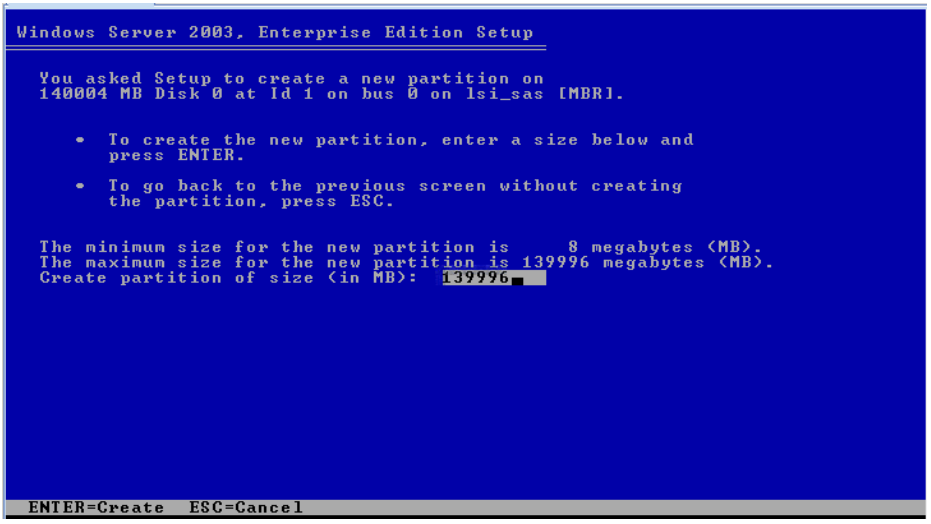
    A confirmation dialog with a caution notice appears and describes the partition that you are about to delete.

16. **In the confirmation dialog box, press L to delete the partition.**

    The partition is deleted and the a dialog appears that shows the unpartitioned space on the server's disk.

17. **To create a partition in the unpartitioned space, press C.**

    A dialog appears that allows you to specify the size of the new partition).



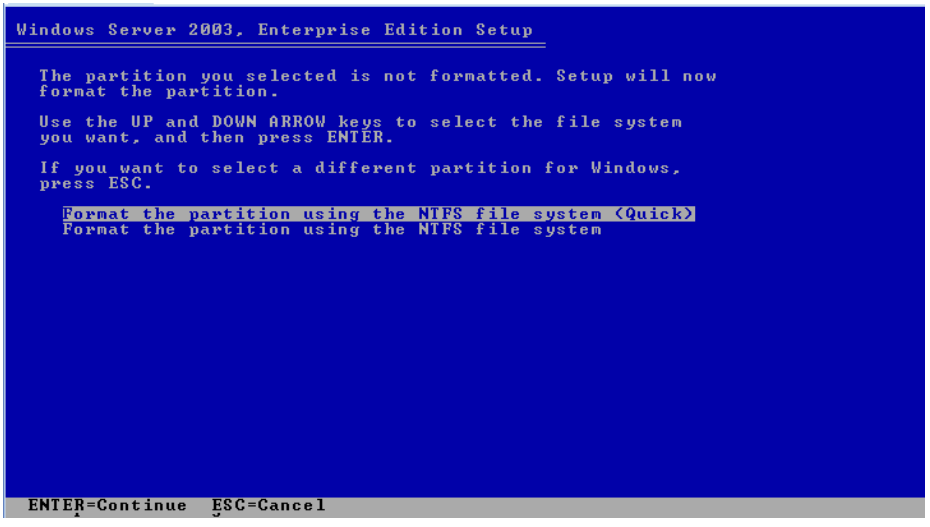
18. **Either accept the default size of the partition to be created or use the Back Space key to delete the size specified and enter a new size and press Enter.**

    A recommended size of 40,000 megabytes is usually sufficient for a Windows installation. This will leave adequate space on the disk for installations of other media.

    A partition confirmation windows appears.

19. **Press Enter to accept the partition.**

    A partition formatting dialog appears.



20. **In the partition formatting dialog box, select the <Quick> menu option and press Enter to format the partition.**

    The setup process formats the partition and copies the files to the Windows installation folders. This process might take several minutes

21. **Follow the on-screen instructions to complete the initial setup of Windows Server 2003 until you are prompted with the following message:**

    ```
    Remove disks or other media. Press any key to restart.
    ```

    When this message appears you will need to complete one of the following steps, depending on which driver delivery method you have chosen, to complete the installation:

    - **Floppy Disk Local —** Remove the floppy disk from the floppy drive on the server.
    - **Floppy Disk Remote —**Remove the floppy disk from the Sun ILOM Remote Console system.
    - **Floppy Image —** Deselect Floppy Image from the Sun ILOM Remote Console Devices menu.

    Then, press any key to restart the system and complete the Windows Server 2003 Installation.

22. **Proceed to** "Post Installation" on page 49**.**

Install Windows Server 2003 Using a PXE Network Environment

This section explains the initial information you will need to install the Windows Server 2003 operating system software over an established PXE-based network via a customer-provided Windows 2003 Remote Installation Services (RIS) image.

Note – As an alternative, you can install the Windows 2003 operating system over an established PXE-based network via a customer-provided Windows Deployment Services (WDS) image.

After completing this procedure, you will need to perform the post installation tasks as described in "Post Installation" on page 49.

Before You Begin

The following requirements must be met prior to performing the Windows Server 2003 installation from a RIS image.

- 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 that are necessary for PXE booting.
  - Configure the Sun server MAC network port address to boot from the PXE configuration.
  - Configure DHCP
- To use a RIS image to perform the installation, you must:
  - Create the RIS installation image.

    Follow the RIS installation instructions in the Windows Server 2003 documentation.
  - Add the required system device drivers to the RIS installation image.

    For instructions, see Appendix A "Incorporate Sun Blade Server Drivers Into WIM or RIS Images" on page 61.
  - RIS Administrator password.

▼ Install Windows Server 2003 Using PXE

1. **Ensure that the PXE network environment is properly set up and the Windows 2003 installation media is available for PXE boot.**

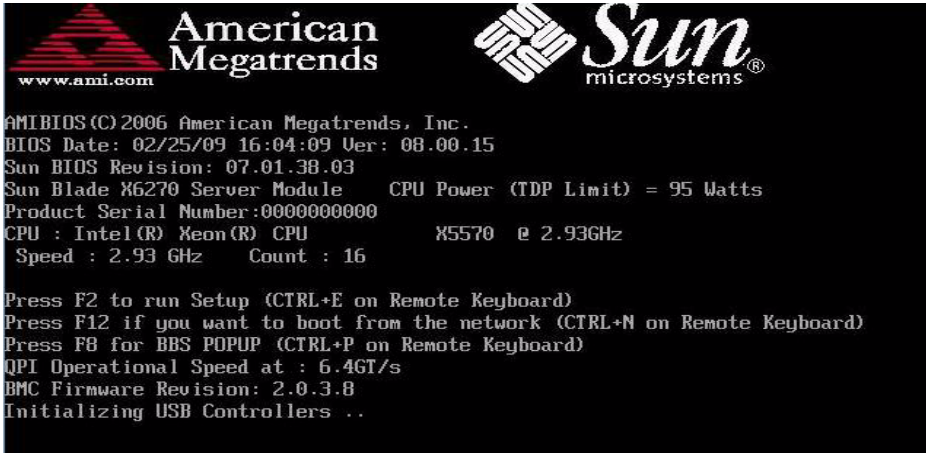
Note – Information concerning how to properly set up and deploy a RIS network environment is outside the scope of this installation guide. For these details, see Microsoft's documentation for deploying and using Remote Installation Services.

---

2. **Reset or power cycle the server, for example:**
   - **From the ILOM web interface**, select `Reset` on the Remote Power Control tab.
   - **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 (approximately, 1 second) to power-on the server.
   - **From the ILOM CLI on server SP**, type: **`reset /SYS`**
   - **From the ILOM CLI on a CMM**, type: **`reset /CH/BL`*n*`/SYS`**

     where *n* is the number of the server module in the chassis.

   The BIOS Screen appears.



Note – The next events occur very quickly, so 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. **Press F8 to specify a temporary boot device.**

   The Please Select Boot Device menu appears.

4. **In the Please Select Boot Device menu, select the appropriate PXE installation boot device and press Enter.**

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

Note – The boot device options shown on the following Select Boot Device dialog may be different from the options listed on your screen.

The Boot Agent dialog appears.

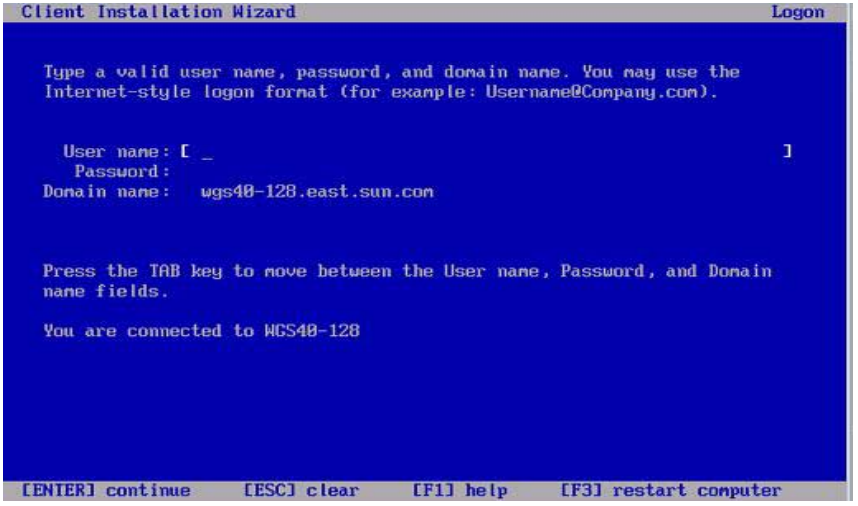
5. **In the Boot Agent dialog, press F12 for a network service boot.**

   The Welcome to Client Installation wizard appears.

6. **In the Welcome to Client Installation wizard, press Enter to continue.**

   The Client

   A Logon dialog appears prompting you for a user name, password, and domain name.

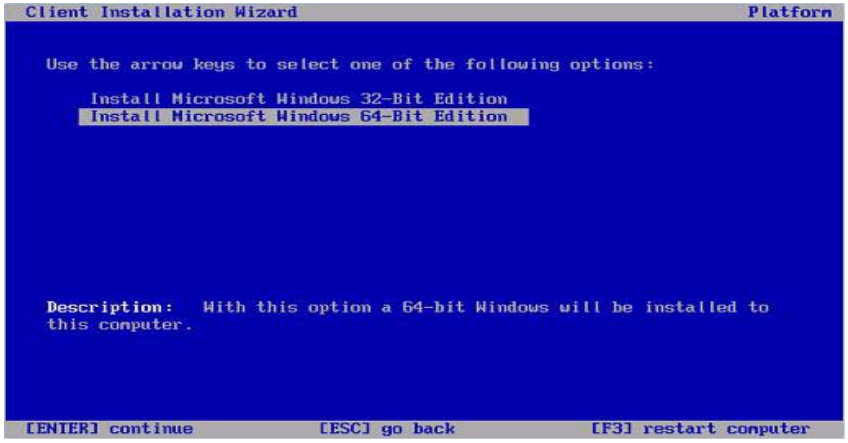


7. **In the Logon dialog box, specify your user name and password, then press Enter.**

   The Windows Server 2003 version dialog appears.

8. **In the Windows Server 2003 version dialog, select the version (32-bit or 64-bit) you are installing, then press Enter.**

   The Windows Server 2003 operating system platform dialog appears.



9. **In the platform dialog, select the appropriate OS option to install, then press Enter.**

Note – The OS choice dialog identifies the names of the OS images that are available for you to install from your RIS server. The OS choice dialog from your RIS server will list different options from the ones shown in the example dialog below.

   A Caution dialog appears.

10. **In the Caution dialog, press Enter to continue.**

    The Installation Information dialog appears.

11. **In the Installation Information dialog, press Enter to continue.**

    The Administrator Password dialog appears.

12. **In the Administrator Password dialog, do the following:**

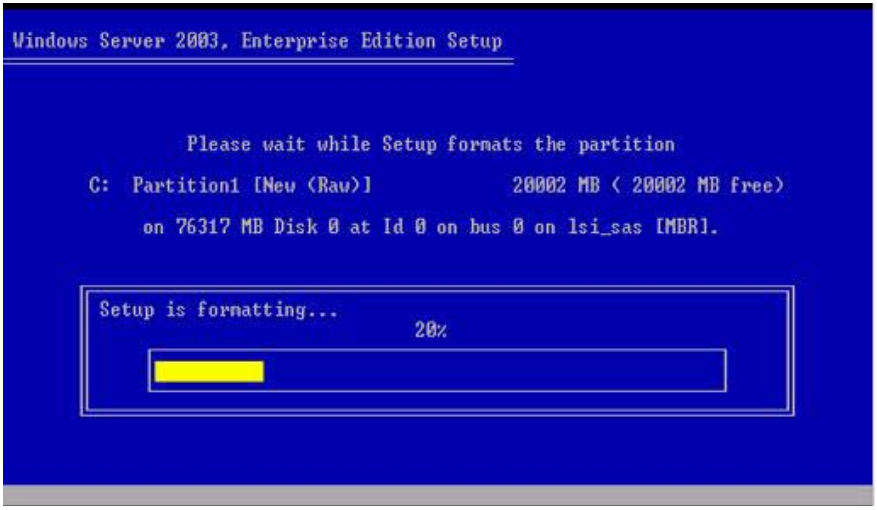
    a. **Specify an OS Administrator password and press Enter.**

Note – Note that this password is assigned to the OS installation target.

   You will be asked to confirm the password.

b. In the Administrator Password Confirmation dialog, retype the password and press Enter.

The Windows Setup starts and a message appears that the setup is formatting the partition.



13. **Proceed to** "Post Installation" on page 49**.**

CHAPTER 3

Install Windows Server 2008 Operating System

This chapter provides information about installing the Windows Server 2008 and Windows Server 2008 R2 Operating System (OS).

Note – If you are planning to create a RAID set on your disk, the recommended procedure is to create a hardware RAID before you install the OS. For more information, see the *Sun™ Disk Management Overview For x64 Sun Fire and Sun Blade Series Servers* (820-6350).

This chapter includes the following topics:

Task Map for the Windows Server 2008 Installation

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

TABLE 3-1 Task Map for the Windows 2008 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 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.	• "Verify BIOS Settings for New Installations" on page 9
4	Gather the Windows installation media.	The Windows OS is shipped with the CD and DVD media and documentation that you will need to install the Windows OS.	• You can download or order the media for Windows 2003 at `http://www.microsoft.com`
5	Perform the Windows 2008 OS installation.	Follow the instructions in this chapter to install the Windows 2008 operating system.	• "Install Windows Server 2008 Using Local or Remote Media" on page 41 • "Install Windows Server 2008 Using a PXE Network" on page 46
6	Install driver(s) and supplemental software post installation, if applicable.	If necessary, install the updated server-specific drivers and the server supplemental software.	• "Post Installation" on page 49
9	Enable Wake On LAN feature, if appropriate.	If required, you can enable the Wake On LAN feature for this server.	• "Post Installation" on page 49

Note – The complete Microsoft Windows operating system installation process is not documented in this section. This section walks you through the steps for booting the Windows Server 2003 media, installing drivers (if necessary) at boot, and partitioning the drive. For additional information, consult the Microsoft's Windows 2008 Product Documentation at:
`http://www.microsoft.com/windowsserver2008/en/us/product-documentation.aspx`

Install Windows Server 2008 Using Local or Remote Media

The following procedure describes how to boot the Windows Server 2008 operating system from local or remote media. It assumes you are booting the Windows installation media from one of the following sources:

- Windows 2008 CD or DVD (internal or external CD/DVD)
- Windows 2008 ISO image (network repository)

Note – If you are booting the installation media from a PXE environment, refer to "Install Windows Server 2008 Using a PXE Network" on page 46 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 "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 more information about these setup requirements, see "Installation Methods" on page 5.

After completing this procedure, you will need to perform the post installation tasks as described in "Post Installation" on page 49.

▼ Install Windows Server 2008 Using Local or Remote Media

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

   For example:

   - **For distribution CD/DVD**. Insert the Windows 2008 Distribution media (CD labeled #1 or the single DVD) into the local or remote USB 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 installation media, see TABLE 1-4 "Boot Media Options For Performing the OS Installation" on page 6

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

   For example:

   - **From the ILOM web interface**, select `Reset` on the Remote Power Control tab.
   - **From the local server**, press the Power button on the front panel of the server to power off the server, then press the Power button again to power-on server.
   - **From the ILOM CLI on the server SP**, type: **`reset /SYS`**
   - **From the ILOM CLI on a CMM**, type: **`reset /CH/BL`***`n`***`/SYS`**

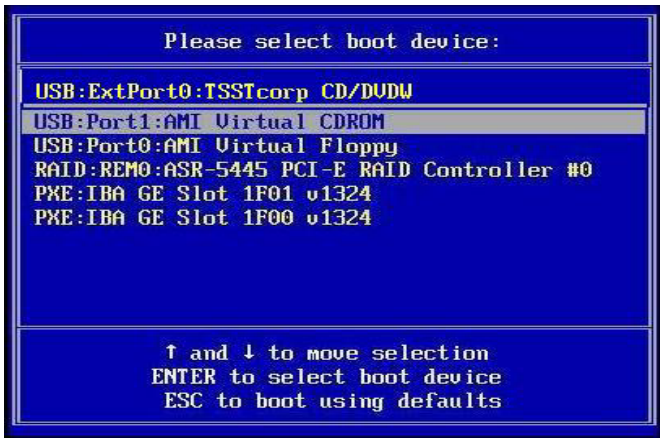
     Where *n* is the number of server module in chassis.

   The BIOS screen appears.

3. **When the `Press F8 for BBS POPUP` message appears on the BIOS POST screen, press F8 to select a boot device.**

   The Boot Device dialog appears.

Note – The dialog that appears in your installation may be different depending the type of disk controller installed in your server.



4. **In the Boot Device dialog, select the menu item according to the Windows media installation method you elected to use and press Enter.**

   For example:

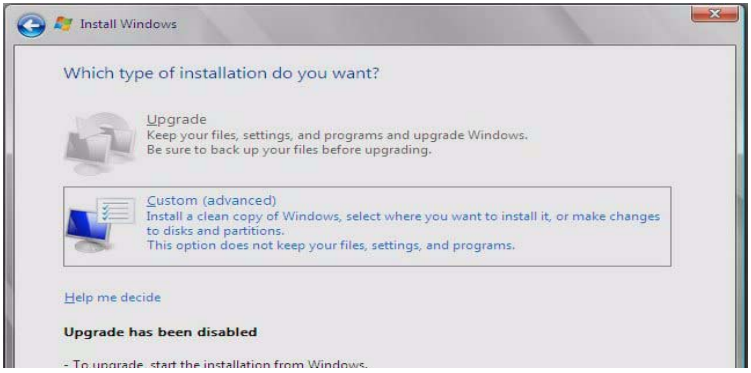
   - If you elected to use the Windows Local delivery method, select `CD/DVDW`.
   - If you elected to use the Sun ILOM Remote Console delivery method, select `Virtual CDROM`.

5. **When prompted with** `Press any key to boot from CD`**, press any key.**

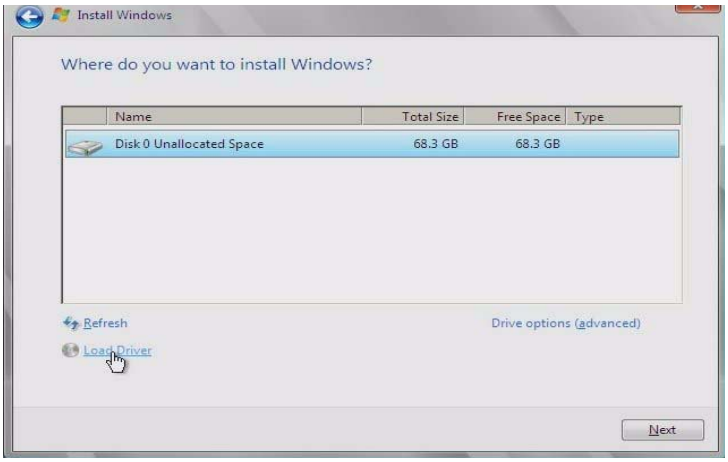
   The Windows installation wizard starts.

   Continue the Windows installation wizard until the Installation Type dialog appears.

6. **In the Installation Type dialog, click Custom (advanced).**



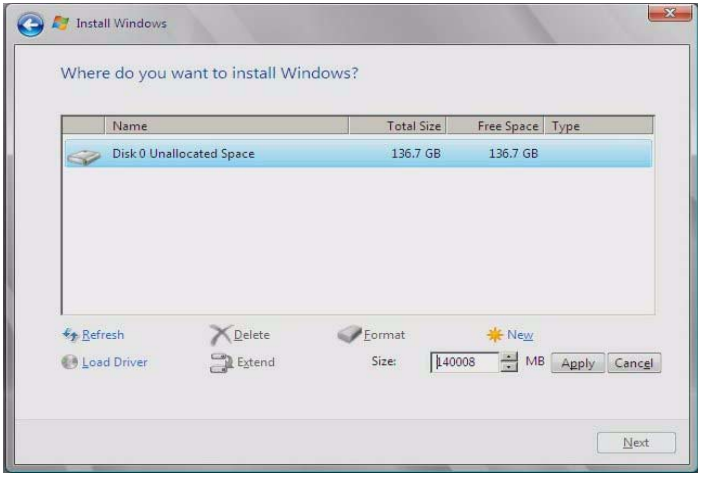
The Where Do You Want to Install Windows dialog appears.



7. **In the Where do you want to Install Windows dialog, do one of the following:**
   - **If you *do not* want to override the Windows Default partition information, click Next then skip to Step 9.**
   - **If you *do* want to override the Windows default partition information, click the Driver Options (advanced) option and proceed to Step 8.**

Caution – Formatting or re-partitioning a pre-existing partition will destroy all data on the partition.

The Where do you want to Install Windows? dialog appears.



8. **In the Where to Install Windows dialog, do the following:**

   a. **Click Delete to delete the existing partition.**

      A confirmation window appears.

   b. **Click Ok to confirm the partition deletion.**

   c. **Click New to create the new partition.**

   d. **Change partition size settings as needed, and then click Apply.**

      The partition is created.

   e. **Click Next and proceed to the next step.**

      The Windows installation begins.

      The server will reboot multiple times during the installation process. This process could take several minutes.

9. **When the Windows installation is complete, Windows starts and prompts you to change the user password.**

10. **In the user password dialog, click OK and set up the initial user login account.**

Note – Windows Server 2008 enforces stronger password schemes for user accounts. Password standards include restrictions on length, complexity and history. For more details, click the Accessibility link at the account creation page.

After the initial user account is created, the Windows Server 2008 desktop appears.

11. **Proceed to** "Post Installation" on page 49**.**

Install Windows Server 2008 Using a PXE Network

This section explains the initial information you will need to install the Windows Server 2008 operating system over an established PXE-based network using a customer-provided Windows Deployment Services (WDS) image.

Topics included in this section:

Note that the procedure presented in this section documents the initial steps to install Windows 2008 over the network using a Windows Deployment Services (WDS) image. Specifically, it explains the steps for selecting the server PXE network interface card that will be communicate with your WDS installation server. For further information about using a WDS image to install the Windows Server 2008 operating system, see Microsoft's Windows Deployment Services documentation.

After completing this procedure, you will need to perform the post installation tasks as described in "Post Installation" on page 49.

Before You Begin

- 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 that are necessary for PXE booting.
  - Configure the Sun server MAC network port address to boot from the PXE configuration.
  - Configure DHCP.
- To use a WIM image to perform the installation, you must:
  - Create the WIM installation image.

    Follow the WIM installation instructions in the Windows Server 2008 documentation.
  - Add the required system device drivers to the WIM installation image.

    For instructions, see Appendix A "Incorporate Sun Blade Server Drivers Into WIM or RIS Images" on page 61.
  - Obtain the WIM Administrator password.

▼ Install Windows Server 2008 Using PXE

1. **Reset or power on the server, for example:**
   - From the ILOM web interface, select `Reset` on the Remote Power Control tab.

   or

   - Press the Power button (approximately 1 second) on the front panel of the blade to turn off the blade, then press the Power button again to turn on the blade.

   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.

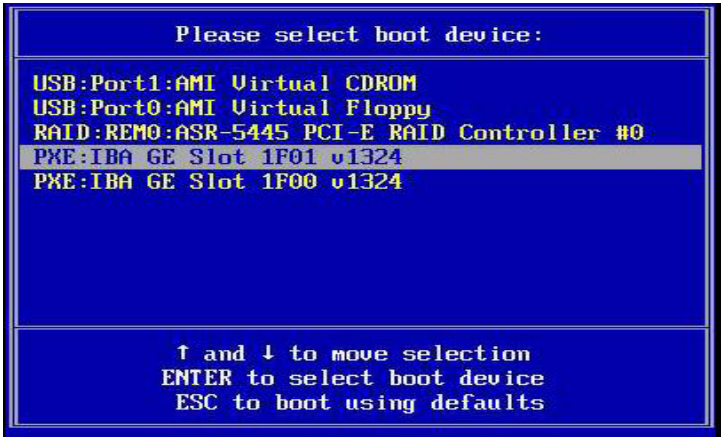
---

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

   The Please Select Boot Device menu appears.

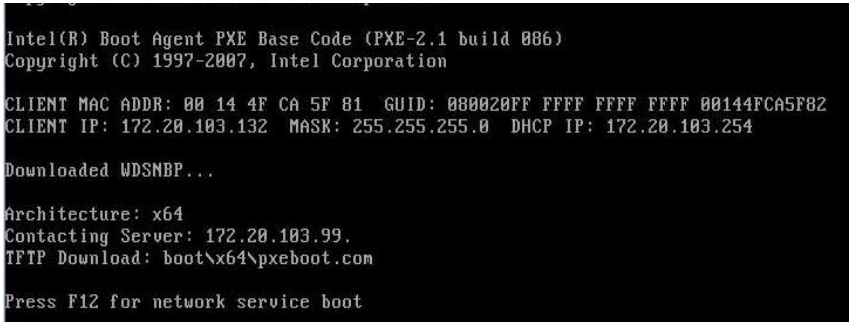
3. **In the Please Select Boot Device menu, select the appropriate PXE installation boot device and press Enter.**

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



   The Boot Agent dialog appears.

4. **In the Boot Agent dialog, press F12 for a network service boot.**



5. **Continue the normal Windows Server 2008 WDS network installation. For additional information, consult Microsoft's Windows Deployment Services product documentation.**

6. **Proceed to** "Post Installation" on page 49**.**

CHAPTER 4

Post Installation

After completing the Windows Server installation and rebooting the operating system, you should review the following post installation tasks and, if necessary, perform the tasks that are applicable to your system.

Downloading Server-Specific Drivers

This section describes how to download the server-specific driver packages needed for Windows Server installations.

Note – The Sun Blade X6270 Tools and Drivers DVD contains all of the server-specific drivers required for Windows Server installations. If you are using the Tools and Drivers CD, you can you can skip this section and proceed to "Installing Server-Specific Device Drivers" on page 51. You can also obtain the latest version of the Tools and Drivers DVD for the Sun Blade X6270 Server Module by downloading the updated Tools and Driver DVD image at:
`http://www.sun.com/servers/blades/downloads.jsp`

▼ Download the Server-Specific Drivers

1. **Download the drivers for the Sun Blade X6270 Server Mode at:**
   `http://www.sun.com/servers/blades/downloads.jsp`

2. **Choose one of the following download options:**
   - **If you are installing the server-specific drivers using media, download** `Windows.zip` **to a hard drive location or media that will be accessible during the installation. Extract the following sub-packages contained in** `Windows.zip`**:**
     - `FloppyPack_x_x_x.zip` for Windows Server 2003 installation — Contains Intel SATA drivers, LSI SAS/SATA RAID drivers, Sun StorageTek SAS/SATA RAID drivers, QLogic SAN drivers, and Emulex SAN drivers. The content of this zip file is used to create driver media the installation of Windows Server 2003.
     - `InstallPack_x_x_x.exe` for Windows Server 2003 and 2008 installations — Contains a program to install all server-specific device drivers after installing Windows Server 2003 or 2008. You will use this file to install all post installation server-specific drivers.
     - `DriverPack_x_x_x.zip` for expert Windows Server RIS or WIM users only — Contains server-specific driver archive for Windows Server, English. You can use the contents of this zip file if you want to incorporate Sun server drivers into a Remote Installation Service (RIS) image or Windows Imaging Format (WIM) image. For instructions, see Appendix A.

- `OptPack_x_x_x.zip` for PXE expert users only — Contains supplemental software archive. Download this zip file if you want to incorporate the supplemental software into a PXE installation.

- **If you are installing server-specific drivers using a PXE server (advanced installation), extract the contents of the `DriverPack_x_x_x.zip` file on to the PXE server.**

Note – The *_x_x_x* number identifies the version of the package (for example, `FloppyPack_1_1_4.zip`).

---

3. **Proceed to** "Installing Server-Specific Device Drivers" on page 51**.**

Installing Server-Specific Device Drivers

Sun provides a wizard to install Sun server-specific device drivers and supplemental software. The server-specific device drivers are provided to support optional devices that you added to the server when you completed the hardware installation or that you may want to add in the future.

The Sun Server Installation Package wizard may be started using one of the following methods:

- From the main menu of your server's Tools and Drivers CD

  or

- From the `InstallPack_x_x_x.exe` executable file

Note – Using a recently downloaded `InstallPack_x_x_x.exe` to update the drivers ensures that you update the server-specific drivers with the latest versions available.

▼ Install the Server-Specific Device Drivers

1. **Start the Sun Installation Package software using one of the following methods:**

   - **Insert the Tools and Drivers CD into the server's CD/DVD drive.**

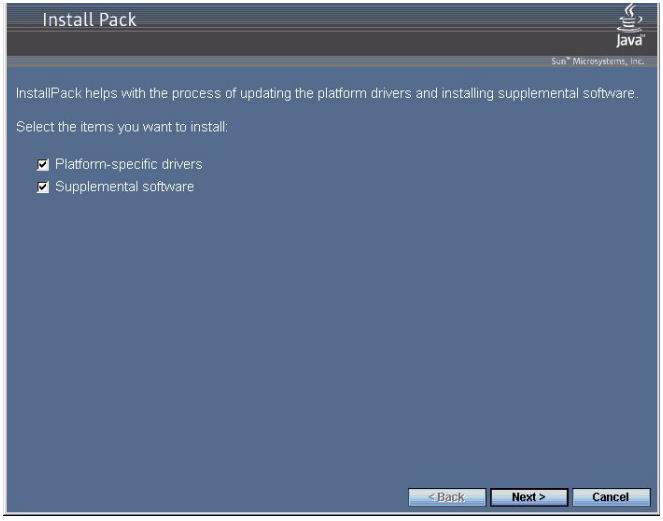
     The CD will automatically start.

     At the main menu, select Install Drivers and Supplemental Software.

   Or

   - **If you downloaded the** `InstallPack_x_x_x.exe` **file from the Sun download site, ensure that it has been copied to a local drive on the server, and then run the** `InstallPack_x_x_x.exe` **application.**

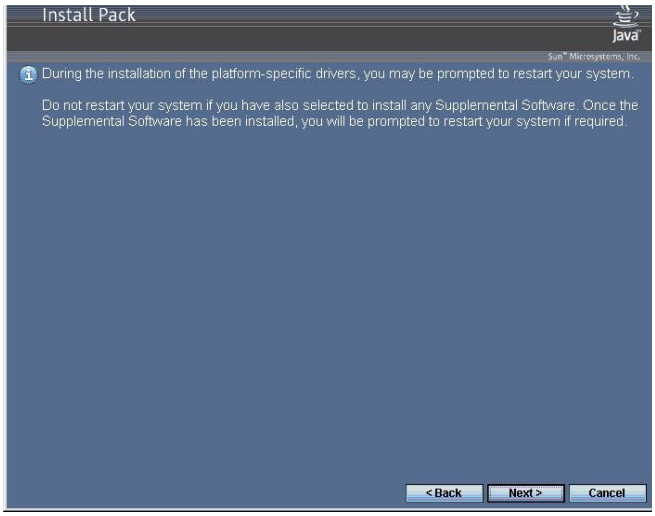
   The Sun Server Installation Package dialog box (shown below) appears.



2. **In the Install Pack dialog box, click Next to accept the default installable items.**

Note – You should always accept the "platform-specific drivers" to ensure that the most recent versions of the drivers are installed.

The Install Pack notice dialog box appears.



3. **In the Install Pack notice dialog box, read the message then click Next.**

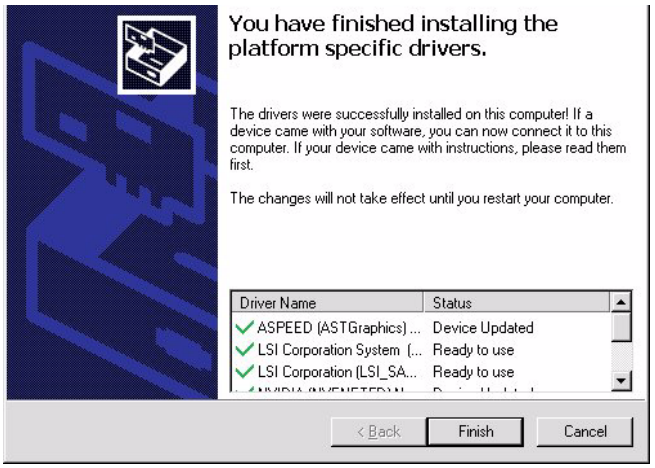
   The Mass-Storage Driver Disk Creation Wizard dialog box appears.

4. **In the Mass-Storage Driver Disk Creation Wizard, click Next.**

   The End User License Agreement page appears.

5. **In the End User License Agreement page, select "I accept this agreement", and then click Next.**

   The platform-specific drivers are installed. A green check mark verifies that each driver has been successfully installed.



6. **In the Driver Installation Pack dialog box, click Finish.**

   The System Settings Change dialog box appears.

Note – If you plan on installing Supplemental Software (highly recommended), do not restart your system at this time. Once the Supplemental Software has been installed, you will be prompted to restart the system.

---

7. **Perform one of the following:**

   - If you accepted the default installable settings in Step 2, click No to proceed to "Installing Supplemental Software" on page 55.
   - **If you are not installing the Supplemental Software, click Yes to restart your computer.**

Installing Supplemental Software

TABLE 4-1 identifies the optional supplemental software components available for your server.

During the supplemental software installation wizard, you can choose to install all the supplemental software (listed in TABLE 4-1) on your system by choosing a **Typical** installation; or, you can individually select the supplemental software (listed in TABLE 4-1) to install by choosing a **Custom** installation. For instructions for installing the supplemental software, see "Install the Supplemental Software" on page 57.

TABLE 4-1 Install Pack Optional Supplemental Software

Available Supplemental Software Components	Available for Windows 2003	Available for Windows 2008	Servers With LSI Integrated RAID Controller	Servers With Adaptec Integrated RAID Controller	Servers With Intel Integrated Disk Controller
LSI MegaRAID Storage Manager Allows you to configure, monitor, and maintain RAID on the SAS internal RAID Host Bus Adapter.	Yes	Yes	Typical	Not applicable	Not applicable
Sun STK RAID Manager Allows you to configure, administer and monitor RAID on the Adaptec SG-XPCIESAS-R-IN integrated RAID controller. For information on the Sun STK RAID Manager, see the Sun documentation web site at: `http://docs.sun.com/app/docs/coll/dsk-cntrl`	Yes	Yes	Not applicable	Typical	Not applicable
IPMItool command-line utility This utility reads the sensor data repository (SDR) and displays sensor values, System Event Log (SEL), Field Replaceable Unit (FRU) inventory information, gets and sets LAN configuration parameters, and performs chassis power control operations via the BMC (also called the Service Processor).	Yes	Yes	Typical	Typical	Typical

TABLE 4-1 Install Pack Optional Supplemental Software *(Continued)*

Available Supplemental Software Components	Available for Windows 2003	Available for Windows 2008	Servers With LSI Integrated RAID Controller	Servers With Adaptec Integrated RAID Controller	Servers With Intel Integrated Disk Controller
IPMI System Management Driver (Sun Microsystems)— Windows driver that reads the sensor data repository (SDR) and displays sensor values, System Event Log (SEL), Field Replaceable Unit (FRU) inventory information. This driver is available from the Install Pack media only. **Note -** This supplemental software is intended for Windows Server 2003 SP2 only. To use the inbox Microsoft driver with Windows 2003 R2 SP2, you must install the driver and configure it. For driver configuration instructions, see "Configuring Microsoft's IPMI System Management Driver for Windows Server 2003 R2 SP2" on page 58.	Yes for Non-R2 SP2 only	No	Typical	Typical	Typical
Intel NIC Teaming Enables the network interfaces on a server to be grouped together into a team of physical ports called a virtual interface.	Yes	Yes	Typical	Typical	Typical

▼ Install the Supplemental Software

Note – If you have already installed the supplemental software, running the installation again will not necessarily reinstall the supplemental software. It may result in the components being removed. Carefully review the dialog boxes during supplemental software installation to ensure that the results are as expected.

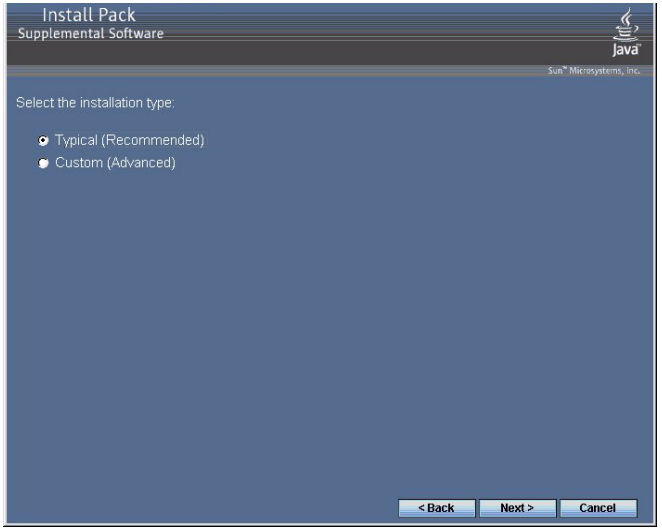
---

1. **Do one of the following:**

   - If you did *not* select the **Supplemental Software** when you ran the procedure "Installing Server-Specific Device Drivers" on page 51, refer back to that procedure and run it again, but this time accept the default settings in Step 2 (the default is to install the supplemental software), and select **No** in Step 7.

     The Supplemental Software dialog box appears. Proceed the next step.

   - If you did select **Supplemental Software** at the Sun Server Installation Package dialog box in Step 2 of "Installing Server-Specific Device Drivers" on page 51, and selected **No** in Step 7, the supplemental software dialog box appears. Proceed to the next step.



2. **In the Install Pack Supplement Software dialog box, click Next to accept the Typical settings, or select Custom to choose the options to install (see descriptions in** TABLE 4-1**).**

   The Component installation wizard will guide you through the installation of each of the selected supplemental software components.

3. **After the supplemental software has been installed, click Finish.**

4. **Click Yes at the System Setting Change dialog box to restart your system.**

   If you ran the Sun Server Installation Package software from the Tools and Drivers CD, remove the CD from your system now.

5. **If you are running Windows Server 2003 R2 SP2 and you have installed the IPMItool supplemental software, you need to configure this driver before you can run the IPMItool.**

   For instructions, see‘“Configuring Microsoft’s IPMI System Management Driver for Windows Server 2003 R2 SP2” on page 58.

Configuring Microsoft’s IPMI System Management Driver for Windows Server 2003 R2 SP2

If you are running Windows Server 2003 R2 SP2 and you have installed the supplemental software driver for the IPMItool, you need to configure this driver before you can use the IPMItool.

▼ Configure Microsoft’s IPMI System Management Driver for Windows Server 2003 R2 SP2

Follow these steps to configure the IMPI driver on the Windows Server 2003 R2 SP2 operating system.

1. **On your Windows Server 2003 R2 SP2 system, perform the following steps to configure the Microsoft IPMI System Management driver:**

   a. **In Control Panel, open Add/Remove Programs.**

      The Add/Remove Programs dialog appears.

   b. **Click Add/Remove Windows Components.**

      The Windows Components Wizard dialog appears.

   c. **Highlight Management and Monitoring Tools component, and then click Details.**

      The Management and Monitoring Tools page.

   d. **In the Management and Monitoring Tools page, perform one of the following:**

- **If the `Select the Hardware Management` subcomponent check box is already selected, skip to** Step 2.
- **If the `Select the Hardware Management` subcomponent check box is not selected, select it.**

  The "3rd Party Drivers" warning dialog appears.

  -- In the warning dialog, click OK.

  The Management and Monitoring Tools page appears.

e. **In the Management Monitoring Tools page, click OK.**

   The Windows Components Wizard dialog appears.

f. **In the Windows Component Wizard, click Next to install the Hardware Management Component.**

2. **Instantiate the IPMI System Management driver by performing these steps:**

   a. **In the Taskbar, click Start, and then click Run.**

      The Run dialog box is displayed.

   b. **In the Open list, type:**

      `rundll32 ipmisetp.dll,AddTheDevice`

   c. **Click OK.**

      The IPMI System Management driver is instantiated.

3. **Open Windows Device Manager to verify that the Microsoft Generic IPMPI device drive exists under the System section.**

For information about using the IPMItool, refer to your *Sun Integrated Lights Out Manager 2.0 User's Guide* (820-1188). For more information on standard IPMItool commands, see:

`http://ipmitool.sourceforge.net/manpage.html`

Enabling Support for Wake ON LAN

After installing the operating system, you can optionally enable the Wake On LAN (WOL) option in the BIOS Setup Utility. This feature enables you to power on the server from another location over the network. For details about the requirements for enabling WOL, see "Wake On LAN - Remote Power On" in the *Sun Blade X6270 Server Module Service Manual* (820-6178).

Configuring Support for TPM

If you intend to use the Trusted Platform Module (TPM) feature set that is provided in Windows 2003 and Windows 2008, you must configure the Sun Blade X6270 Server Module to support this feature. For instructions, see configure support for TPM in the *Sun Blade X6270 Server Module Service Manual*.

Note – TPM enables you to administer the TPM security hardware in your server. For additional information about implementing this feature, refer to the Windows Trusted Platform Module Management documentation provided by Microsoft.

APPENDIX **A**

Incorporate Sun Blade Server Drivers Into WIM or RIS Images

This appendix is intended for advanced system administrators who need to incorporate the server-specific drivers into a Windows Imaging Format (WIM) image or a Remote Installation Services (RIS) image.

WIM files are installed using Windows Deployment Services (WDS). RIS images can be deployed using either WDS in legacy mode or RIS. For more information on WDS or RIS, refer to Microsoft documentation.

This appendix includes the following sections:

Determine Required Drivers

The server-specific drivers that must be incorporated into a WIM or RIS image are shown in TABLE A-1.

TABLE A-1 Server-specific Drivers Required for WIM or RIS Images

	Incorporate for Windows Server 2003		Incorporate for Windows Server 2008	
Device Drivers	**32-bit**	**64-bit**	**32-bit**	**64-bit**
Intel Network Drivers	Yes	Yes	Yes	Yes
Intel Chipset Drivers	Yes	Yes	No	No
Aspeed Graphic Driver	Yes	Yes	Yes	Yes
Infineon TPM Driver*	Yes	Yes	No	No
Disk Controller Driver (server dependant): • LSI SAS RAID HBA, SG-PCIE8SAS-I (also referred to as LSI based integrated RAID controller) or • Sun StorageTek SAS RAID HBA, SG-XPCIESAS-R (also referred to as Adaptec-based integrated RAID controller) or • Intel ICH10 Controller (also referred to as Intel-based integrated disk controller)	Yes	Yes	Yes	Yes

*You have to configure the Trusted Platform Module (TPM) feature on the server before you can use it. For instructions on configuring TPM, see the *Sun Blade X6270 Server Module Service Manual*.

Add Drivers to a WIM Image

For Windows Server 2003, the LSI and Adaptec RAID controller and Intel disk controller drivers must be incorporated for the operating system to be installed. For Windows Server 2008, the LSI and Adaptec RAID controller and Intel disk controller drivers are sufficient to install the system. Sun recommends updating both RAID controller drivers to enable the full functionality of host control of the firmware RAID functionality.

The procedures in the section assume the Windows Deployment Services are running on Windows Server 2003.

Before you Begin

Before creating your WIM image, you need to do the following:

- Locate Driver Pack_x_x_x.zip

  You can obtain the `DriverPack_x_x_x.zip` from the Tools & Drivers CD/DVD or you can download it from the Sun download site. For download instructions, see "Downloading Server-Specific Drivers" on page 50.

▼ Add Drivers to the WIM Image

1. **Extract the contents of Windows Server 2008** `DriverPack_x_x_x.zip` **to a network share (for example: ***yourshare******share*****`DriverPack`**), making sure to maintain the directory structure.**

Note – Due to potential driver interaction problems during the installation, after you extract the `DriverPack_x_x_x.zip`, if you are NOT installing to the Intel ICH10 Controller, you must delete the `i386\Intel\hba` and `amd64\Intel\hba` directories.

---

2. **Select the service image to update and export the image.**

   a. **Click Start, click Administrative Tools, and then click Windows Deployment Services.**

   b. **Find the image to service. Right-click the image and then click Disable.**

c. **Right-click the image and select Export Image. Follow the Wizard directions to export the image to the location of your choice.**

3. **Mount the Windows image you just exported. For example,**

   `imagex /mountrw C:\windows_distribution\sources\install.wim 1 C:\win_mount`

   The first Windows image in the `Install.wim` file is mounted to `C:\wim_mount`.

4. **Use Windows System Image Manager (Windows SIM) to create an answer file that contains the paths to the device drivers that you intend to install.**

   See the Microsoft documentation for the Windows Automated Installation Kit (AIK) for the details of starting the Windows SIM application.

5. **Add the `Microsoft-Windows-PnpCustomizationsNonWinPE` component to your answer file in the `offlineServicing` pass.**

6. **Expand the `Microsoft-Windows-PnpCustomizationsNonWinPE` node in the answer file. Right-click `DevicePaths`, and then select Insert New PathAndCredentials.**

   A new PathAndCredentials list item appears.

7. **In the `Microsoft-Windows-PnpCustomizationsNonWinPE` component, specify the path to the architecture folder in the DriverPack folder on the network share, and the credentials used to access the network share.**

   For example, the path and credentials for a 64-bit image might be:

   ```
   <Path>\\yourshare\share\DriverPack\amd64</Path>
   <Credentials>
       <Domain>MyDomain</Domain>
       <Username>MyUserName</Username>
       <Password>MyPassword</Password>
       </Credentials>
   ```

8. **Save the answer file and exit Windows SIM. The answer file must be similar to the following sample. The sample assumes the architecture is 64-bit.**

```
<?xml version="1.0" ?>
<unattend xmlns="urn:schemas-microsoft-com:asm.v3" xmlns:wcm=
"http://schemas.microsoft.com/WMIConfig/2002/State">
   <settings pass="offlineServicing">
      <component name="Microsoft-Windows-PnpCustomizationsNonWinPE"
processorArchitecture="amd64" publicKeyToken="31bf3856ad364e35"
language="neutral" versionScope="nonSxS">
         <DriverPaths>
            <PathAndCredentials wcm:keyValue="1">
               <Path>>\\yourshare\share\DriverPack\amd64</Path>
               <Credentials>
                  <Domain>MyDomain</Domain>
                  <Username>MyUserName</Username>
                  <Password>MyPassword</Password>
               </Credentials>
            </PathAndCredentials>
         </DriverPaths>
      </component>
   </settings>
</unattend>
```

9. **Use Package Manager to apply the unattended installation answer file to the mounted Windows image. Specify a location for the log file to create. For example:**

   ```
   pkgmgr /o:"C:\wim_mount\;C:\wim_mount\Windows" /n:"C:\
   unattend.xml" /l:"C:\pkgmgrlogs\logfile.txt"
   ```

   The `.inf` files referenced in the path in the answer file are added to the Windows image. A log file is created in the directory `C:\Pkgmgrlogs\`.

   For more information about using Package Manager, see the Microsoft Windows AIK documentation.

10. **Review the contents of the `%WINDIR%\Inf\` directory in the mounted Windows image to ensure that the `.inf` files were installed.**

    Drivers added to the Windows image are named `oem*.inf`. This is to ensure unique naming for new drivers added to the computer. For example, the files `MyDriver1.inf` and `MyDriver2.inf` are renamed `oem0.inf` and `oem1.inf`.

11. **Unmount the `.wim` file and commit the changes. For example:**

    ```
    imagex /unmount /commit C:\wim_mount
    ```

12. **Replace the service image and enable the image.**

a. If the Windows Deployment Services snap-in is not running, click Start, click Administrative Tools, and then click Windows Deployment Services.

b. Locate the image to service. Right-click the image and select Replace Image. Follow the Wizard directions to replace the service image with the Windows image that was updated.

c. Right-click the service image and select Enable.

The service image is now available and all the server-specific drivers are added to the image.

Add Drivers to a RIS Image

For remote installation of Windows Server 2003 using a server running Windows Remote Installation Services, the mass storage controller driver provided with Windows Server 2003 is not sufficient to install the operating system. Sun recommends updating the RIS image with the mass storage driver available with `DriverPack_x_x_x.zip`.

Before you Begin

Before creating a RIS image, you need to do the following:

- Windows Remote Installation Services must be are running on a Windows Server. Refer to the Windows Remote Installation Services documentation for more information.
- Locate `DriverPack_x_x_x.zip` for Windows Server 2003.

  You can obtain the `DriverPack_x_x_x.zip` from the Tools & Drivers CD/DVD or you can download it from the Sun download site. For download instructions, see "Downloading Server-Specific Drivers" on page 50.

▼ Add Drivers to a RIS image

In the following procedure, `%RIS_Image%` refers to the root directory of your Windows image on the RIS server.

1. **Create the following directories in `%RIS_Image%`:**
   - `$OEM$\textmode`
   - `$OEM$\$$OEMDIR`
   - `$OEM$\$1\Sun\Drivers`
2. **Extract the contents of `DriverPack_x_x_x.zip` to a temporary location, making sure to maintain the directory structure.**
3. **Update the `%RIS_Image%` with the server-specific drivers for your Windows platform:**
   - **For 32-bit, copy the contents of the `DriverPack\i386` folder to the `%RIS_Image%\$OEM$\$1\Sun\Drivers` folder, being sure to maintain the directory structure.**
   - **For 64-bit, copy the contents of the `DriverPack\amd64` folder to the `%RIS_Image%\$OEM$\$1\Sun\Drivers` folder, being sure to maintain the directory structure.**
4. **Update the `%RIS_Image%\$OEM$\textmode` folder with the mass storage drivers using one of the following methods:**
   - Method 1:

   a. **Using the Tools & Drivers CD/DVD, create a Windows 2003 Mass Storage Driver Diskette for Intel ICH10/LSI/SMI using the MKFLOPPY Utility as described in** "Create Floppy Disk for Device Drivers" on page 19**.**

   b. **Copy the contents of the floppy to the `%RIS_Image%\$OEM$\textmode` folder.**

   - Method 2:

   a. **Copy the appropriate floppypack folder on the Tools & Drivers CD/DVD to the `%RIS_Image%\$OEM$\textmode` folder.**
      - **For LSI:** `\windows\w2k3\packages\floppypack\files\LSI`
      - **For Sun StorageTek (Adaptec):** `\windows\w2k3\packages\floppypack\files\SMI`
      - **For Intel ICH10:** `\windows\w2k3\packages\floppypack\files\intel`
5. **Copy the contents of the appropriate mass storage driver directory to the root directory of the `textmode` directory**
   - For LSI:

- **If you are installing Windows 2003 32-bit to the LSI controller, copy the contents of** `%RIS_Image%\$OEM$\textmode\LSI\i386` **to** `%RIS_Image%\$OEM$\textmode`**.**
- **If you are installing Windows 2003 64-bit to the LSI controller, copy the contents of** `%RIS_Image%\$OEM$\textmode\LSI\amd64` **to** `%RIS_Image%\$OEM$\textmode`**.**

- For Sun StorageTek (Adaptec):
  - **If you are installing Windows 2003 32-bit to the Adaptec controller, copy the contents of** `%RIS_Image%\$OEM$\textmode\smi\i386` **to** `%RIS_Image%\$OEM$\textmode`**.**
  - **If you are installing Windows 2003 64-bit to the Adaptec controller, copy the contents of** `%RIS_Image%\$OEM$\textmode\smi\amd64` **to** `%RIS_Image%\$OEM$\textmode`**.**
- For Intel ICH10:
  - **If you are installing Windows 2003 32-bit to the ICH10 controller, copy the contents of** `%RIS_Image%\$OEM$\textmode\intel\i386` **to** `%RIS_Image%\$OEM$\textmode`**.**
  - **If you are installing Windows 2003 64-bit to the ICH10 controller, copy the contents of** `%RIS_Image%\$OEM$\textmode\intel\amd64` **to** `%RIS_Image%\$OEM$\textmode`**.**

6. **Create an answer file using the method described in the Microsoft TechNet article "Creating an Answer File with Setup Manager."**

   The article can be found at:

   `http://technet2.microsoft.com/WindowsServer/en/library/78421630-6fcc-4604-a888-bd9c84244a5b1033.mspx`

7. **Make changes to the** `.sif` **file for your mass storage solution as listed in one of the following tables, then proceed to** Step 8**:**
   - For servers with the LSI-based integrated RAID controller see TABLE A-2.
   - For servers with the Adaptec-based integrated RAID controller see TABLE A-3.
   - For servers with the Intel-based integrated disk controller see TABLE A-4.

Note – For readability, the OemPnpDriversPath information has been shown on multiple lines; it must be entered on a single line. The three drivers listed in MassStorageDrivers have been shown on multiple lines; each driver (*"driver description"* = OEM) should be listed on a separate line. Due to potential driver interaction problems during installation, only include the Sun\Drivers\intel\hba path in the OemPnPDriversPath entry if you are installing to the Intel ICH10 controller. If you are installing to a Sun StorageTek (Adaptec) or LSI Raid Controller, install the Intel ICH10 driver manually after setup has completed. The driver will reside in the Sun\Drivers\intel\hba directory at the root of your installation disk.

TABLE A-2 .sif File Changes for Servers With an LSI-Based Integrated RAID Controller

Windows Server 2003 32-bit	Windows Server 2003 64-bit
[Unattended]	[Unattended]
OemPreinstall = yes	OemPreinstall = yes
OemPnPDriversPath = "\Sun\Drivers\ast;\ Sun\Drivers\emulex;\Sun\Drivers\qlogic;\ Sun\Drivers\infineon;\Sun\Drivers\intel\ chipset;\Sun\Drivers\intel\nic;\Sun\ Drivers\ıLsi;\Sun\Drivers\smi"	OemPnPDriversPath = "\Sun\Drivers\ast;\ Sun\Drivers\emulex;\Sun\Drivers\qlogic;\ Sun\Drivers\infineon;\Sun\Drivers\intel\ chipset;\Sun\Drivers\intel\nic;\Sun\ DriversıLsi\Sun\Drivers\smi"
[MassStorageDrivers]	[MassStorageDrivers]
"LSI Logic Fusion-MPT SAS Storport Driver (32-bit)" = OEM	"LSI Logic Fusion-MPT SAS Storport Driver (64-bit)"= OEM
[OEMBootFiles]	[OEMBootFiles]
txtsetup.oem	txtsetup.oem
disk4.tag	disk4.tag
lsi_sas.inf	lsi_sas.inf
lsi_sas.sys	lsi_sas.sys
lsinodrv.inf	lsinodrv.inf
s2k332.cat	s2k3amd64.cat

TABLE A-3 .sif File Changes for Servers With an Adaptec-Based Integrated RAID Controller

Windows Server 2003 32-bit	Windows Server 2003 64-bit
[Unattended]	[Unattended]
OemPreinstall = yes	OemPreinstall = yes
OemPnPDriversPath = "\Sun\Drivers\ast;\ Sun\Drivers\emulex;\Sun\Drivers\qlogic;\ Sun\Drivers\infineon;\Sun\Drivers\intel\ chipset;\Sun\Drivers\intel\nic;\Sun\ Drivers\1Lsi;\Sun\Drivers\smi"	OemPnPDriversPath = "\Sun\Drivers\ast;\ Sun\Drivers\emulex;\Sun\Drivers\qlogic;\ Sun\Drivers\infineon;\Sun\Drivers\intel\ chipset;\Sun\Drivers\intel\nic;\Sun\ Drivers\1Lsi;Sun\Drivers\smi"
[MassStorageDrivers]	[MassStorageDrivers]
"Adaptec SAS/SATA-II RAID Controller Driver (32-bit)" = OEM	"Adaptec SAS/SATA-II RAID Controller Driver (64-bit)"= OEM
[OEMBootFiles]	[OEMBootFiles]
txtsetup.oem	txtsetup.oem
disk4.tag	disk4.tag
adpenc.cat	adpenc.cat
adpenc.sys	adpenc.sys
arcsas.cat	arcsas.cat
arcsas.sys	arcsas.sys
arcsas.inf	arcsas.inf
raiddisk1	raiddisk1

TABLE A-4 .sif File Changes for Servers Intel-Based Integrated Disk Controller

Windows Server 2003 32-bit	Windows Server 2003 64-bit
[Unattended]	[Unattended]
OemPreinstall = yes	OemPreinstall = yes
OemPnPDriversPath = "\Sun\Drivers\ast;\ Sun\Drivers\emulex;\Sun\Drivers\qlogic;\ Sun\Drivers\infineon;\Sun\Drivers\intel\ chipset;\Sun\Drivers\intel\nic;Sun\ Drivers\intel\hba;\Sun\Drivers\ıLsi;\ Sun\Drivers\smi"	OemPnPDriversPath = "\Sun\Drivers\ast;\ Sun\Drivers\emulex;\Sun\Drivers\qlogic;\ Sun\Drivers\infineon;\Sun\Drivers\intel\ chipset;\Sun\Drivers\intel\nic;Sun\ Drivers\intel\hba;\Sun\Drivers\ıLsi;\Sun\ Drivers\smi"
[MassStorageDrivers]	[MassStorageDrivers]
"Intel Matrix Storage Manager driver (32-bit)" = OEM	"Intel Matrix Storage Manager driver (64-bit)"= OEM
[OEMBootFiles]	[OEMBootFiles]
txtsetup.oem	txtsetup.oem
disk4.tag	disk4.tag
iaAHCI.inf	iaAHCI.inf
iaAHCI.sys	iaAHCI.sys
iaStor.inf	iaStor.inf
iaStor.sys	iaStor.sys
iaStor.cat	iaStor.cat

8. **Add the Intel Ethernet Drivers to your RIS image.**
   - For the on board Intel 82575EB Gigabit Ethernet Devices, 32-bit:
     i. **Extract the** `inf` **file in the** `%RIS_Image%\$OEM$\$1\Sun\Drivers\intel\nic\RIS_INF\elq5132.zip` **to** `%RIS_Image%\i386`**.**
     ii. **Copy the** `elq5132.sys` **file from** `%RIS_Image%\$OEM$\$1\Sun\Drivers\intel\nic` **to** `%RIS_Image%\i386`**.**
   - For the on board Intel 82575EB Gigabit Ethernet Devices, 64-bit:
     i. **Extract the** `inf` **file in the** `%RIS_Image%\$OEM$\$1\Sun\Drivers\intel\nic\RIS_INF\elq51x64.zip` **to** `%RIS_Image%\amd64`**.**
     ii. **Copy the** `elq51x64.sys` **file from** `%RIS_Image%\$OEM$\$1\Sun\Drivers\intel\nic` **to** `%RIS_Image%\amd64`**.**

9. **Stop and start the Remote Installation Services BINLSVC service on the RIS server.**

   To do this, type the following commands at the command prompt and press Enter after each command:

   ```
   > net stop binlsvc
   > net start binlsvc
   ```

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