

Sun Fire X2270 M2 Server Installation Guide for Windows Operating System



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Preface

This preface describes related documentation, available documentation formats, and the process for submitting feedback to Oracle. It also includes a document change history.

- “Related Books” on page 5
- “About This Documentation (PDF and HTML)” on page 7
- “Documentation Comments” on page 7
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- “Documents History” on page 8

Related Books

The following is a list of documents related to Oracle's Sun Fire X2270 M2 server. These and additional support documents are available on the [library page](#) at:

<http://www.oracle.com/pls/topic/lookup?ctx=sfx2270m2&id=homepage>.

Document Group	Document	Description
Sun Fire X2270 M2 Server-Specific Documentation	Sun Fire X2270 M2 Server Product Documentation	Integrated HTML version of all starred (*) documents, including Search and Index.
	<i>Sun Fire X2270 M2 Server Getting Started Guide</i>	Pictorial setup quick reference.
	<i>Sun Fire X2270 M2 Server Installation Guide*</i>	How to install, rack, and configure the server up to initial power-on.
	<i>Sun Fire X2270 M2 Server Product Notes*</i>	Important late-breaking information about the server.
	<i>Sun Installation Assistant 2.3 through 2.4 User's Guide for x64 Servers*</i>	An Oracle tool used to perform an assisted installation of a supported Windows or Linux OS, upgrade firmware (regardless of OS), and other tasks.
	<i>Sun Fire X2270 M2 Server Installation Guide for Oracle Solaris Operating Systems*</i>	How to install the Oracle Solaris OS on your server.

Document Group	Document	Description
	<i>Sun Fire X2270 M2 Server Installation Guide for Oracle VM*</i>	How to install Oracle VM on your server.
	<i>Sun Fire X2270 M2 Server Installation Guide for Linux Operating Systems*</i>	How to install a supported Linux OS on your server.
	<i>Sun Fire X2270 M2 Server Installation Guide for Windows Operating Systems*</i>	How to install supported versions of Microsoft Windows on your server.
	<i>Sun Fire X2270 M2 Server Installation Guide for ESX Software*</i>	How to install supported versions of the ESX OS on your server.
	<i>Integrated Lights Out Manager Supplement for the Sun Fire X2270 M2 Server*</i>	Version-specific supplemental information for your server's Integrated Lights Out Manager.
	<i>Sun Fire X2270 M2 Server Diagnostics Guide*</i>	How to diagnose problems with your server.
	<i>Sun Fire X2270 M2 Server Service Manual*</i>	How to service and maintain your server.
	<i>Sun Fire X2270 M2 Server Safety and Compliance Guide</i>	Safety and compliance information about your server.
Oracle Integrated Controller Disk Management	<i>Sun x64 Server Disk Management Overview</i>	Information about managing your server storage.
x64 Servers Applications and Utilities Reference Documentation	<i>Sun x64 Server Utilities Reference Manual</i>	How to use the available utilities included with your server.
Integrated Lights Out Manager (ILOM) 3.0 Documentation	<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Feature Updates and Release Notes</i>	Information about new ILOM features.
	<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Getting Started Guide</i>	Overview of ILOM 3.0.
	<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Concepts Guide</i>	Conceptual information about ILOM 3.0.
	<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Web Interface Procedures Guide</i>	How to use ILOM through the web interface.
	<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 CLI Procedures Guide</i>	How to use ILOM through commands.

Document Group	Document	Description
	<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 SNMP and IPMI Procedures Guide</i>	How to use SNMP and IPMI commands.
	<i>Oracle Integrated Lights Out Manager (ILOM) 3.0 Management Protocols Reference Guide</i>	Information about management protocols.

About This Documentation (PDF and HTML)

This documentation set is available in both portable document format (PDF) and HTML. The information is presented in topic-based format (similar to online help) and therefore does not include chapters, appendices, or section numbering.

Documentation Comments

Oracle is interested in improving product documentation and welcomes your comments and suggestions. You can submit comments by going to this link:

<http://www.oracle-surveys.com/se.ashx?s=25113745587BE578>

▼ Download Server System Tools and Drivers

Patches and the Tools and Drivers CD/DVD ISO image file for your server are now available by from My Oracle Support (MOS). Use this procedure to access server-specific downloads on MOS.

- 1 **Go to <http://support.oracle.com>.**
- 2 **Sign in to My Oracle Support.**
- 3 **At the top of the page, click the Patches and Updates tab.**
The Patches and Updates screen appears.
- 4 **In the Search screen, click Product or Family (Advanced Search).**
The screen appears with search fields.
- 5 **In the Product field, select the product from the drop-down list.**
Alternatively, type a full or partial product name (for example, Sun Fire X2270 M2) until a match appears.

- 6 In the Release field, select the release from the drop-down list.**
Expand the folders to see the component offerings.
- 7 Click Search.**
A list of updates (patches) appears.
- 8 To select a patch, click the check boxes next to the patch name (you can select more than one patch).**
A popup action panel appears. The panel contains several action options.
- 9 To download the update, click Download in the popup panel.**
The download begins automatically.

Documents History

- May 2010, initial publication
- June 2010, collection refresh, revisions to –11
- March 2011, *Product Notes* document updated for document errata and SW v1.1.0 and SW v1.2.0 releases. *Windows Operating System Installation Guide* revised for document errata. *Oracle Solaris Operating System Installation Guide* revised for document errata. Service Manual revised for document errata.
- September 2011, *Product Notes* and *OS Installation Guides* updated for SW v1.3.0 release.

Planning the Operating System Installation

This topic provides information to help you plan the installation of the Windows operating system (OS) onto a Sun Fire X2270 M2 Server.

- “Installation Prerequisites” on page 9
- “Supported Operating Systems” on page 10
- “Installation Methods” on page 11
- “Console Outputs” on page 11
- “Installation Boot Media” on page 11
- “Installation Targets” on page 12
- “Sun Installation Assistant” on page 13
- “Verifying BIOS Settings for New Installations” on page 13
- “How to View or Edit BIOS Settings for New Installations” on page 14

Installation Prerequisites

The following requirements must be met prior to installing an OS.

Requirement	Mandatory or Optional	For More Information, See:
The server is mounted and powered-on in a rack.	Mandatory	Sun Fire X2270 M2 Server Installation Guide
The SP network management port on the server is configured with an IP address.	Mandatory	Sun Fire X2270 M2 Server Installation Guide or Oracle Integrated Lights Out Manager (ILOM) 3.0 Getting Started Guide
Review the server <i>Product Notes</i> document for the list of supported operating systems and up-to-date information about the server.	Mandatory	Sun Fire X2270 M2 Server Product Notes

Requirement	Mandatory or Optional	For More Information, See:
Select a console option and a media option for performing the installation, as well as an installation target.	Mandatory	“Installation Methods” on page 11
Ensure that factory-default settings in the BIOS utility are set.	Recommended* *For local disk drive OS installation targets.	“Verifying BIOS Settings for New Installations” on page 13
Set up a RAID set on SATA disk drives and onboard Intel RAID controller.	Optional	Sun Fire X2270 M2 Server Service Manual for instructions on adding or replacing disk drives in the server “Configuring RAID Controller in the BIOS Setup Utility” on page 51
Gather the applicable vendor OS installation documentation. Note – Use OS vendor documentation in conjunction with the OS instructions in this guide.	Recommended	Microsoft Windows 2008 Product Documentation at: http://www.microsoft.com/windowsserver2008/en/us/product-documentation.aspx
Ensure that you have the Tools & Drivers CD. Note – If device drivers are required for your OS installation, the device drivers are provided on the Tools & Drivers CD.	Mandatory	Sun Fire X2270 M2 Tools & Drivers CD Download version of the Tools & Drivers CD for the Sun Fire X2270 M2 is available at: http://wikis.sun.com/display/SystemsComm/Sun+Fire+X2270+M2+Server

Supported Operating Systems

For the most up-to-date information about the server, including a listing of supported operating systems, refer to the [Sun Fire X2270 M2 Server Product Notes](#).

Installation Methods

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

- “Console Outputs” on page 11
- “Installation Boot Media” on page 11
- “Installation Targets” on page 12

Console Outputs

The following console options can be used to capture the input and output of the OS installation.

Console	Description
Local Console	You can install the OS and administer the server by attaching a local console directly to the server SP. See “Console Outputs” on page 11 for details.
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: <ul style="list-style-type: none"> ▪ Web-based client connection using the ILOM Remote Console application ▪ SSH client connection using a serial console See “Booting Windows Server 2008 Using Local or Remote Media” on page 20 for details.

Installation Boot Media

You can start the OS installation on a server by booting a local or remote installation media source. The following table identifies the supported media sources and the setup requirements for each source.

Installation Media	Description
Local Boot Media	<p>Local boot media requires a built-in storage device on the server or an external storage device attached to the server.</p> <p>Supported OS local boot media sources can include CD/DVD installation media, and, if applicable, floppy device driver media.</p> <p>See “Booting Windows Server 2008 Using Local or Remote Media” on page 20 for details..</p> <p>.</p>
Remote	<p>Remote media requires you to boot the installation over the network from a redirected boot storage device.</p> <p>Supported OS remote media sources can include:</p> <ul style="list-style-type: none"> ■ CD/DVD installation media, and, if applicable, floppy device driver media ■ CD/DVD ISO installation image and, if applicable, floppy ISO device driver media <p>See “Booting Windows Server 2008 Using Local or Remote Media” on page 20.</p>
PXE Installation	<p>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 Preboot eXecution Environment (PXE) technology to enable the clients without an OS to boot remotely to the automated installation server that installs the OS.</p> <p>See “How to Install Windows Server 2008 Using PXE Network” on page 27 for details.</p>

Installation Targets

The following table identifies the supported installation targets that you can use to install an OS.

Installation Target	Description	Setup Requirement	Supported OS
Local Hard Disk Drive (HDD) or Solid State Drive (SSD)	You can choose to install the OS to any of the HDDs or SSDs installed in the server.	Ensure that the HDD or SSD is properly installed and powered-on in the server. For more information about installing and powering on an HDD or SSD, refer to the server installation guide or the service manual.	All OS's listed

Sun Installation Assistant

Sun Installation Assistant is a tool that helps you perform a variety of deployment and recovery tasks on your Sun Fire and Sun Blade x86 servers. The application can be launched from a bootable CD, a USB flash drive prepared with the application software, or from a customized image available on a PXE installation server.

For more information, refer to the server documentation library.

Verifying BIOS Settings for New Installations

For all new OS installations on a hard disk drive, you should verify that the following BIOS settings are properly configured before you install the OS:

- System time
- System date
- Boot order

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

Note – If necessary, you can specify a temporary boot device by pressing F8 during the BIOS start-up. The 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 in the BIOS Setup Utility is in effect.

▼ How to View or Edit BIOS Settings for New Installations

Before You Begin Ensure that the following requirements are met before accessing the BIOS Setup Utility:

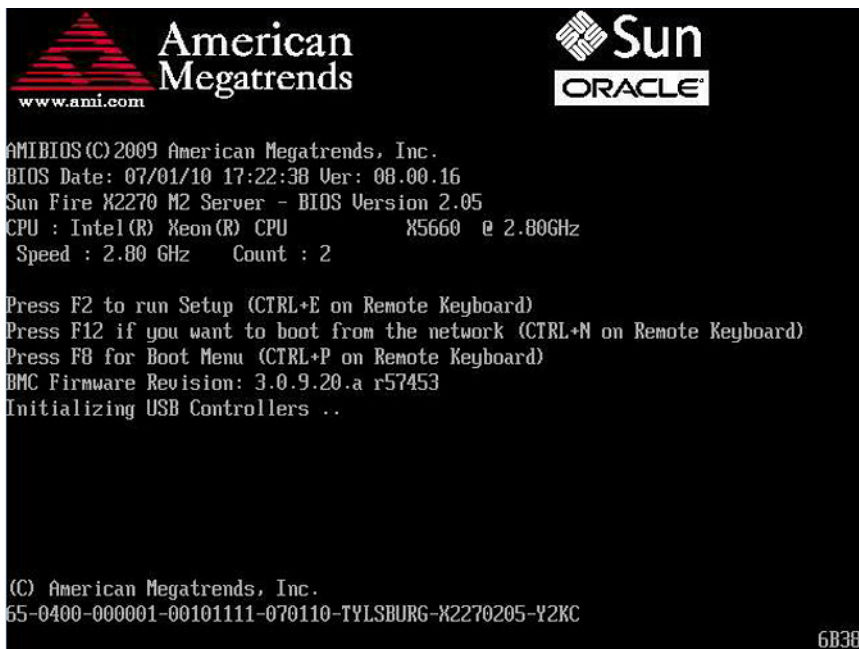
- Server is mounted and powered on in a rack. For more information, refer to the *Sun Fire X2270 M2 Server Installation Guide*
- Server is equipped with a hard drive (HD) or solid state disk drive (SSD) that is properly installed in the server.
- Console connection is established to the server (see “[Console Outputs](#)” on page 11).

1 Reset the power on the server.

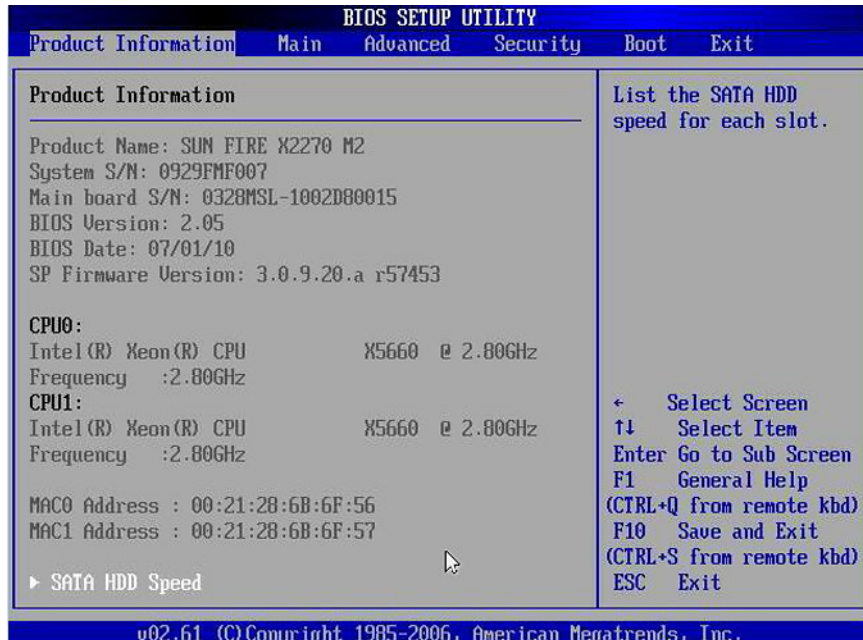
For example:

- **From the local server**, press the Power button on the front panel of the server module to switch the server to standby power. Then press the Power button again to turn the server on.
- **From the ILOM web interface**, select Remote Control —> Remote Power Control, then select the Power Cycle option from the Host action drop-down list box.
- **From the ILOM CLI**, type: reset /SYS

The BIOS screen appears.

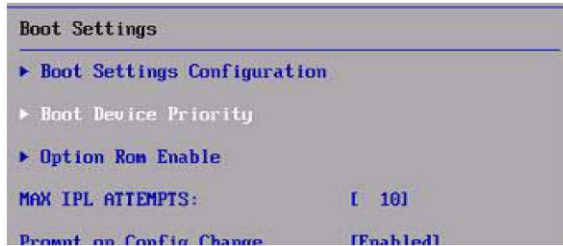


- 2 When prompted in the POST/boot screen, press F2 to access the BIOS Setup Utility.
The BIOS Setup Utility main screen appears.



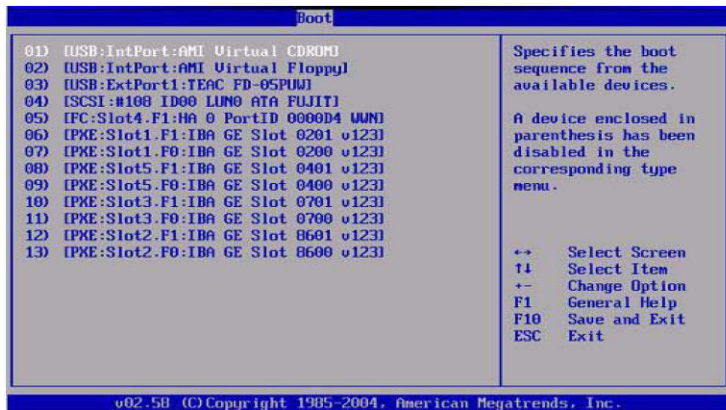
- 3 To ensure that the factory defaults are set, do the following:
- Press F9 to automatically load the optimal default settings.
A message appears prompting you to continue this operation by selecting OK or to cancel this operation by selecting CANCEL.
 - In the message, highlight OK, then press Enter.
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.
- Highlight the values you want to change.
Use the up or down arrow keys to change between the system time and date selection.
 - To change the values in the highlighted fields, use these keys:
 - PLUS (+) to increment the current value shown
 - MINUS (-) to decrement the current value shown

- ENTER to move the cursor to the next value field
- 5 **To access the boot settings, select the Boot menu.**
The Boot Settings menu appears.
 - 6 **In the Boot Settings menu, use the down arrow key to select Boot Device Priority, then press Enter.**



The Boot Device Priority menu appears listing the order of the known bootable devices.

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

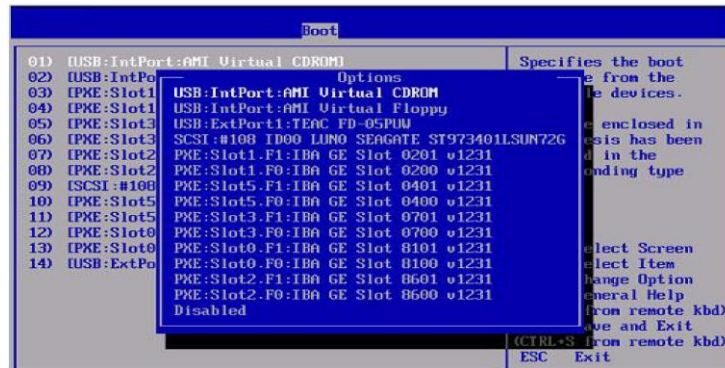


The first device in the list has the highest boot priority.

- 7 **In the Boot Device Priority menu, do the following to edit the first boot device entry in the list:**
 - a. **Use the up and down arrow keys to select the first entry in the list, then press Enter.**

- b. In the Options screen, use the up and down arrow keys to select the default permanent boot device, then press Enter.

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



The device strings listed on the Boot menu and Options menu are in the following format: Device Type, Slot Indicator, and Product ID String.

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

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

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

Alternatively, you can save the changes and exit the BIOS Setup Utility by selecting Save on the Exit menu.

A message appears prompting you to save changes and exit setup.

- 9 Select OK and press Enter.

Installing Windows Server 2008 Operating System

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

Note – If you want to create a RAID for your disk, the recommended procedure is to create a RAID before you install the OS. For more information, see [“Configuring RAID Controller in the BIOS Setup Utility” on page 51](#) .

This topic includes the following:

- [“Task Map for the Windows Server 2008 Installation” on page 19](#)
- [“How to Install Windows Server 2008 Using Local or Remote Media” on page 21](#)
- [“Prerequisites for Installing PXE Network” on page 28](#)
- [“How to Install Windows Server 2008 Using PXE Network” on page 27](#)

Task Map for the Windows Server 2008 Installation

Use the following table to preview the installation process defined as a series of tasks. This table defines the required tasks, describes them, and provides pointers to the instructions for performing that task.

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.	“Installation Prerequisites” on page 9
2	Choose an installation method	Evaluate and select an installation method that meets the needs of your infrastructure.	“Installation Methods” on page 11
3	Ensure that the BIOS factory defaults are set	Verify that the factory default settings in the BIOS are set prior to performing the operating system installation.	“Verifying BIOS Settings for New Installations” on page 13
4	(Optional) Configure RAID Controller	Follow the instructions to implement RAID using the BIOS Setup utility.	“Configuring RAID Controller in the BIOS Setup Utility” on page 51

Step	Task	Description	Relevant Topic(s)
5	Perform the Windows 2008 OS installation	Follow the instructions in this topic to install the Windows 2008 operating system.	“How to Install Windows Server 2008 Using Local or Remote Media” on page 21 “How to Install Windows Server 2008 Using PXE Network” on page 27
6	Install driver(s) and supplemental software post installation, if applicable	If necessary, install the updated platform-specific drivers and the server supplemental software.	“Post Installation” on page 31

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 2008 media, installing drivers (if necessary) at boot, and partitioning the drive. For additional information, consult the Microsoft Windows 2008 Product Documentation at: <http://www.microsoft.com/windowsserver2008/en/us/product-documentation.aspx>

Booting 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 [“How to Install Windows Server 2008 Using PXE Network” on page 27](#) for instructions.

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

- All applicable installation prerequisites for installing an operating system must be met. For further information about these prerequisites, see [“Installation Prerequisites” on page 9](#).
- An installation method (for example: console, boot media, and installation target) must be chosen and established prior to performing the installation. For more information about these setup requirements, see [“Installation Methods” on page 11](#).

For the actual procedure, see [“Booting Windows Server 2008 Using Local or Remote Media” on page 20](#).

After completing this procedure, perform the post installation tasks described in [“Post Installation” on page 31](#).

▼ How to 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 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 [“Installation Boot Media” on page 11](#)

2 Reset or power on the server.

For example:

- **From the ILOM web interface**, select Remote Control —> Remote Power Control, then select the Power Cycle option from the Host action drop-down list box.
- **From the local server**, press the Power button on the front panel of the server to turn the server off, then press the Power button again to turn the server on.
- **From the ILOM CLI on the server SP**, type:

```
reset /SYS.
```

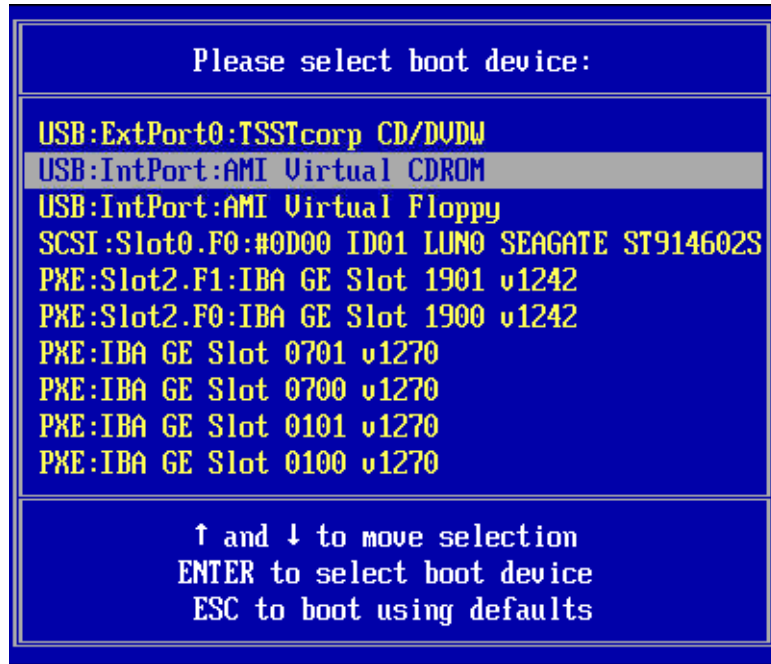
The BIOS screen appears.



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

The Boot Device screen appears.

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



- 4 In the Boot Device screen, select a boot device based on the Windows media installation method you chose and press Enter.

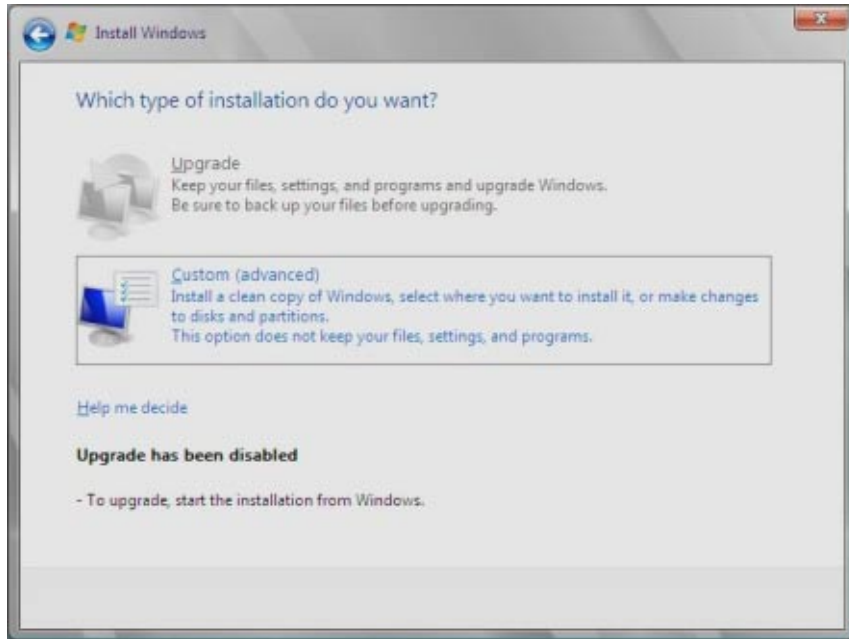
For example:

- If you chose the Windows Local delivery method, select CD/DVDW.
- If you chose the ILOM Remote Console delivery method, select Virtual CDROM.

- 5 Press a key when prompted with Press any key to boot from CD..

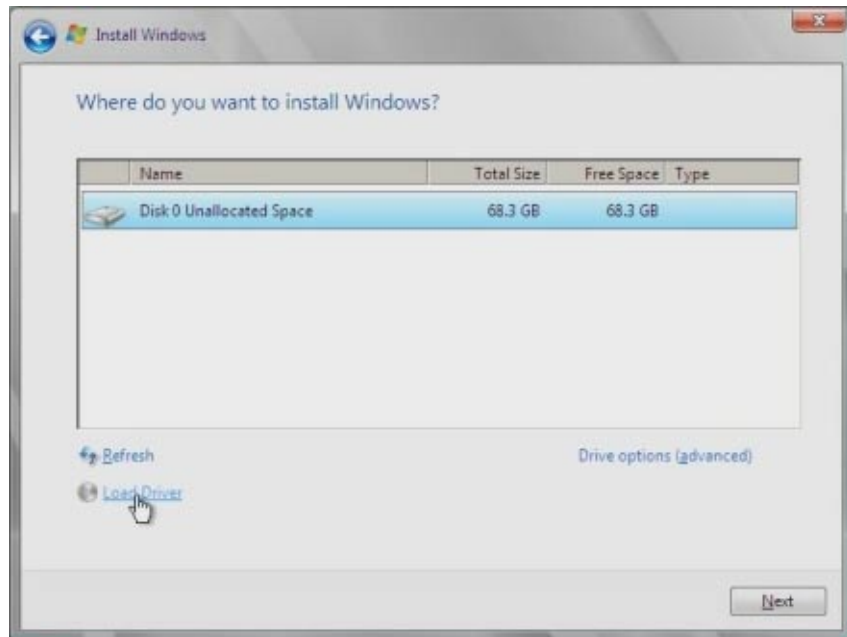
The Windows installation wizard starts.

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



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

The Where Do You Want To Install Windows dialog appears.



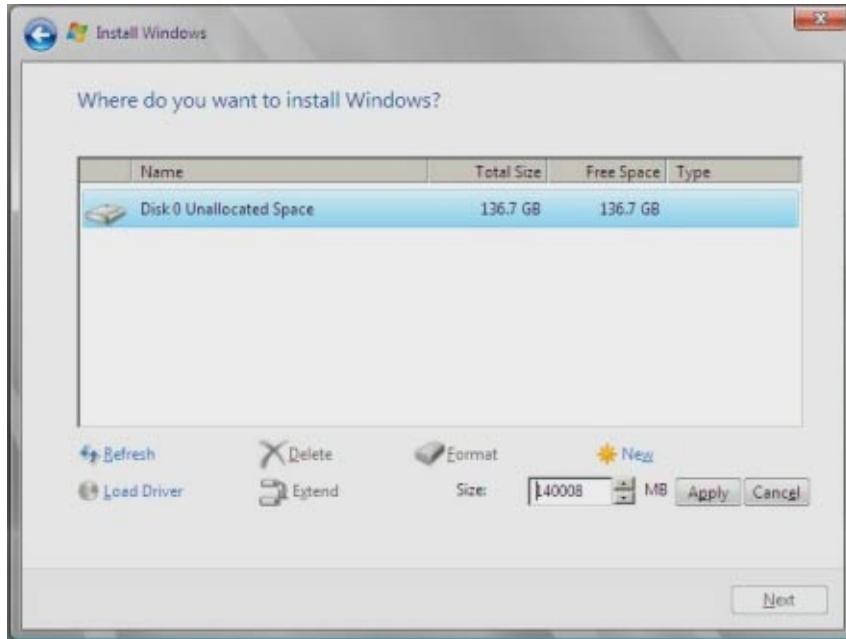
7 In the Where Do You Want To Install Windows dialog, do one of the following:



Caution – Data loss. Formatting or partitioning erases existing data.

- If you want to override the Windows default partition information, click the Drive Options (advanced) option and proceed to Step 8.
- If you *do not* want to override the Windows Default partition information, click Next then skip to Step 9.

The Where To Install Windows dialog appears.



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

- a. To delete the existing partition, click Delete .**

A confirmation window appears.

- b. To confirm the partition deletion, click OK.**

- c. To create the new partition, click New.**

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

The partition is created.

- e. To install the OS, click Next.**

The Windows installation begins.

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

When the Windows installation is finished, the OS starts and prompts you to change the user password.



- 9 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.

- 10 Proceed to [“Post Installation” on page 31](#).

How to Install Windows Server 2008 Using PXE Network

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

Note – 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 communicates 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, perform the post installation tasks as described in [“Post Installation” on page 31](#)

Topics included in this section:

- [“Prerequisites for Installing PXE Network” on page 28](#)
- [“How to Install Windows Server 2008 Using PXE Network” on page 27](#) | [“How to Install Windows Server 2008 Using PXE Network” on page 28](#)

Prerequisites for Installing PXE Network

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 server MAC network port address to boot from the PXE configuration.
- Configure Dynamic Host Configuration Protocol (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 instruction, see [“Incorporating Sun Fire Drivers Into a WIM Image” on page 45](#).
- Obtain a WIM Administrator password.

▼ How to Install Windows Server 2008 Using PXE Network

1 Reset or power on the server.

For example:

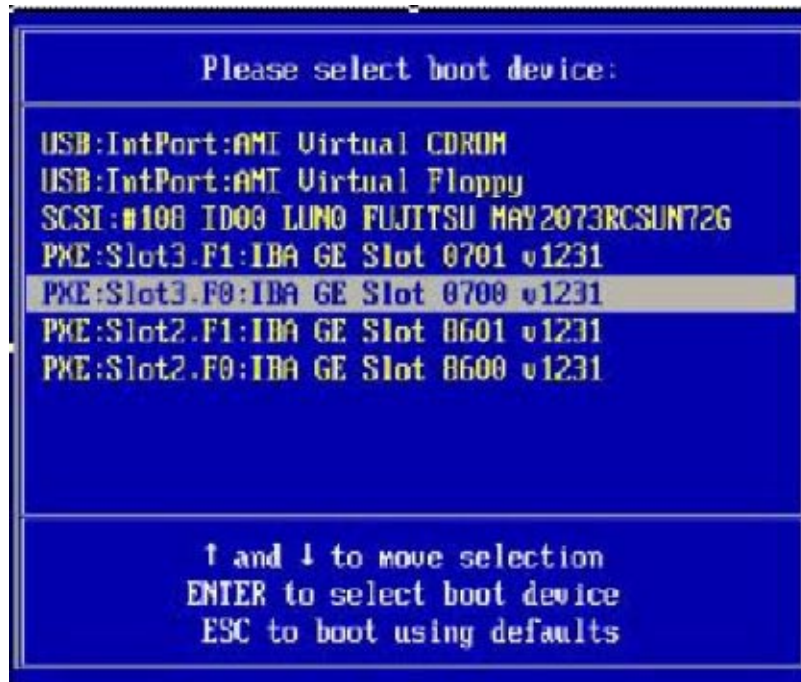
- **From the ILOM web interface**, select Remote Control -> Remote Power Control, then select the Power Cycle option from the Host action drop-down list box.
- **From the local server**, press the Power button on the front panel of the server to turn the server off, then press the Power button again to turn the server on.
- **From the ILOM CLI on server SP**, type: `reset /SYS`.

Note – The next events occur very quickly. 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.

The boot screen appears.

- 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 screen appears.

- 4 In the Boot Agent screen, 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 31.

Post Installation

After completing the Windows 2008 installation and rebooting the operating system (OS), review the following post installation tasks and, if necessary, perform the tasks that are applicable to your system.

- “Installing Platform-Specific Device Drivers” on page 31
- “How to Install Platform-Specific Drivers Using the Tools and Drivers DVD” on page 32
- “How to Install Supplemental Software Using the Tools and Drivers DVD” on page 37
- “How to Manually Launch the Tools and Drivers Application Using a DVD” on page 42

Installing Platform-Specific Device Drivers

This section describes how to install platform-specific device drivers to support optional devices you added to the server when you completed the hardware installation. The following device drivers must be installed in the order specified:

1. Intel Chipset
2. Ethernet driver
3. AST2100 VGA driver (for systems that contain an SP module)
4. AHCI RAID software

Note – The Sun Fire X2270 M2 Tools and Drivers DVD is required to complete the procedures in this section. If you do not have a copy of the DVD, you can download the latest version as a downloadable image on the Oracle download site:

<http://wikis.sun.com/display/SystemsComm/Sun+Fire+X2270+M2+Server>

You can choose to install device drivers using one of the following methods:

- Externally attached CD/DVD drive containing the Tools and Driver DVD.
- Virtual CD/DVD containing the Tools and Driver DVD that can be accessed from the ILOM Remote Console.
- Windows .zip file downloaded from the download web site. The Windows .zip file contains the Windows drivers from the Tools and Driver DVD.

▼ How to Install Platform-Specific Drivers Using the Tools and Drivers DVD

This procedure describes how to use the Sun Fire X2200 M2 Tools and Drivers DVD to install platform-specific device drivers.

- 1 To launch the Tools and Drivers application, insert the Tools and Drivers DVD into the CD/DVD drive.

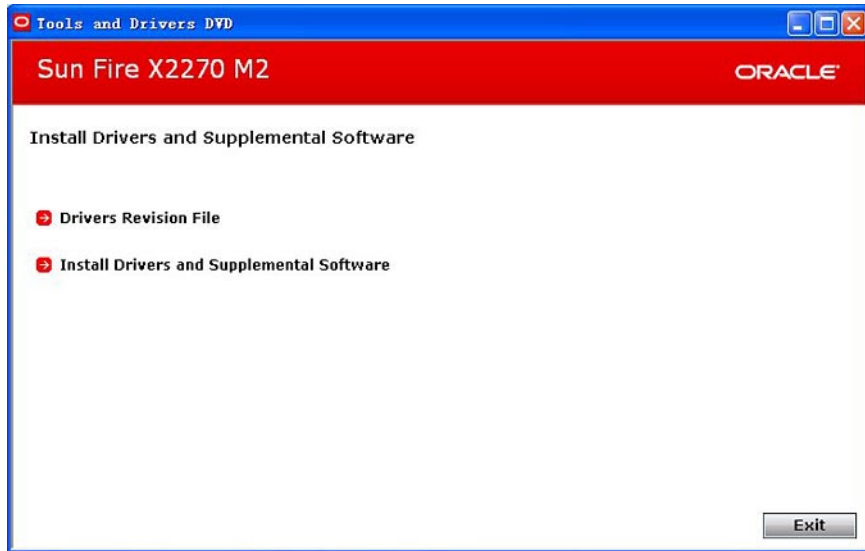
The application's main menu screen appears.



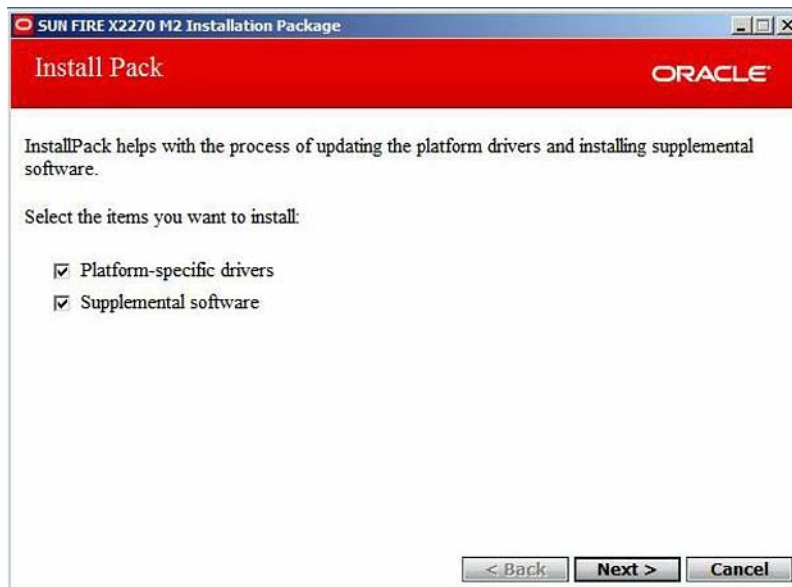
Note – The DVD is autorun enabled and should automatically launch the application. If the application does not automatically launch, see [“How to Manually Launch the Tools and Drivers Application Using a DVD”](#) on page 42.

2 Click Install Drivers and Supplemental Software.

The Install Drivers and Supplemental Software screen appears.

**3 Click Install Drivers and Supplemental Software.**

The Install Pack screen appears.



The screen default is that both platform-specific drivers and supplemental software are selected for update. Updating both the platform-specific drivers and the supplemental software is highly recommended. If you choose to update both, the platform-specific driver update occurs first.

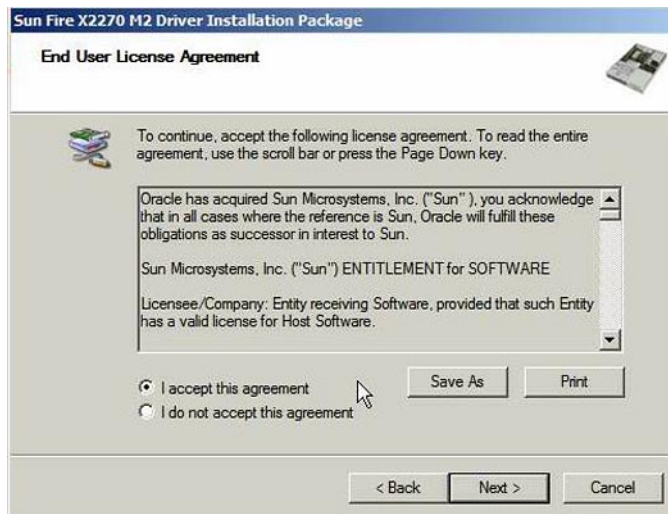
4 Ensure that the Platform-specific drivers check box is selected and click Next.

The Welcome wizard screen appears.



5 Click Next.

The End User License Agreement screen appears.



6 Ensure that the 'I accept this agreement' radio button is selected and click Next.

A screen appears and displays the platform-specific drivers installation status. A green check mark verifies that each driver was installed successfully.



7 Click Finish.

The System Settings Change screen appears with a Restart dialog popup.

Note – Do *not* click the option to restart the server until after the next step.



- 8 If you elected to do both the platform-specific driver update and the supplemental software update, click **Restart Later** and go to [Step 7](#) in the procedure [“How to Install Supplemental Software Using the Tools and Drivers DVD”](#) on page 37.
- 9 If you are finished updating software, click **Restart Now**.
The server restarts with the updated drivers.

▼ How to Install Supplemental Software Using the Tools and Drivers DVD

- 1 To launch the Tools and Drivers application, insert the Tools and Drivers DVD into the CD/DVD drive.

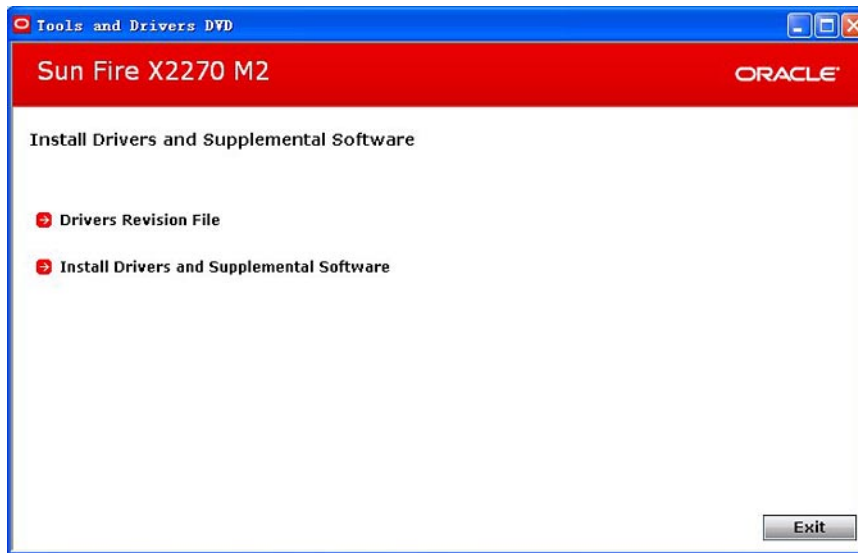
The application's main menu screen appears.



The DVD is autorun enabled and should automatically launch the application. If the application does not automatically launch, see [“How to Manually Launch the Tools and Drivers Application Using a DVD”](#) on page 42.

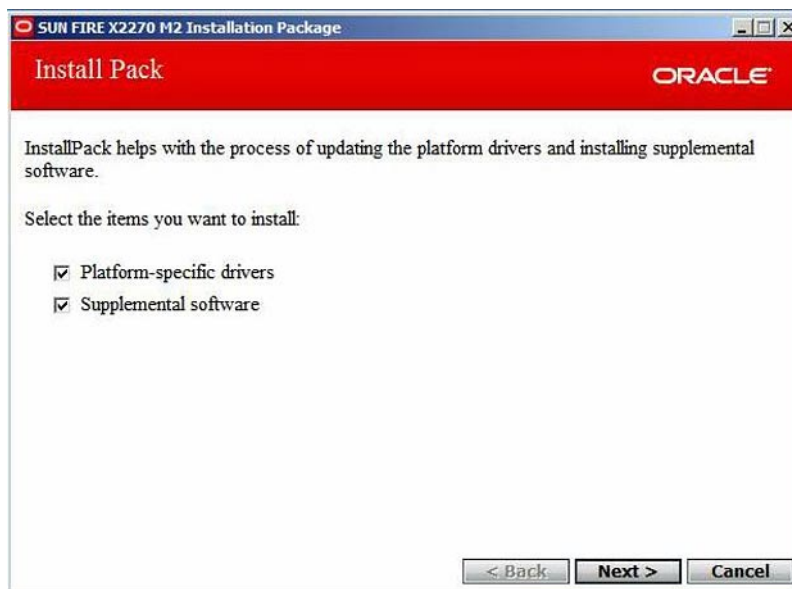
2 Click Install Drivers and Supplemental Software.

The Install Drivers and Supplemental Software screen appears.



3 Click Install Drivers and Supplemental Software.

The Install Pack screen appears.



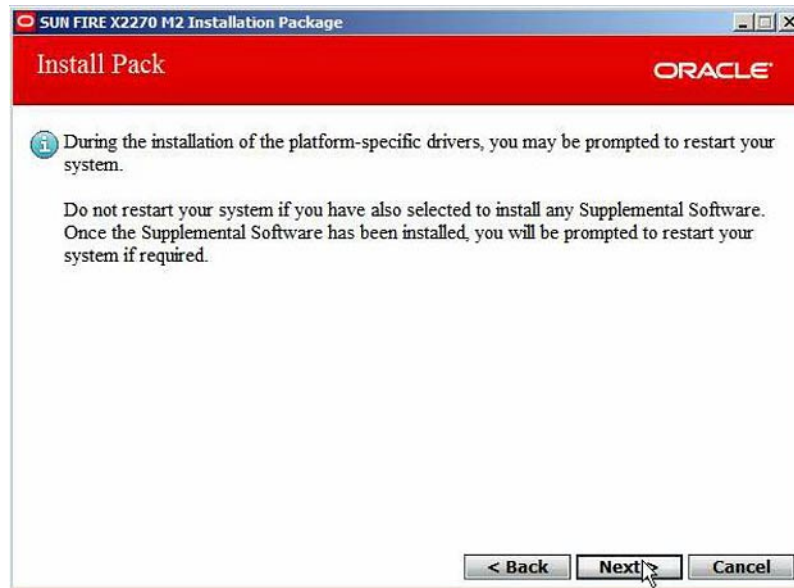
The screen default is that both platform-specific drivers and supplemental software are selected for update. Updating both the platform-specific drivers and the supplemental software is highly recommended.

4 Ensure that the Supplemental software check box is selected and click Next.

An Install Pack information screen appears.

If you chose to update both the platform-specific drivers and the supplemental software, the platform-specific drivers are updated first. When the drivers update is finished a restart pop-up dialog appears.

This Install Pack informational screen is instructing you to *not* restart the server. Instead, click Restart Later, so that the supplemental software update can begin.

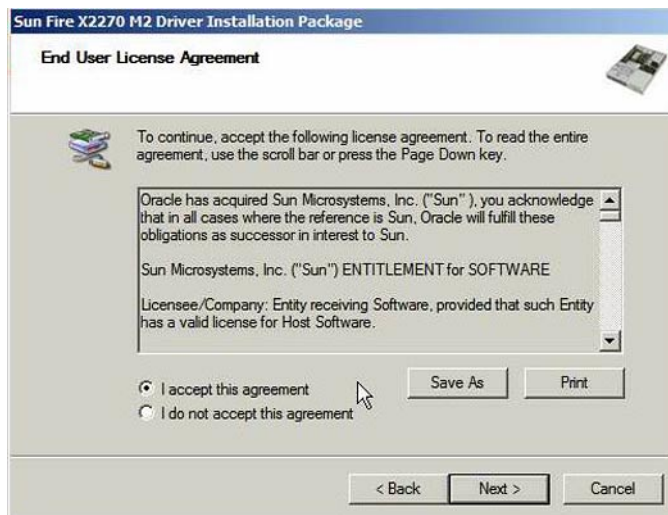


5 Click Next.

The Welcome screen appears.

**6 To continue, click Next.**

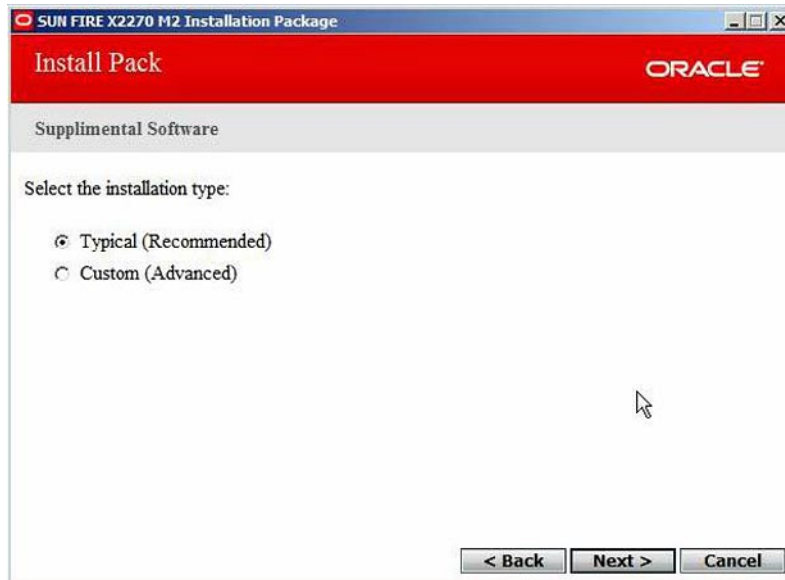
The End User License Agreement screen appears.

**7 Ensure that the 'I accept the agreement' check box is selected and click Next.**

The Install Pack screen appears. You have the option to perform a typical or a custom installation. The typical installation option is recommended for most situations. The custom

installation option is for advanced users. If you choose the Custom installation type, you can select the options to install and a wizard guides you through the update process.

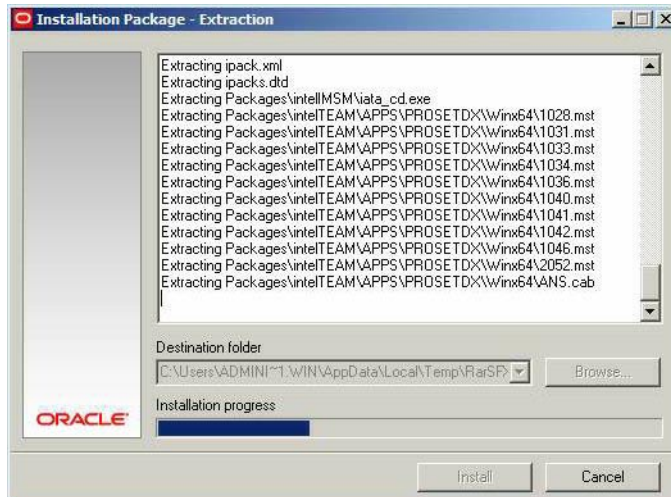
Note – The remaining steps in this procedure assume a 'Typical' installation type.



- 8** Ensure that the **Typical (Recommended)** radio button is selected and click **Next**. The Installation Package screen appears.

9 To update the supplemental software, click Install.

The progress of the update appears in the Installation Package screen.



10 When the update finishes, click Next.

A Restart pop-up screen appears.

11 Click Restart Now.

The server restarts with the new software.

▼ How to Manually Launch the Tools and Drivers Application Using a DVD

This procedure describes how to manually launch the Tools and Drivers application using the DVD. The DVD supports autorun and should launch the application automatically when inserted into a CD/DVD drive. Use this procedure if autorun does not automatically launch the application.

- 1 Insert the Tools and Drivers DVD into a local or remote CD/DVD drive.**
- 2 Navigate the Tools and Drivers DVD to one of the folders for your version of the Windows OS:**
 - \Windows\W2K8\Packages
 - \Windows\W2K8R2\Packages

- 3 To start the Tools and Drivers application, double-click the appropriate InstallPack executable file:**

For example, for Tools and Drivers DVD software version 1.1.0, double-click on:

InstallPack_1_1_0.exe

The Tools and Drivers application starts.

- 4 The application main menu appears.**



- Next Steps**
- To install platform-specific drivers, see “How to Install Platform-Specific Drivers Using the Tools and Drivers DVD” on page 32.
 - To install supplemental software, see “How to Install Supplemental Software Using the Tools and Drivers DVD” on page 37.

Incorporating Sun Fire Drivers Into a WIM Image

This topic is intended for advanced system administrators who need to incorporate the platform-specific drivers into a Windows Imaging Format (WIM) image or a Remote Installation Service (RIS) image. This topic provides guidance on how to incorporate the platform-specific drivers into a WIM or RIS image and is not intended as a tutorial on WDS or RIS.

Note – WIM files are installed using Windows Deployment Services (WDS). RIS images can be deployed using either WDS in legacy mode or RIS.

This topic contains the following sections:

- [“Determining Required Drivers” on page 45](#)
- [“How To Add Drivers to the WIM Image” on page 46](#)
- [“How to Install the WIM Image on a Client System” on page 49](#)

Determining Required Drivers

The following list shows the required platform-specific drivers to incorporate into a WIM or RIS image:

Driver/Device	Incorporated for 64-bit Windows Server 2008
A speed Graphic Driver	Yes
Disk Controller Driver (server dependent)	
Intel ICH10R integrated disk controller	Yes
Intel ICH10R Chipset Drivers	Yes
Intel NIC Drivers	Yes

Adding Drivers to a WIM Image

This section contains information about adding platform-specific drivers for your Sun Fire X2270 M2 Server to a WIM image.

Before creating your WIM image:

- The Windows Automated Installation Kit (Windows AIK or WAIK) must be installed. The kit can be downloaded from Microsoft. Oracle recommends using version 2.0 or later of the WAIK.
- Read the WAIK documentation.
- Windows Remote Installation Services must be running on a Windows Server. Read the Windows Deployment Services snap-in documentation.
- Locate `windows.zip` for Windows Server 2008.

Note – You can obtain the `windows.zip` from the Tools & Drivers CD or you can download them from the Oracle download site:

<http://wikis.sun.com/display/SystemsComm/Sun+Fire+X2270+M2+Server>

▼ How To Add Drivers to the WIM Image

- 1 Copy all the appropriate files for a 64-bit Windows installation from the version folders on the Tools & Drivers CD to the appropriate folder structure on a network share. See the following Steps a and Step b:

- a. Identify the appropriate version files:

Note – The following examples are from the Sun Fire X2270 M2 Server Tools and Drivers CD, depending on your server model, the file paths might differ.

Tools & Drivers CD/DVD Windows 2008 64-bit files:
`cdromdrive:\Windows\W2K8\Drivers\64bit\Display\Aspeed`
 `... \NIC\Intel`
 `... \Chipset\Intel\All`
 `... \HBA\Intel`

Tools and Drivers CD/DVD Windows 2008 64-bit R2 files:
`cdromdrive:\Windows\W2K8R2\Drivers\64bit\Display\Aspeed`
 `... \NIC\Intel`
 `... \Chipset\Intel\All`
 `... \HBA\Intel`

where `cdromdrive` is the drive letter of the CD/DVD drive that contains the Tools and Drivers CD.

- b. Copy the files identified in Step a from their version folders to the appropriate folder structure on your network share.**

In the following example, `windows\x64` is for 64-bit Windows. All files must reside directly under the `x64` folder or component subfolder (there should be no version sub-folders as found on the Tools & Drivers CD). See the following examples:

```
Windows 2008 64-bit WIM folder structure:
\\yourshare\share\windows\x64\Display
    ... \nic
    ... \AHCI
    ... \Chipset
```

where `\\yourshare\share` is the share path you have set up on the network.

- 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 click 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 /mount /w C:\windows_distribution\sources\install.wim 1 C:\win_mount
```

The first Windows image in the `Install.wim` file is mounted to `C:\win_mount`.
- 4 Use Windows System Image Manager (Windows SIM, available in Windows AIK) to create an answer file that contains the paths to the device drivers you intend to install. Refer to the Microsoft documentation for the Windows Automated Installation Kit for the details about 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 Path And Credentials.**

A new Path And Credentials list item appears.
- 7 In the Microsoft-Windows-PnpCustomizationsNonWinPE component, specify the path to the architecture (x86 or x64) folder in the windows 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\windows\x64</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 64-bit Windows installation sample. The only supported processor Architecture component ID parameter is 'amd64' (for 64-bit Windows).**

```

<?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\windows\x64</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 more information about using Package Manager, refer to the Microsoft Windows AIK documentation. 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\.

- 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 ensures 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. Find the image to service. Right-click the image and then click 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 then click Enable.

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

▼ How to Install the WIM Image on a Client System

This procedure describes how to install the WIM image that you created and modified to your server. Before you perform this procedure, you must configure the WIM image as described in [“Incorporating Sun Fire Drivers Into a WIM Image” on page 45](#).

Note – A WIM image can be installed on any computer that contains a network adapter that supports PXE DHCP-based boot ROM. Your server module has this type of network adapter.

- 1 **Verify that the network adapter is set as the primary boot device in the computer BIOS.**
- 2 **Restart the client computer from the network adapter.**
- 3 **When you are prompted to do so, press F12 to start the download of the Client Installation Wizard.**
- 4 **At the Welcome screen, press Enter.**
- 5 **Type the user name of an account that has permission to add computer accounts to the domain, and then type the account domain name and password and press Enter.**
- 6 **When you receive a warning message that all data on the client computer hard disk will be deleted, press Enter.**



Caution – The Solaris OS is preinstalled on your server's boot disk. The Windows installation formats the boot disk and all data is lost.

- 7 **A computer account and a global unique ID for this workstation are displayed.**

- 8 If you are prompted to do so, follow the instructions on the screen to complete the client OS installation.**

Configuring RAID Controller in the BIOS Setup Utility

The Sun-supplied hard disk drives for the Sun Fire X2270 M2 are shipped without a RAID configuration. If a RAID configuration is required, configure the RAID Controller in the BIOS Setup Utility prior to beginning your Windows Server operating system (OS) installation.

After completing the RAID Controller configuration in the BIOS Setup Utility, and depending on the OS and method that you are using to install the OS, continue with the appropriate installation procedure:

- **Windows Server 2008:** [“How to Install Windows Server 2008 Using Local or Remote Media” on page 21](#) or [“How to Install Windows Server 2008 Using PXE Network” on page 27](#)

▼ How to Configure RAID Controller in BIOS

- 1 Reboot the server and press F2 when the Oracle Logo appears.**
The BIOS Setup Utility screen appears.
- 2 In the BIOS Setup Utility screen, select Advanced --> IDE Configuration.**
The IDE Configuration menu appears.
- 3 In the IDE Configuration menu, select Configure SATA AS, then press Enter.**
A menu appears listing the SATA options: IDE, RAID, and AHCI. AHCI is set by default.
- 4 In the SATA Options menu, select RAID, and then press Enter.**
- 5 Press F10 to save your changes, exit the BIOS, and reboot the server.**
- 6 While the server is rebooting, press <Ctrl-I> to access the RAID configuration.**
The Intel Matrix Storage Manager option ROM screen appears.
- 7 In the main menu of the Intel Matrix Storage Manager option ROM screen, select (1) Create RAID Volume, and then press Enter.**
The Create RAID Volume menu appears.

8 In the Create RAID Volume menu, do the following:

- a. Provide a name for the RAID volume and press Enter, or press Enter to accept the default name.**
- b. Select either RAID 1 (Mirror) or RAID 0 (Stripe) as the RAID level, and then press Enter.**
Use the up and down arrow keys to scroll through the available RAID level values.
- c. Specify the volume capacity and press Enter, or press Enter to accept the default volume capacity.**

d. Select Create Volume, and then press Enter.

A warning message appears stating that all data could be lost.

Are you sure you want to create this volume? Y or N.

e. In the warning message press Y to confirm the volume creation.

The new RAID volume is created. Information describing the RAID volume appears (for example, the RAID ID, Volume Name, Level, Status).

9 Select EXIT and press Enter to exit the Intel Matrix Storage Manager utility.

A confirmation message appears confirming whether you want to exit the Intel Matrix Storage Manager utility.

10 In the confirmation message, press Y to confirm the exit.

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