Sun Fire™ X4600 Server Windows Operating System Installation Guide

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Preface

This *Sun Fire X4600 Server Windows Operating System Installation Guide* contains instructions for installing the Windows Server 2003 operating system onto a Sun Fire X4600 server.

Note – This book applies to only the Sun Fire X4600 server. It does not apply to the Sun Fire X4600 M2 server.

Related Documentation

The document set for the Sun Fire X4600 server is described in the Where To Find X4600 sheet that is packed with your system. Additionally, you can find the X4600 documentation at

`http://docs.sun.com/app/docs/prod/sf.x4600`

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

For all Sun hardware, Solaris and other documentation, go to:

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Using UNIX Commands

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

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

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Typographic Conventions

Typeface*	Meaning	Examples
`AaBbCc123`	The names of commands, files, and directories; onscreen computer output	Use `dir` to list all files.
`AaBbCc123`	What you type, when contrasted with onscreen computer output	`> ipconfig` `Password:`
AaBbCc123	Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values.	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* have administrator privileges to do this. To delete a file, type `del` *filename*.
AaBbCc123	Titles of dialog boxes, text in dialog boxes, options, menu items and buttons.	**1. On the** File **menu, click** Extract All**.**

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

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Sun Fire X4600 Server Windows Operating System Installation Guide, part number 819-5039-14

CHAPTER 1

Getting Started

This book applies to all Sun Fire X4600 server, unless otherwise noted.

This chapter describes the information you will need to know before installing the Microsoft Windows Server 2003 operating system on a Sun Fire X4600 server.

Note – This chapter contains important guidelines and information to help you in the installation process. Make sure to read the remainder of this chapter before beginning the Windows Server 2003 installation.

The following sections are included in this chapter:

- "About Windows Server 2003 Installation" on page 2
- "Important Installation Considerations" on page 2
- "Supported Windows Operating Systems" on page 3
- "Manual Installation on One or More Servers" on page 3
- "Sun Fire X4600 Platform Notes" on page 4

provides the procedures on the SIA tool. This tool assists in installing the Sun-supported drivers and eliminates the need to create a separate Driver CD.

Chapter 2 provides the procedures on the SIA tool. This tool assists in installing the Sun-supported drivers and eliminates the need to create a separate Tools and Driver CD.

Chapter 7 provides the procedures that you need to follow to complete the Windows Server 2003 operating system installation.

About Windows Server 2003 Installation

The Sun Fire X4600 server requires additional server-specific drivers that are not included with the Windows Server 2003 operating system. The following chapters in this document describe how to access and install the operating system and drivers. The installation procedures apply to both the 32-bit and 64-bit versions of Microsoft Windows Server 2003.

Important Installation Considerations

Please note the following important considerations before beginning the Windows Server 2003 operating system installation on a Sun Fire X4600 server:

- When you install the Windows operating system, any data on the boot drive, including any preinstalled operating system, will be overwritten.
- A primary consideration during installation is providing the mass storage drivers for the disk controller used with the Sun Fire X4600 server. The Microsoft Windows Server 2003 media does not contain the mass storage drivers needed for operating system installation.

  Windows requires that the mass storage drivers be delivered via a diskette device. The Windows installation program can only read mass storage drivers from diskette drive A. Other devices such as CD/DVD or USB flash drives are not supported for mass storage driver delivery.

  There are three methods that can be used to deliver the drivers for Windows Server 2003 installation:

  - Use a physical USB diskette drive connected to the Sun Fire server.
  - Use RKVMS[1] to redirect the diskette device to a physical diskette drive on another system that is hosting the JavaRConsole[2] (JavaRConsole system).
  - Use RKVMS to redirect the diskette device to a diskette image file on another system that is hosting the JavaRConsole.
- There are also three different methods for delivering the Windows Server 2003 media for installation:
  - Use the physical DVD/CD drive connected to the Sun Fire server.

1. RKVMS –Remote Keyboard, Video, Mouse, Storage. Allows redirection of the server keyboard, video output, mouse and storage devices via a networked system.
2. JavaRConsole – Remote console run from a networked system.

- Use RKVMS to redirect the CD drive to a physical CD drive on the JavaRConsole system.
- Use RKVMS to redirect the CD drive to a Windows CD image on the JavaRConsole system.

The installation procedures described in Chapter 3 will guide you through the process of selecting the installation methods for the mass storage drivers and operating system media.

Note – If you use the RKVMS method for any of these installations, you will need to refer to the *Integrated Lights Out Manager (ILOM) Administration Guide*, part number (PN) 819-1160, for details on setting up the hardware needed for the installation.

Supported Windows Operating Systems

The Sun Fire X4600 server supports the following Microsoft Windows operating systems at the time of publication of this document:

- Microsoft Windows Server 2003, SP1 or later, Standard Edition (32-bit)
- Microsoft Windows Server 2003, SP1 or later, Enterprise Edition (32-bit)
- Microsoft Windows Server 2003, Standard x64 Edition (64-bit)
- Microsoft Windows Server 2003, Enterprise x64 Edition (64-bit)

The updated list of supported operating systems is at the following URL:

For the Sun Fire X4600 server:

`http://www.sun.com/servers/x64/x4600/os.jsp`

Manual Installation on One or More Servers

This method is for more advanced users that are planning to manually install Microsoft Windows Server 2003 locally, or remotely, on one or more servers.

Note – If you plan to install Windows Server 2003 using a Preboot Execution Environment (PXE) server, go to Chapter 9: "Incorporating Sun Fire Drivers Into a RIS Image" on page 65

To install Windows from CD media onto a your server, complete the following procedures in order:

1. "Downloading Server-Specific Driver Packages" on page 7 (see Chapter 3).
2. "Selecting the Delivery Methods" on page 9 (see Chapter 4).
3. "Preparing for Mass Storage Driver Delivery" on page 13 (see Chapter 5).
4. "Configuring the JavaRConsole System" on page 25, if necessary (see Chapter6).
5. "Installing Windows Server 2003" on page 31 (see Chapter 7).
6. "Updating the Critical System-Specific Drivers" on page 41 (see Chapter 8).

After completing these procedures, you will have successfully installed the Windows Server 2003 operating system.

Sun Fire X4600 Platform Notes

This guide is intended for use with Sun Fire X4600 server. Some aspects of the installation will vary among different product platforms.

- The terms Tools and Drivers CD and Resource CD are used interchangeably in this guide. The Resource CD 705-1438-11 (or later version) contains drivers for earlier versions of the Sun Fire X4600 server.

CHAPTER 2

Using the Sun Installation Assistant for Installing a Windows OS

The Sun Installation Assistant (SIA) is a CD-based tool that helps you install a supported Windows OS on your Sun Fire X4600 server. It provides a set of Sun-supported drivers that have been tested for quality assurance. Detailed information on SIA for Windows is provided in the *Sun Installation Assistant for Windows and Linux User's Guide*, (820-3557).

By using the SIA CD, or a USB flash drive, you can install an OS, the appropriate drivers, and additional software on your system. The use of SIA is optional, but it can make the installation of Windows easier for you, as it **eliminates the need to create a Driver CD.**

SIA does not automate the OS installation process. You will still need to follow the procedures provided in the OS vendor's native GUI install program, but you will not need to create a separate Driver CD. SIA automatically installs the Sun-supported drivers.

SIA performs the following tasks:

1. Identifies the hardware on your system and prepares Sun server drivers for the OS install.
2. Launches the OS vendor's native install program.
3. Identifies and installs appropriate drivers and platform-specific software during the OS installation process.

Note – If your server uses a PCI Express card with an LSI disk controller, you will need to install the LSI drivers yourself. If it uses a PCI Express card with an Adaptec disk controller, you do not need to install drivers.

SIA is shipped with new systems and may also be available as a download for your system at `http://www.sun.com/download/index.jsp`.

OS Installation Instructions

Note – If you want to mirror your OS, you must create the RAID before you install the OS. See "Configuring RAID for Any Operating System from the BIOS" on page 69

CHAPTER 3

Downloading Server-Specific Driver Packages

This chapter describes how to download the server-specific driver packages needed for Windows Server 2003 installation.

Note – If you have the Tools and Drivers CD (or Resource CD 705-1438-11 or later), you can skip this chapter and proceed to Chapter 4. You can use the CD for initial installation of the server-specific drivers.

The server-specific driver packages available for Windows Server 2003 installation are:

- `FloppyPack.zip` (contains LSI 1064 drivers and AMI virtual diskette drivers)
- `InstallPack.exe` (program to install all system-specific device drivers)
- `DriverPack.zip` (for experts only, system-specific driver archive for Windows Server 2003, English). Download this file if you want to perform a PXE installation as described in Chapter 9.
- `OptPack.zip` (for experts only, optional components archive). Download this file if you want to incorporate the optional components into a PXE installation.

Note – The full name of the driver packages incorporates a version identifier before the file extension, for example, `FloppyPack_1_1_2.zip`. This identifier is left out of the file names in this document for purposes of clarity.

To download the drivers:

1. **Go to the driver download site.**

   For Sun Fire X4600 server:
   `http://www.sun.com/servers/x64/x4600/downloads.jsp`

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

- If you are installing the Windows Server 2003 media, download both of the following files to a hard drive location or media that will be accessible during the installation: `FloppyPack.zip` and `InstallPack.exe` (`DriverUpdatePackage.exe` for Sun Fire X4600 server)
- If you are installing Windows Server 2003 using a PXE server (advanced installation), download the `DriverPack.zip` file to the PXE server.

Note – The full name of the driver packages incorporates a version identifier before the file extension, for example, `FloppyPack_1_1_2.zip`. This identifier is left out of the file names in this document for purposes of clarity.

---

3. **Make sure that the driver packages are available as you begin the operating system installation. Proceed to** Chapter 4 **to select the delivery methods.**

CHAPTER 4

Selecting the Delivery Methods

In this chapter, you will decide on the delivery methods to provide the mass storage drivers and the Windows media for installation.

To select mass storage driver media and Windows Server 2003 media delivery methods, complete the following procedures:

1. Selecting a Mass Storage Drivers Method.
2. Selecting a Windows Server 2003 Media Method.
3. **Make a note of the delivery methods that you selected and proceed to Chapter 5.**

Selecting a Mass Storage Drivers Method

There are three methods that can be used to provide the mass storage drivers for Windows Server 2003 installation on the Sun Fire X4600 server:

- *Diskette Local*: Uses a physical USB diskette drive connected to the Sun Fire server.
- *Diskette Remote*: Uses RKVMS to redirect the diskette device to a physical diskette drive on the system hosting the JavaRConsole.
- *Diskette Image*: Uses RKVMS to redirect the diskette device to a diskette image file on the system hosting the JavaRConsole.

Select a method in TABLE 4-1 that meets the need of your environment. Make note of the method you have selected.

TABLE 4-1 Delivery Methods for Mass Storage Drivers

Mass Storage Drivers Delivery Method	Additional Requirements	Ease of Configuration and Installation
Diskette Local	• External USB diskette drive listed as "Designed for Windows"* on the Windows Marketplace site: http://testedproducts.windowsmarketplace.com/ • Diskette	Easy
Diskette Remote	• JavaRConsole system with network access to the Sun Fire X4600 server management network port and an attached diskette drive • Diskette	Medium: Installation time will be minimally increased over the Diskette Local method.
Diskette Image	• JavaRConsole system with network access to the Sun Fire X4600 server management network port	Medium: Installation time will be minimally increased over the Diskette Local method.

* If you do not use a USB diskette drive designed for Windows, it might appear that the drivers are installed during the OS installation, but when you reboot the system, the graphical part of the Windows setup will be unable to find the drivers again and the installation will fail with an error message.

Selecting a Windows Server 2003 Media Method

There are three methods that can be used to provide the Windows media for Windows Server 2003 installation on the Sun Fire X4600 server:

- *Windows Local*: Uses the physical DVD/CD drive connected to the Sun Fire server.
- *Windows Remote:* Uses RKVMS to redirect the CD drive to a physical CD drive on the system hosting the JavaRConsole.
- *Windows Image*: Uses RKVMS to redirect the CD drive to a Windows media image file on the system hosting the JavaRConsole.

Select a method in TABLE 4-2 that meets the need of your environment note. Make a note of the method that you selected.

TABLE 4-2 Delivery Methods for Windows Server 2003 Media

Mass Storage Drivers Delivery Method	Additional Requirements	Ease of Configuration and Installation
Windows Local	None*	Easy
Windows Remote	JavaRConsole system with the network access to the Sun Fire X4600 server management network port and an attached CD/DVD drive	Medium: Installation time will be significantly increased over the Windows Local method.
Windows Image	JavaRConsole system with network access to the Sun Fire X4600 server management network port	Medium: Installation time will be significantly increased over the Windows Local method.

* If your system does not have a DVD/CD drive, you will need an external USB DVD/CD drive attached to the Sun Fire X4600 server to use the Windows Local method. The DVD/CD drive should be listed as "Designed for Windows" on the Windows Marketplace site (http://testedproducts.windowsmarketplace.com/)

CHAPTER 5

Preparing for Mass Storage Driver Delivery

This chapter contains instructions on preparing the necessary mass storage drivers media for Windows Server 2003 installation.

Depending on the method selected in Chapter 4, you will use one of the procedures in this chapter. See TABLE 5-1.

TABLE 5-1 Mass Storage Driver Delivery Methods

Delivery Method	Section to Read
Diskette Local	Creating a Diskette
Diskette Remote	Creating a Diskette
Diskette Image	Copy the Diskette Image File

Creating a Diskette

For the *Diskette Local* or *Diskette Remote* delivery method, you need to create a diskette containing the drivers before proceeding with the Windows installation.

Ensure that the following system configurations and materials are readily available:

- System with a connected diskette device
- Diskette
- `FloppyPack.zip` (See Chapter 3 for details on accessing this package)

Follow the procedure in the section that corresponds with the system you are using to create the diskette.

- Using Windows to Create a Diskette

■ Using Linux or Solaris to Create a Diskette

Using Windows to Create a Diskette

To create a diskette using a Windows system:

1. **Copy the driver packages onto the system that you will use to create the diskette:**

- **If you are using the Tools and Drivers CD (or Resource CD) to access the driver files, do the following to copy the files:**

  a. **Insert the Tools and Drivers CD into the Windows system with a diskette device.**

  b. **Navigate to the following directory:**

  `support\drivers\w2k3sp1\FloppyPack`

Note – The full name of the driver packages incorporates a version identifier before the file extension, for example, `FloppyPack_1_1_2.zip`. This identifier is left out of the file names in this document for purposes of clarity.

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  c. **Copy the files into a directory on the Windows system.**

- **If you have downloaded `FloppyPack.zip` from the download site, do the following to copy and extract the files:**

  a. **On a system running Microsoft Windows software with a diskette device, copy the `FloppyPack.zip` file to a temporary directory.**

  b. **Start Windows Explorer.**

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

  d. **Select `FloppyPack.zip`.**

  e. **On the** File **menu, click** Extract All.[1]

  f. **Extract the files into a new (empty) folder.**

2. **Create the diskette with one of the following procedures:** Using the Assisted Method **or the** Using the Manual Method**.**

1. 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.

Using the Assisted Method

This method automates the creation of the diskette.

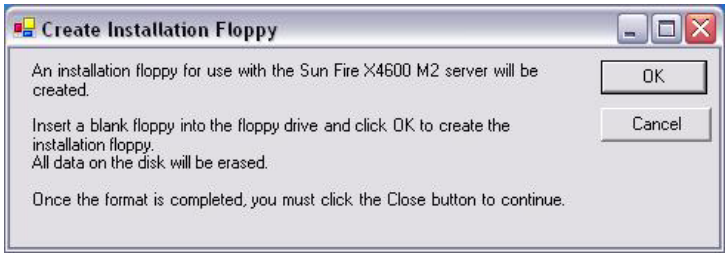
To use the assisted method:

1. **Insert a writeable diskette into the system diskette drive.**
2. **Start Windows Explorer and navigate to the folder where the extracted files reside.**
3. **In Windows Explorer, open the directory containing the extracted files and double-click** `mkfloppy.exe`**.**

Note – If the application fails to start, review the `README.RTF` file located in the same folder as the `mkfloppy.exe` application.

The Create Installation Floppy dialog box displays.

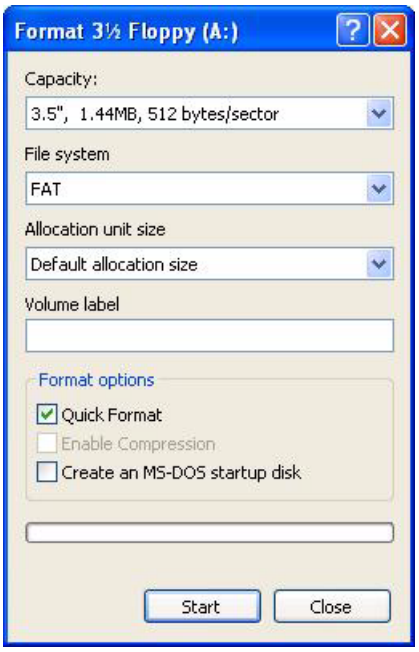
FIGURE 5-1 Create Installation Diskette Dialog Box



4. **Click** OK.

   The Format 3 1/2″ Diskette dialog box displays.

FIGURE 5-2 Format 3 1/2″ Diskette Dialog Box



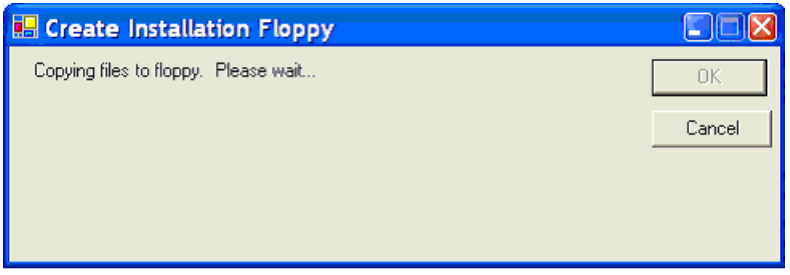
5. **Specify the settings to format the diskette, then click** Start.

   Quick Format is an acceptable format for this process.

6. **Once the formatting is completed, click** Close.

   The Create Installation Diskette message appears, informing you that it is copying files to the diskette.

FIGURE 5-3 Create Installation Floppy Message



7. **After the files have been copied, click** OK.

   The mass-storage driver diskette is created.

8. **Proceed to** Chapter 6**.**

Using the Manual Method

This method requires the user to perform the individual steps necessary to create the diskette.

To use the manual method:

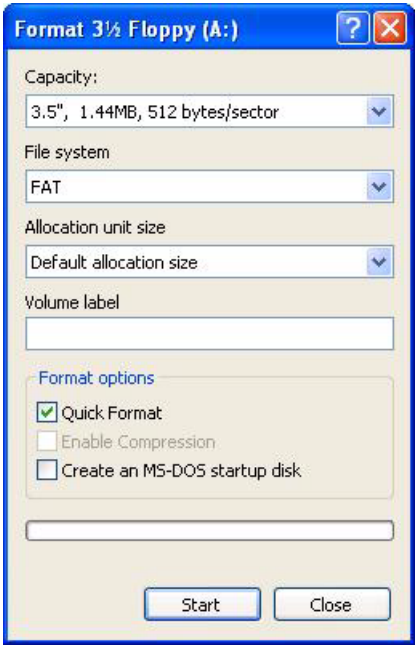
1. **Insert a writeable diskette into the diskette drive.**
2. **Start** Windows Explorer**.**
3. **Right-click the diskette drive where you inserted the diskette.**

   A shortcut menu appears.

4. **Select** Format**.**

   The Format Floppy dialog box appears.

FIGURE 5-4 Format 3 1/2 diskette Dialog Box



5. **Specify the settings to format the diskette, then click** Start.

   Quick Format is an acceptable format for this process.

6. **Once the formatting is complete, click** Close.

7. **Navigate to the** files **folder in the location where the extracted files reside.**

8. **On the** Edit **menu, click** Select All.

9. **Pressing and holding the left mouse button, drag and drop the selected files onto the diskette drive.**[2]

   The mass-storage driver diskette is created.

10. **Proceed to** Chapter 6.

Using Linux or Solaris to Create a Diskette

If you are using a Linux or Solaris system to create the diskette, use the following procedure.

To create a diskette on using a Linux or Solaris system:

1. **Copy the driver package onto the system that you will use to create the diskette:**

- **If you are using the Tools and Drivers (or Resource CD) to access the driver files, do the following:**

  a. **Create a** `/tmp/files` **directory.**

     `%` **`mkdir /tmp/files`**

  b. **Insert the CD into the system and mount the CD, as necessary.**

  c. **Navigate to the** `FloppyPack` **directory on the Tools and Drivers CD as shown in the following example:**

     `%` **`cd /mnt/cdrom/support/drivers/w2k3sp1/FloppyPack`**

     The folder also contains a version identifier.

  d. **Copy the files from the Tools and Drivers CD into the** `/tmp/files` **directory.**

     `%` **`cp -r * /tmp/files`**

- **If you have downloaded** `FloppyPack.zip` **from the download site, do the following:**

2. If you used Winzip to extract the files, do not drag and drop the files, as the directory structure will not be maintained.

a. Create a `/tmp` directory.

```
% mkdir /tmp
```

b. Do one of the following:

- If you copied the drivers to media:

  i. Insert the media into the system.

  ii. Mount the media.

  iii. Copy the files to the system as shown in the following example:

  ```
  % cp directory/FloppyPack_1_1_1.zip /tmp
  ```

  Where *directory* is the directory on the media on which the `FloppyPack.zip` file resides.

- If you downloaded the file directly to the system:

  i. Navigate to the directory where the files were originally downloaded.

  ii. Copy the files into the `/tmp` directory as shown in the following example:

  ```
  % cp directory/FloppyPack_1_1_1.zip /tmp
  ```

  Where *directory* is the directory on the system to which the `FloppyPack.zip` file was originally downloaded.

c. Change directory to the `/tmp` directory.

```
% cd /tmp
```

d. Unzip the `FloppyPack.zip` file.

For example:

```
% unzip FloppyPack_1_1_1.zip
```

This will create a new `files` directory.

2. Change directory to the `files` directory.

```
% cd /tmp/files
```

3. Insert a writeable formatted diskette into the diskette drive.

4. **Mount the diskette to the system.**

   See the example below for the operating system that you are using:

   Solaris:

   ```
   % volcheck
   ```

   Linux:

   ```
   % mkdir /mnt/floppy
   % mount /dev/fd0 /mnt/floppy
   ```

5. **Copy the files and folders in the `files` directory to the diskette.**

   See the example below that corresponds to the OS you are using:

   Solaris:

   ```
   % cp -r * /floppy/floppy0
   ```

   Linux:

   ```
   % cp -r * /mnt/floppy
   ```

6. **Proceed to** Chapter 6**.**

Copy the Diskette Image File

Use this procedure if you choose the *Diskette Image* method to install the mass storage drivers.

Ensure that a JavaRConsole system is available to host the driver files. This system must have access to the `FloppyPack.zip` driver package downloaded from the driver download site or on the Tools and Drivers CD (or Resource CD 705-1438-11 or later) as shown in Downloading Server-Specific Driver Packages.

Choose the procedure that corresponds to the operating system running on the JavaRConsole system:

- Using Windows to Copy the Diskette Image File
- Using Linux or Solaris to Copy the Diskette Image File

Using Windows to Copy the Diskette Image File

To copy the diskette image file using a Windows system:

1. **Prepare the driver files:**

- **If you are using the Tools and Drivers CD (Resource CD) to access the diskette package, do the following:**

  a. Insert the CD into the JavaRConsole system.

  b. Navigate to the following directory:

  `support\drivers\w2k3sp1\FloppyPack`

  The folder will also contain a version identifier.

- **If you have downloaded `FloppyPack.zip` from the download site, do the following to copy and extract the files:**

  a. **Copy the `FloppyPack.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.zip`.**

  e. **On the** File **menu, click** Extract All.[3]

  f. **Navigate to the folder where the extracted files reside.**

2. **Navigate to the** image **folder.**
3. **Copy the `floppy.img` file to a folder on the system that will be available during installation.**
4. **Note the `floppy.img` file location and proceed to** Chapter 6**.**

Using Linux or Solaris to Copy the Diskette Image File

1. **Prepare the driver files:**

- **If you are using the Tools and Drivers CD (or Resource CD) to access the driver files, do the following:**

  a. **Create a `/tmp/files` directory on the JavaRConsole system.**

  ```
  % mkdir /tmp/files
  ```

  b. **Insert the CD into the JavaRConsole system and mount the CD to the system, as necessary.**

  c. **Navigate to the `FloppyPack` directory on the Tools and Drivers CD as shown in the following example:**

  ```
  % cd /mnt/cdrom/support/drivers/w2k3sp1/FloppyPack
  ```

  The folder will also contain a version identifier.

  d. **Copy the files from the Tools and Drivers CD into the `/tmp/files` directory on the JavaRConsole system.**

  ```
  % cp -r * /tmp/files
  ```

3. 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.

- **If you have downloaded `FloppyPack.zip` from the download site, do the following to extract the files:**

  a. Create a `/tmp` directory on the JavaRConsole system.

  ```
  % mkdir /tmp
  ```

  b. Do one of the following:

  - If you copied the drivers to media:

    i. Insert the media into the system.

    ii. If necessary, mount the media to the system.

    iii. Copy the files to the JavaRConsole system as shown in the following example:

    ```
    % cp directory/FloppyPack_1_1_1.zip /tmp
    ```

    Where *directory* is the directory on the media on which the `FloppyPack.zip` file resides.

  - If you downloaded the file directly to the JavaRConsole system:

    i. Navigate to the directory where the files were originally downloaded.

    ii. Copy the files into the `/tmp` directory as shown in the following example:

    ```
    % cp directory/FloppyPack_1_1_1.zip /tmp
    ```

    Where *directory* is the directory on the JavaRConsole system to which the `FloppyPack.zip` file was originally downloaded.

  c. Change directory to the `/tmp` directory.

  ```
  % cd /tmp
  ```

  d. Unzip the `FloppyPack.zip` file.

  For example:

  ```
  % unzip FloppyPack_1_1_1.zip
  ```

  This will create a new `files` directory.

2. **Change directory into the `files` folder.**

   ```
   % cd /tmp/files
   ```

3. **Navigate to the `image` folder.**

4. **Copy the `floppy.img` file to a location on the system that will be available during installation.**

5. **Note the location of the `floppy.img` file and proceed to** Chapter 6**.**

   You will need this location during the Windows Server 2003 installation.

CHAPTER 6

Configuring the JavaRConsole System

This chapter describes how to set up the JavaRConsole system to deliver the mass storage drivers and Windows Server 2003 media for operating system installation.

Note – If you have chosen both the *Diskette Local* and *Windows Local* delivery methods in Chapter 4, proceed to Chapter 7.

- You will need to set up a JavaRConsole system if you have chosen any one of the following mass storage driver or Windows media delivery methods described in Chapter 4:
  - *Diskette Remote*
  - *Diskette Image*
  - *Windows Remote*
  - *Windows Image*

Note – This procedure does not provide detailed instructions for setting up the JavaRConsole hardware. See the *Integrated Lights Out Manager (ILOM) Administration Guide* (PN 819-1160) for further information.

JavaRConsole System Requirements

The requirements for the JavaRConsole system are:

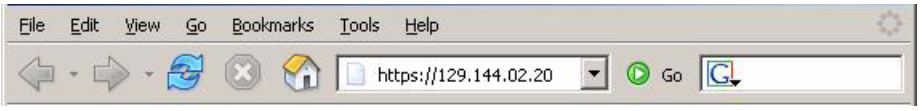
- Solaris, Linux, or Windows operating system is installed.
- The system must be connected to a network that has access to the Sun Fire X4600 series Ethernet management port.
- Java Runtime Environment (JRE) 1.5 or later is installed.
- If the JavaRConsole system is running Solaris, volume management must be disabled for JavaRConsole to access the physical diskette and/or CD/DVD-ROM drives.
- If the JavaRConsole system is running Windows Server, Internet Explorer Enhanced Security must be disabled.

Note – This procedure assumes that the JavaRConsole system and ILOM service processor have been set up according to the instructions in the *Integrated Lights Out Manager (ILOM) Administration Guide* (PN 819-1160).

Setting Up the JavaRConsole System

1. **Start the remote console application by typing the IP address of the Integrated Lights Out Manager (ILOM) service processor into a browser on the JavaRConsole system.**

FIGURE 6-1 URL Sample



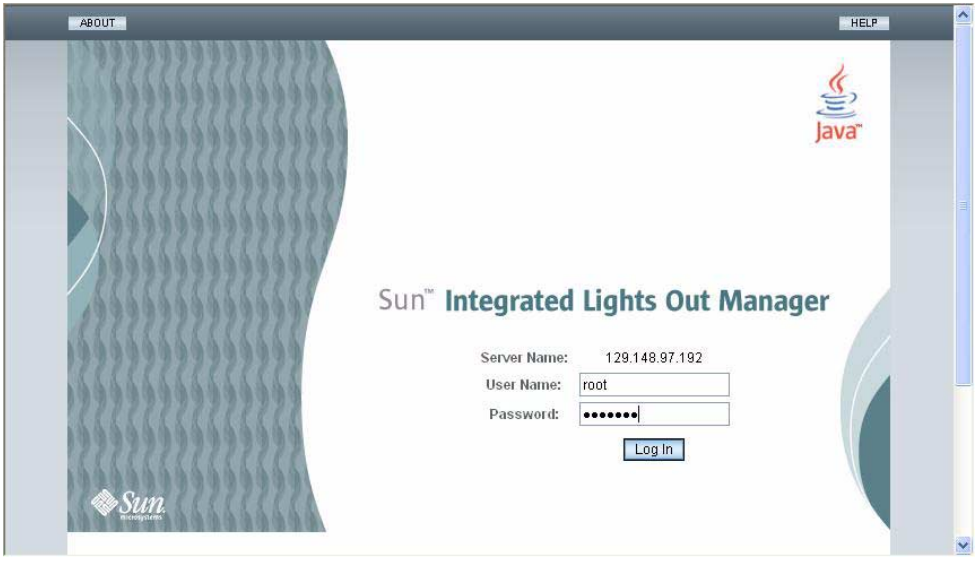
The Security Alert dialog box displays.

FIGURE 6-2 Security Alert Dialog Box

2. **Click** Yes.

   The ILOM login screen appears.

FIGURE 6-3 Login Screen

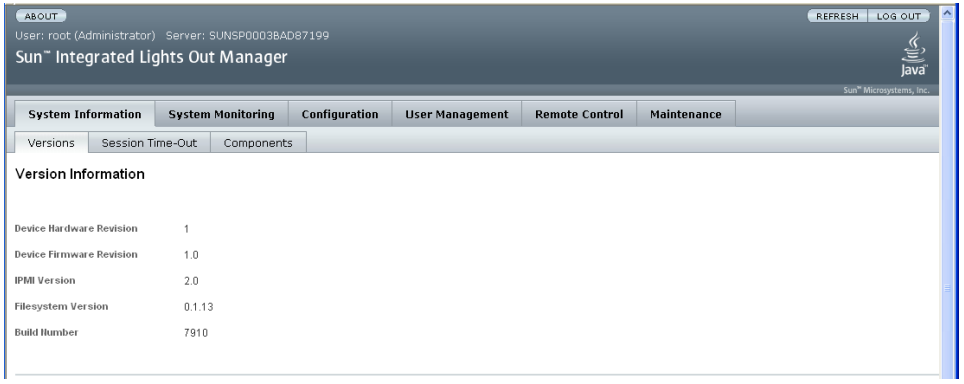


3. **Enter the user name and password and click** Log In**.**

   The default user name is **`root`** and default password is **`changeme`**.

The ILOM Version Information screen appears.

FIGURE 6-4 ILOM GUI Version Information Screen

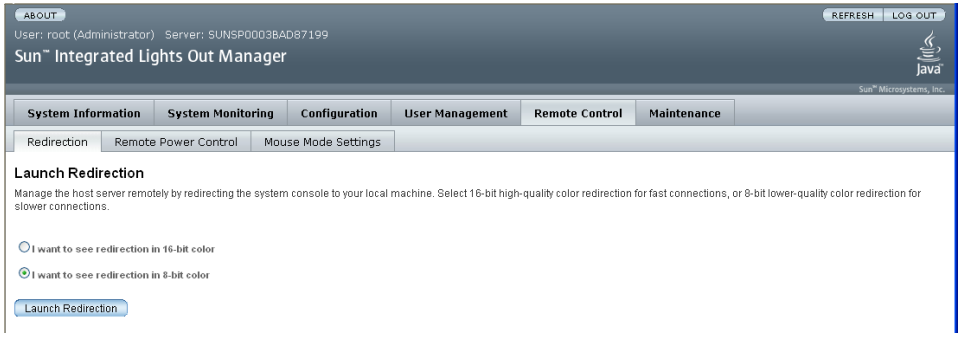


4. **Click the** Remote Control **tab in the ILOM GUI.**

The Launch Redirection screen appears.

Note – Make sure that the mouse mode is set to Absolute mode in the Mouse Mode Settings tab.

FIGURE 6-5 ILOM GUI Launch Redirection Screen



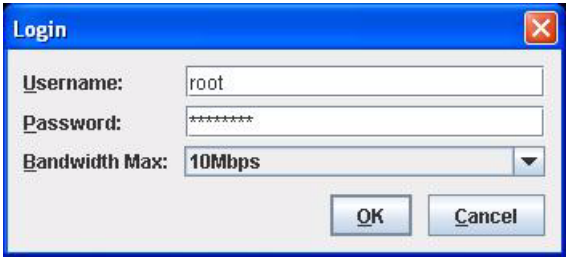
5. **Click** 8-bit color **or** 16-bit color**, then click** Launch Redirection**.**

Note – When using a Windows system for JavaRConsole System redirection, an additional warning appears after clicking Launch Redirection. If the Hostname Mismatch dialog box is displayed, click the Yes button.

FIGURE 6-6 Hostname Mismatch Dialog Box

The Remote Control dialog box appears.

FIGURE 6-7 Remote Control Login Dialog Box

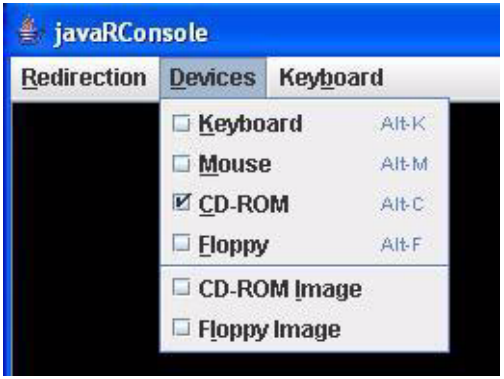


6. **In the** Remote Control Login **dialog box, enter your user name and password and click** OK**.**

   The default user name is **`root`** and password is **`changeme`**.

   After the login is successful, the JavaRConsole screen appears.

FIGURE 6-8 JavaRConsole Devices Menu



7. **From the** Devices **menu, select one diskette item and/or one CD item according to the delivery method you have chosen.**

- *Diskette Remote*: Select Floppy to redirect the server to the contents of the physical diskette drive attached to the JavaRConsole system.
- *Diskette Image*: Select Floppy Image to redirect the server to the mass storage drivers diskette image file located on the JavaRConsole system.
- *CD-ROM Remote*: Select CD-ROM to redirect the server to the operating system software CD contents from the CD/DVD-ROM drive attached to the JavaRConsole system.
- *CD-ROM Image*: Select CD-ROM Image to redirect the server to the operating system software `.iso` image file located on the JavaRConsole system.

Caution – Using the CD-ROM Remote or CD-ROM Image options to install the Windows Server 2003 will significantly increase the time necessary to perform the installation as the content of the CD-ROM is accessed over the network. The installation duration will depend on the network connectivity and traffic.

CHAPTER 7

Installing Windows Server 2003

This chapter describes how to install the Windows Server 2003 operating system directly onto a Sun Fire X4600 server using the Windows Server 2003 media.

Installation Requirements

Before beginning the operating system installation, make sure that the following requirements are met.

For all installation methods:

- Complete the procedures in the previous chapters of this document.
- Verify that a keyboard and mouse are attached to the appropriate connections on your Sun Fire X4600 server. Make sure to leave a rear USB port free if you selected the *Diskette Local* mass storage drivers installation method.
- For information about specific details of the operating system installation, refer to your Microsoft Windows documentation.

Note – The complete Microsoft Windows operating system installation process is not documented in this section. This section documents only the steps that are specific for installing Windows Server 2003 on a Sun Fire X4600 server.

For requirements specific to the mass storage driver and Windows media delivery methods that you have chosen, see TABLE 7-1.

TABLE 7-1 Requirements for Each Installation Method

Method	Action or items required
Diskette Local	Connect the USB diskette drive to the rear of the server and insert the mass-storage device diskette into the diskette drive.* Note: Connecting the USB diskette drive to a USB connector on the front of the server will cause the installation to fail.
Diskette Remote	Connect the diskette drive to the JavaRConsole system (if necessary) and insert the mass-storage drivers diskette into the diskette drive.
Diskette Image	Ensure that the `floppy.img` file is accessible from the JavaRConsole system.
Windows Local	Make sure that the Microsoft Windows Server 2003 installation media and a DVD-ROM drive are available.
Windows Remote	Insert the Microsoft Windows Server 2003 installation media into the JavaRConsole system's CD or DVD-ROM drive.
Windows Image	Ensure that the Windows Server 2003 installation media is accessible from the JavaRConsole system.

* See the list of USB diskette drives listed as "Designed for Windows" on the Windows Marketplace site at `http://testedproducts.windowsmarketplace.com/`

Installing the Operating System

Follow these steps to install the Microsoft Windows Server 2003 software onto your Sun Fire X4600 server.

Note – The Solaris Operating System is preinstalled on the Sun Fire X4600 server boot disk. The Windows installation will format the boot disk and all data will be lost.

---

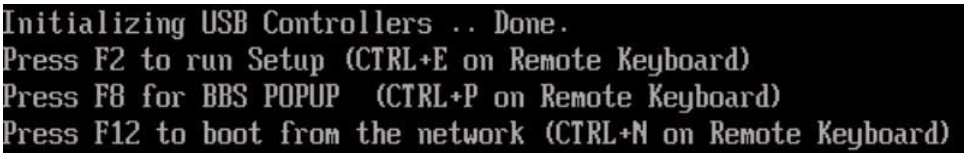
1. **Make sure that you have completed all of the requirements listed in** Installation Requirements**.**

2. **Power cycle the Sun Fire X4600 server.**

   The BIOS POST process begins.

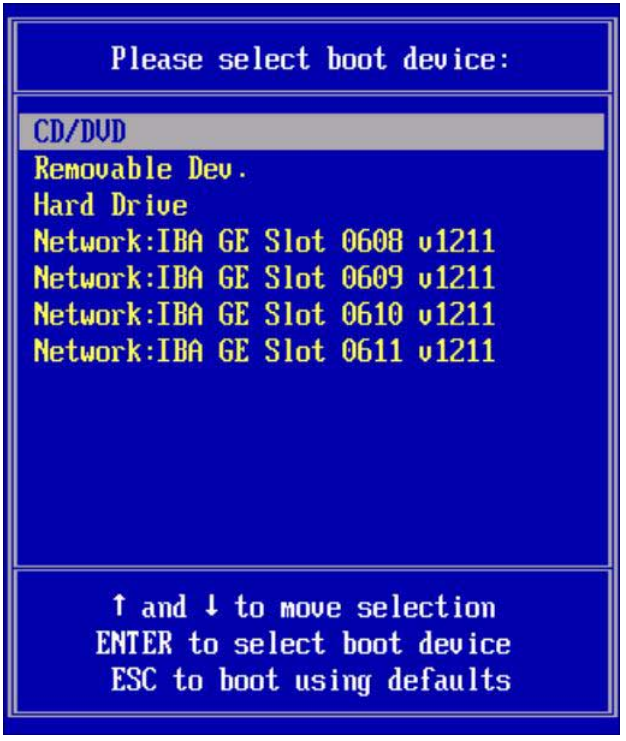
3. **When the** Press F8 for BBS POPUP **prompt appears on the** BIOS POST **screen, press** F8**.**

FIGURE 7-1 F8 Prompt



When the BIOS POST process is complete, the Boot Device menu appears.

FIGURE 7-2 Boot Device Menu



4. **If you have selected the Windows Local installation method, insert the CD now.**

5. **Select** CD-ROM **from the Boot Device menu.**

Note – After you press Enter in Step 6, the next actions must be performed quickly. Read Step 7 and Step 8 before proceeding, so that you will know what to look for.

6. **Press** Enter**.**

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

Note – The prompt is displayed for five seconds and is easy to miss. If you miss the prompt, you will need to restart the system and go back to Step 3.

During the early part of Windows Setup, the following message appears at the bottom of the screen:

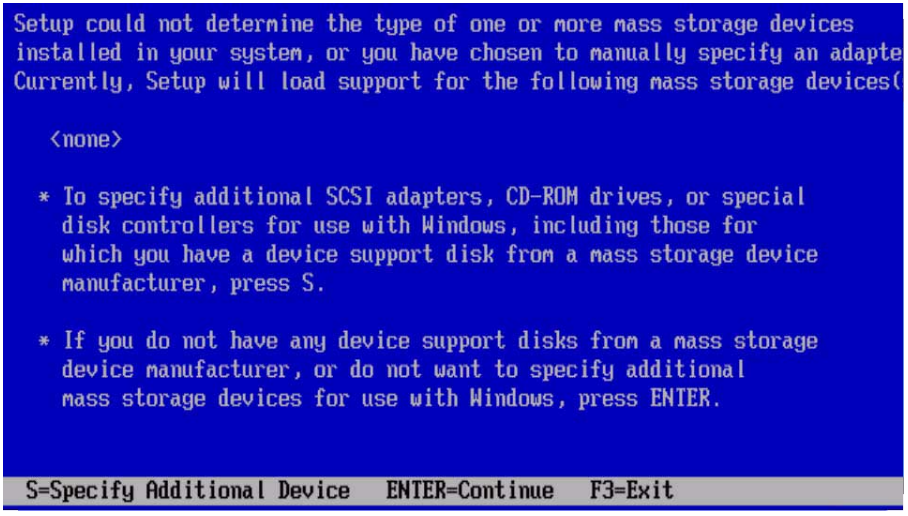
```
Press F6 if you need to install a third party SCSI or RAID driver.
```

8. **Press** `F6` **to install mass-storage drivers.**

Note – The prompt is displayed for five seconds and is easy to miss. If you don't press F6 while the prompt is being displayed, the screen allowing you to specify additional drivers is not displayed and the installation will fail. You will need to restart the system and go back to Step 3.

A screen appears, prompting you to press S to specify additional devices.

FIGURE 7-3 Specify Additional Device Screen



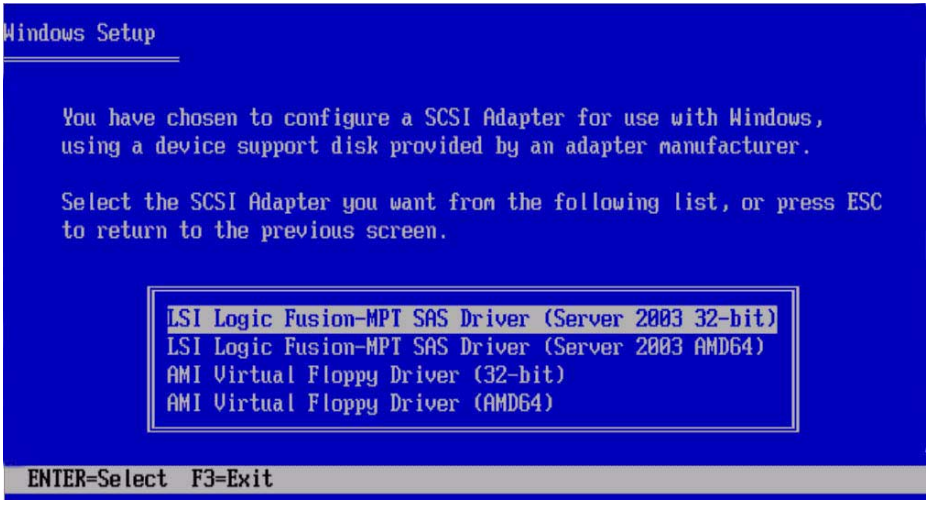
9. **Make sure that the mass storage drivers are accessible according to the mass storage driver installation method that you have selected.**

- *Diskette Local*: Mass storage drivers diskette in diskette drive A on the Sun Fire X4600 server
- *Diskette Remote*: Mass storage drivers diskette in the JavaRConsole server diskette drive
- *Diskette Image*: `floppy.img` available on the JavaRConsole system

10. **Press `S` to specify additional devices.**

    A screen appears listing the available drivers.

FIGURE 7-4 Select SCSI Adapter Screen



11. **Select the appropriate version of the LSI Logic Fusion-MPT SAS Driver, depending on the version of Windows you are installing (Server 2003 32-bit or Server 2003 AMD64), then press Enter.**

    A screen appears, confirming your selections and allowing you to select additional drivers.

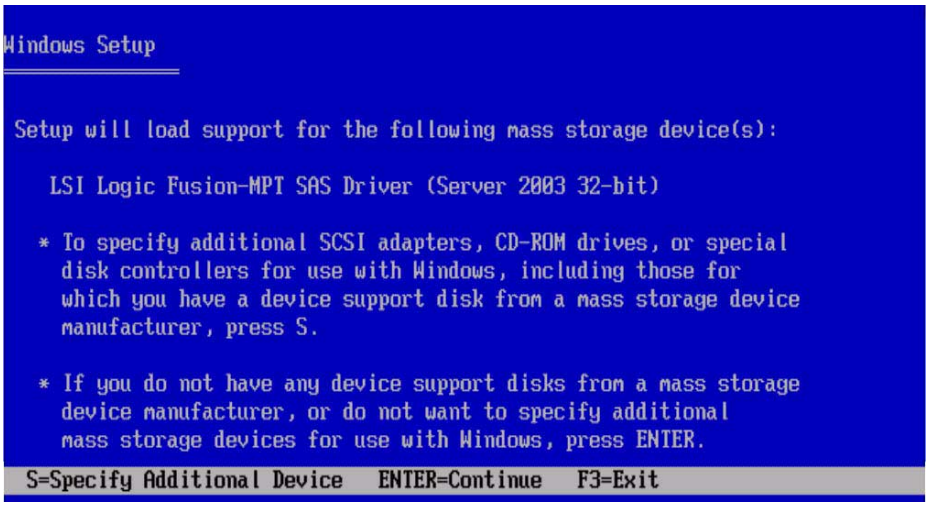
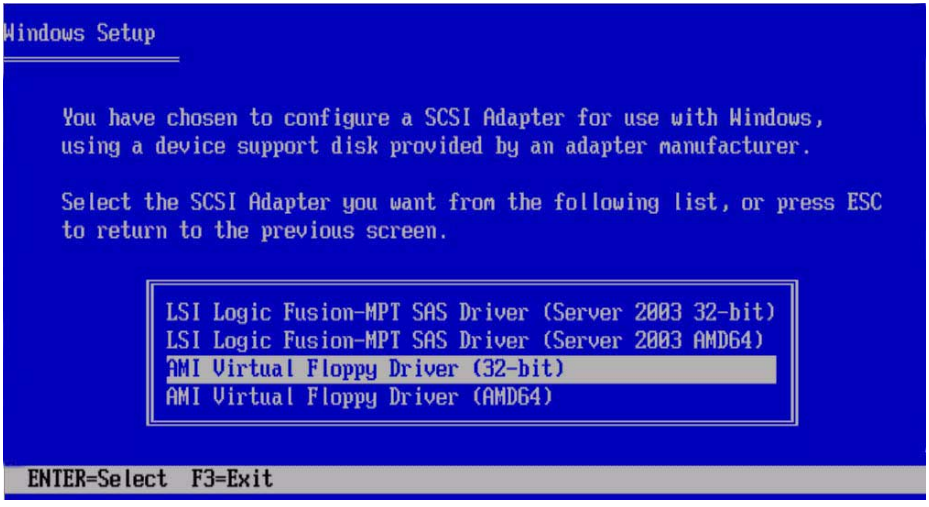


FIGURE 7-5 Specify Additional Device Screen

12. **If you are installing Windows using the Diskette Remote or the Diskette Image Delivery Method, press** S**; otherwise press Enter and proceed to** Step 14**.**

    A screen appears listing the available drivers.

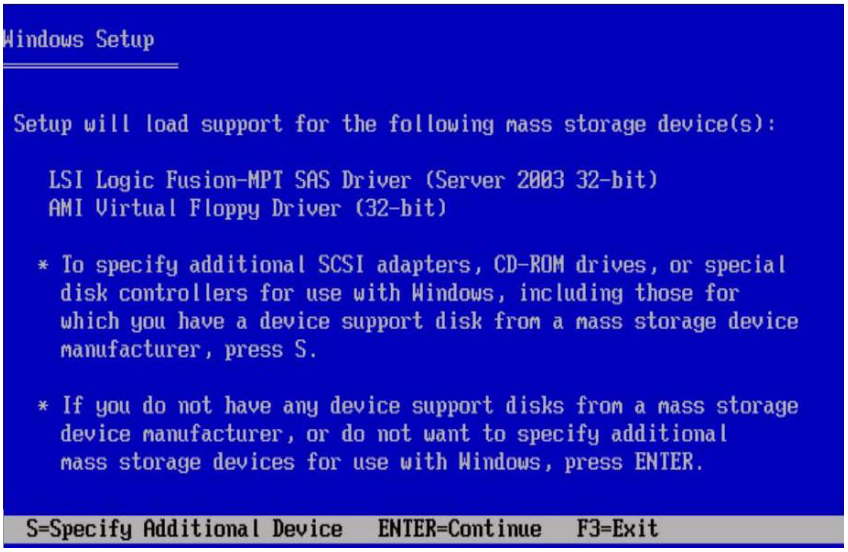
FIGURE 7-6 Select SCSI Adapter Screen



13. **Select the appropriate version of the AMI Virtual Floppy Driver, depending on the version of Windows you are installing (32-bit or AMD64), then press** Enter.

    Windows Setup will display the following screen, showing both the drivers you have selected.

FIGURE 7-7 Specify Additional Device Screen



14. **Press** Enter **to continue.**

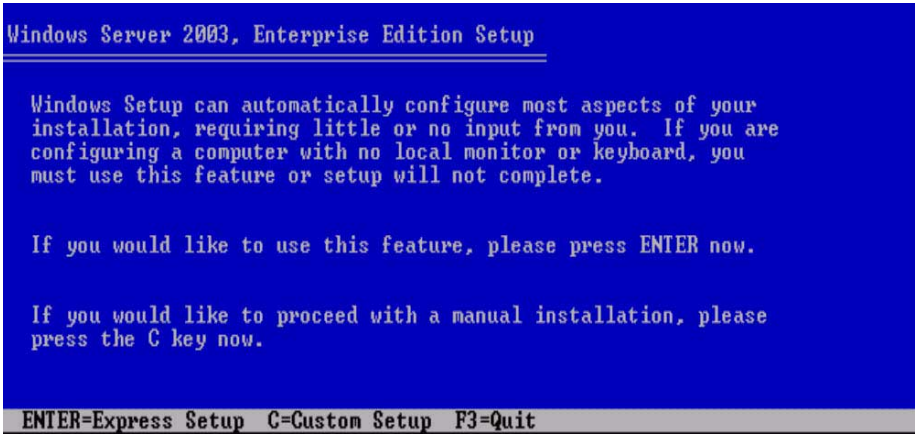
    The Welcome to Windows Setup screen appears.

FIGURE 7-8 Welcome to Setup Screen

15. **Press** Enter **to continue.**

    Windows Setup will continue and display the following screen, allowing you to select Express Setup or Custom Setup.

FIGURE 7-9 Select Setup Screen



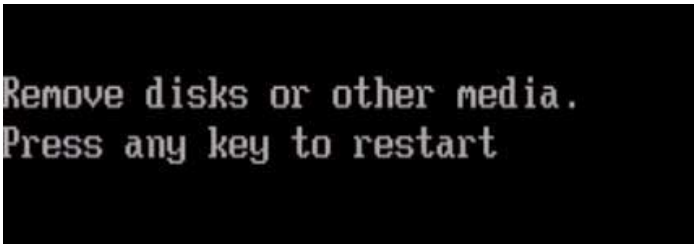
Note – If you plan to use hardware RAID on the system disk, you must select Custom Setup and manually partition the disk. Make sure to reserve a minimum of 64 MB of unpartitioned space at the end of the drive.

16. **Press** Enter **for Express Setup.**

17. **Follow the onscreen instructions to complete the Windows Server 2003 Installation.**

    During installation, the system will reboot and the following message could appear.

FIGURE 7-10 Remove Disk Message



If this message appears, you will need to complete the following steps to complete the installation:

a. **Do one of the following, depending on which mass storage driver delivery method you have selected:**

- *Diskette Local*: Remove the diskette from the diskette drive on the Sun Fire X4600 server.
- *Diskette Remote*: Remove the diskette from the JavaRConsole server.
- *Diskette Image*: Deselect Floppy Image form the JavaRConsole Devices menu.

b. **Press any key to restart the system and complete Windows Server 2003 Installation.**

18. **Proceed to** Updating the Critical System-Specific Drivers**.**

CHAPTER 8

Updating the Critical System-Specific Drivers

This chapter describes how to update the Windows Server 2003 installation with the Sun Fire X4600 server-specific device driver software.

Note – The figures in this appendix show another system, but the updating process is identical.

This appendix contains the following sections:

- "Updating the System-Specific Drivers" on page 41
- "Updating the AMD Processor Drivers" on page 49

The procedures in this appendix assume that you have already:

- Installed the Microsoft Windows Server 2003 operating system on the Sun Fire X4600 server.
- Downloaded the `DriverUpdatePackage.exe` as described in "Downloading Server-Specific Driver Packages" on page 7.
- Have the `DriverUpdatePackage.exe` readily available.

Updating the System-Specific Drivers

To update the system-specific drivers:

1. **Copy the `DriverUpdatePackage.exe` file from its current location to a local drive on the Sun Fire X4600 server.**

Note – A version number that represents the current version of the software update package will also be part of the package name.

2. **Start the** `DriverUpdatePackage.exe` **application.**

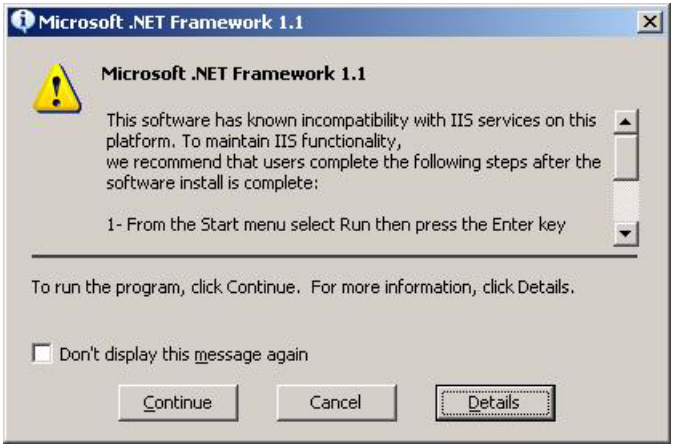
   The Sun Fire X4600 server Driver Update Package Setup dialog box displays.

FIGURE 8-1 Driver Update Package Setup Dialog Box

3. **Click** OK.

- If you are updating the drivers for Windows Server 2003 32-bit, proceed to Step 6.
- If you are updating the drivers for Windows Server 2003 64-bit, the Microsoft .NET Framework 1.1 dialog box displays.

FIGURE 8-2 Microsoft .NET Framework Dialog Box

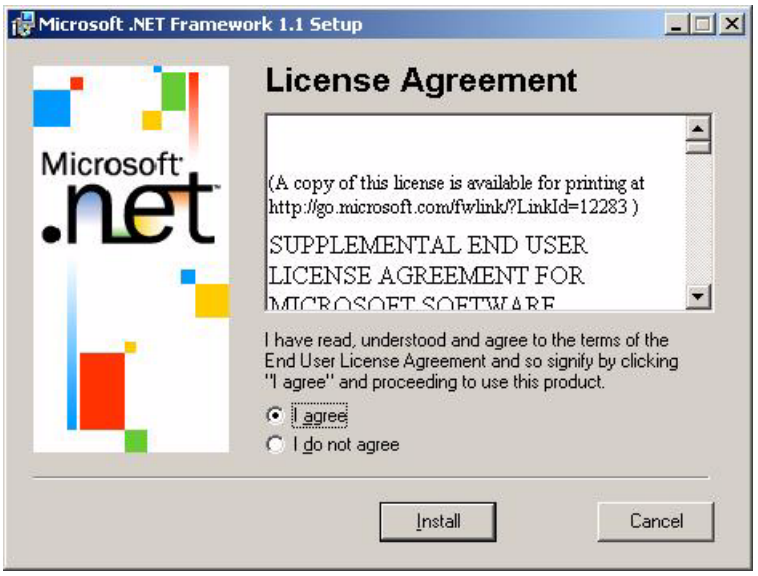


4. **Install Microsoft .NET as follows:**

   a. **Click** Continue.

      The License Agreement dialog box displays.

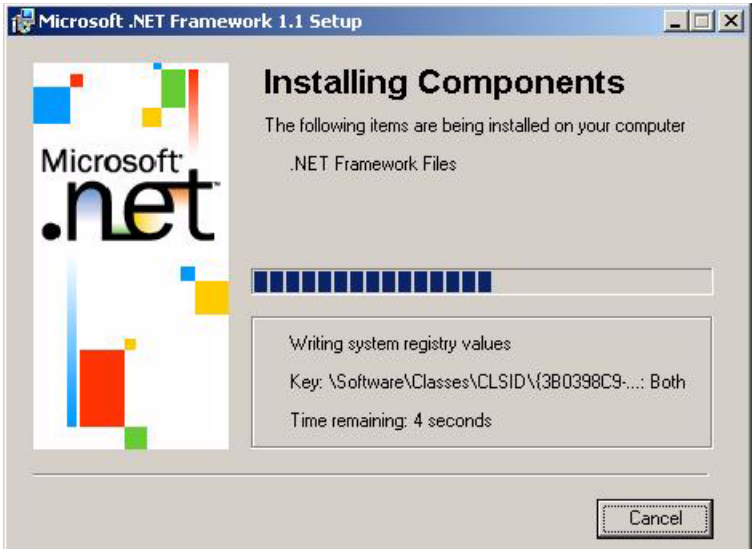
FIGURE 8-3 License Agreement Dialog Box



b. Click the option I Agree**, then click** Install**.**

The Installing Components dialog displays.

FIGURE 8-4 Installing Components Dialog Box



After the installation completes, an Installation Complete dialog box displays.

FIGURE 8-5 Installation Complete Dialog Box

5. **Click** OK.

6. **Continue the installation.**

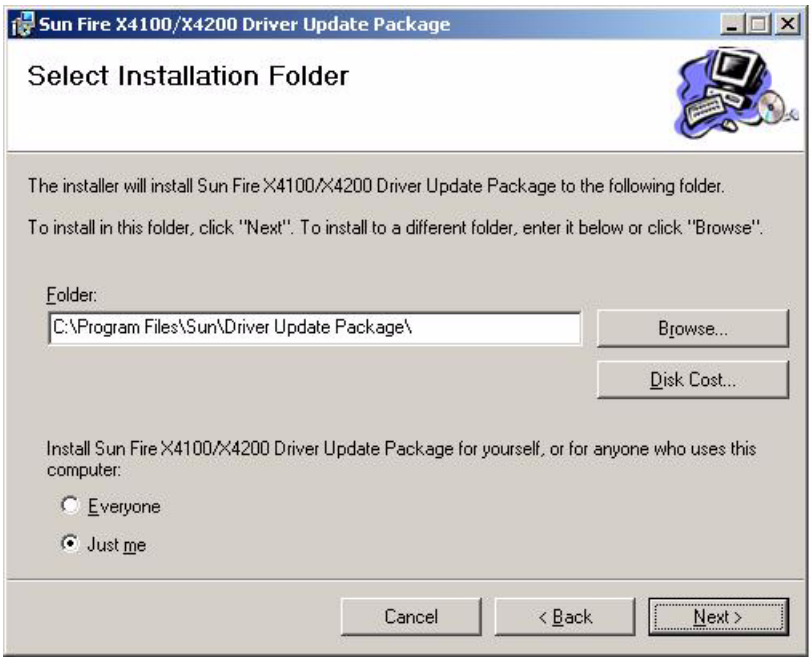
   The Sun Fire X4600 server Driver Update Package Setup Wizard dialog box displays.

FIGURE 8-6 Driver Update Package Setup Wizard Dialog Box

7. **Click** Next.

   The Select Installation Folder dialog box displays.

FIGURE 8-7 Select Installation Folder Dialog Box



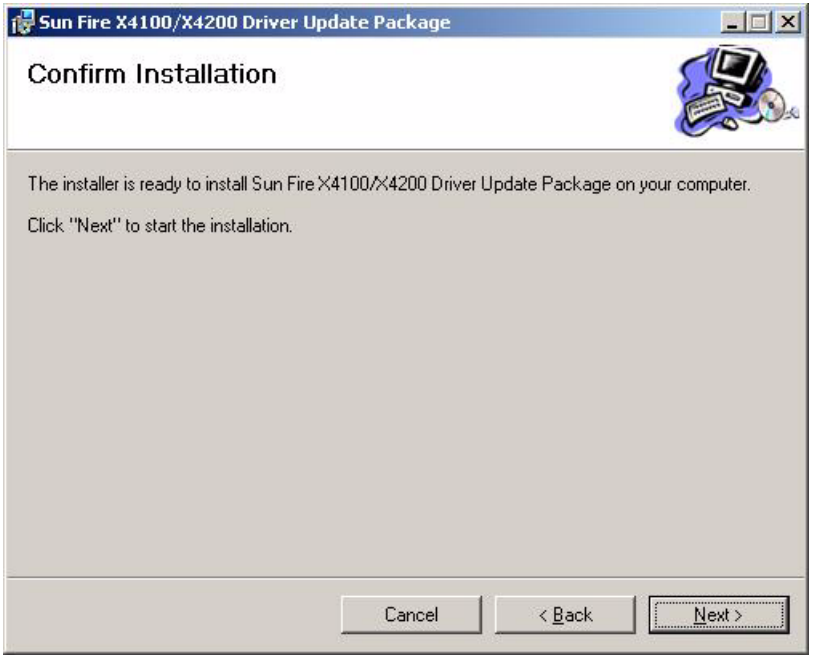
Note – For 64-bit installation, the default path is `C:\Program Files(x86)\Sun\Driver Update Package\`

---

8. **Click** Next **to accept the default settings.**

   The Confirmation Installation dialog box displays.

FIGURE 8-8 Confirm Installation Dialog Box



9. **Click** Next**.**

   The installation will continue until the following dialog box displays.

FIGURE 8-9 AMD-8131 PCIX HyperTransport Tunnel Driver Dialog Box

10. **Click** OK**.**

    A series of four Security Alert dialog boxes could appear.

11. **For each Security Alert dialog box, click** Yes.

    After the Sun Fire X4600 server Driver Update Package installation completes, the following dialog box displays.

FIGURE 8-10 Driver Update Package Information Dialog Box

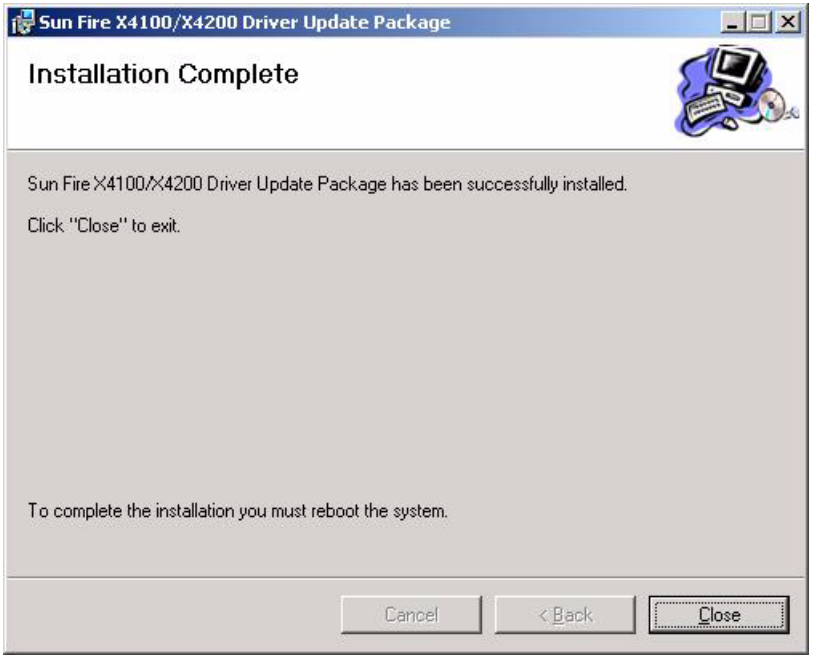
Note – The instructions in the Driver Update Package dialog box are provided in this document. You do not need to read the instructions in this dialog box.

---

12. **Click** Next.

    The Installation Complete dialog box displays.

FIGURE 8-11 Installation Complete Dialog Box



13. **Click** Close.

    The Setup Succeeded dialog box displays.

FIGURE 8-12 Setup Succeeded Dialog Box

14. **Click** OK **and proceed to** Updating the AMD Processor Drivers**.**

Updating the AMD Processor Drivers

To update the AMD processor drivers:

1. **Open the** Device Manager**.**

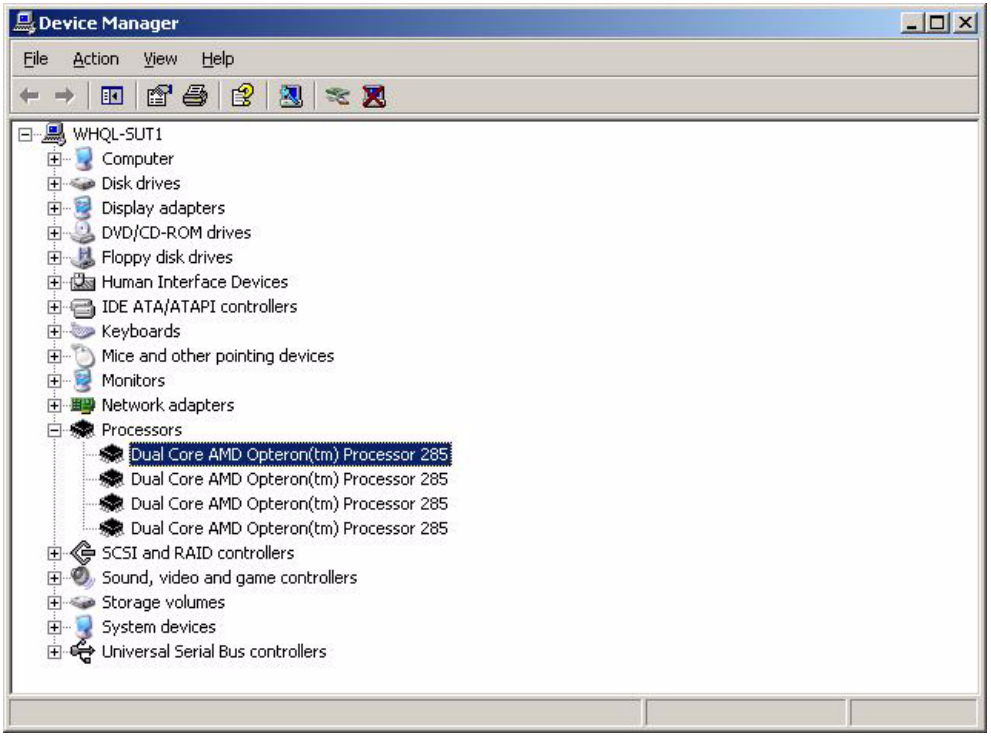
a. **On the Windows desktop taskbar, click the** Start **button, then click** Control Panel**.**

b. **In** Control Panel**, double-click the** System **icon**.

c. **In the** System Properties **dialog box, click the** Hardware **tab, then click** Device Manager**.**

2. **In** Device Manager**, expand the Processors list.**

FIGURE 8-13 Device Manager Window With Processors Expanded



3. **Right-click on the first processor in the list, then choose** Update Driver **from the shortcut menu.**

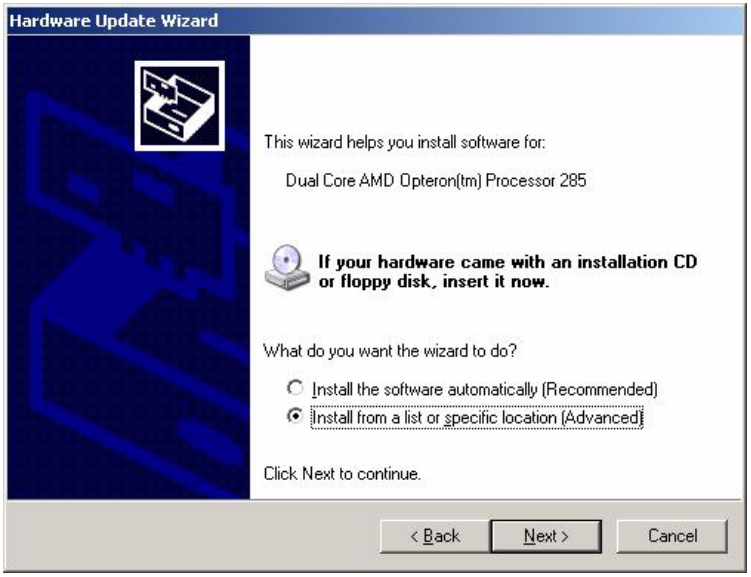
   The Welcome to the Hardware Update Wizard displays.

FIGURE 8-14 Welcome to the Hardware Update Wizard Dialog Box

4. **Select the option** No, not this time, **then click** Next.

   The Hardware Update Wizard dialog box displays.

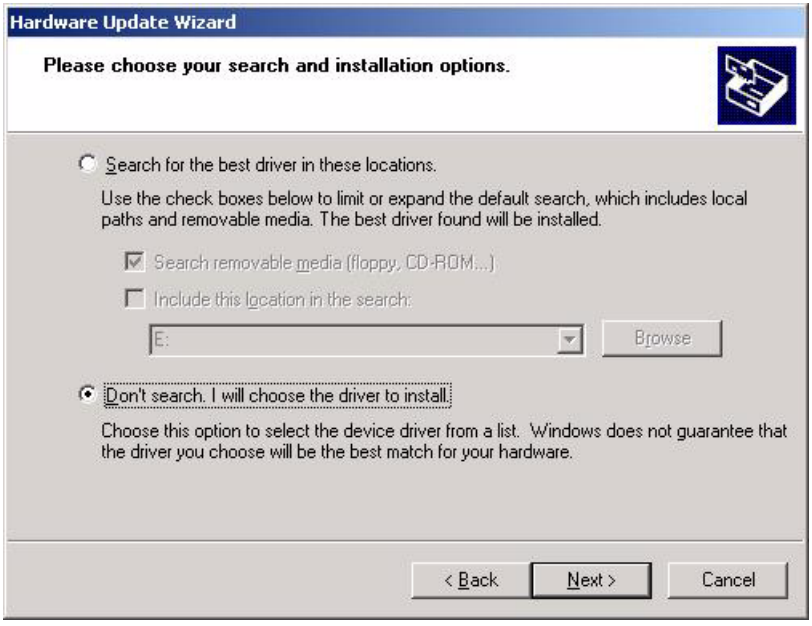
FIGURE 8-15 Hardware Update Wizard Dialog Box



5. **Click the option** Install from a list or specific location**, then click** Next**.**

   The Hardware Update Wizard dialog box displays, prompting you to choose a search and installation option.

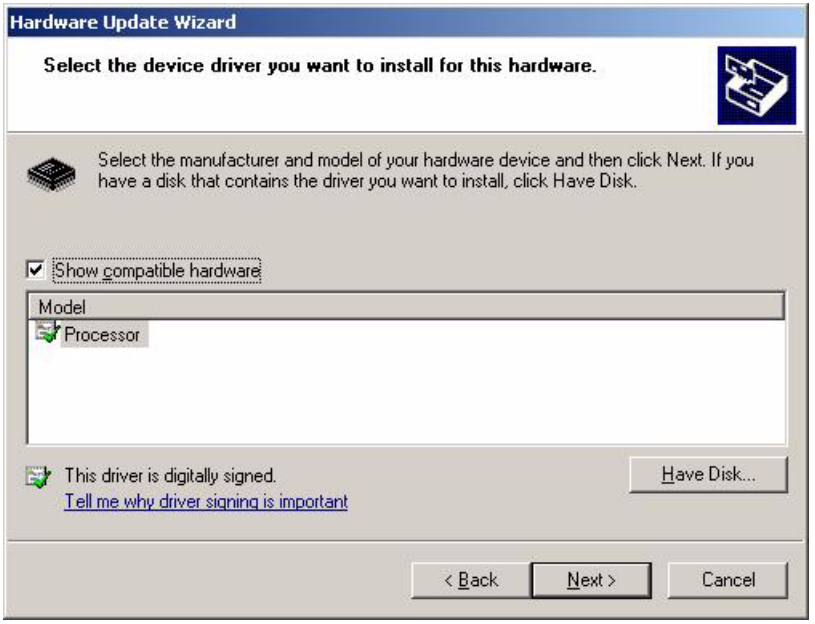
FIGURE 8-16 Hardware Update Wizard, Search Option Dialog Box



6. **Click the option** Don’t search, I will choose the driver to install**, and then click** Next**.**

   The Hardware Update Wizard dialog box displays prompting you to select a device driver to install.

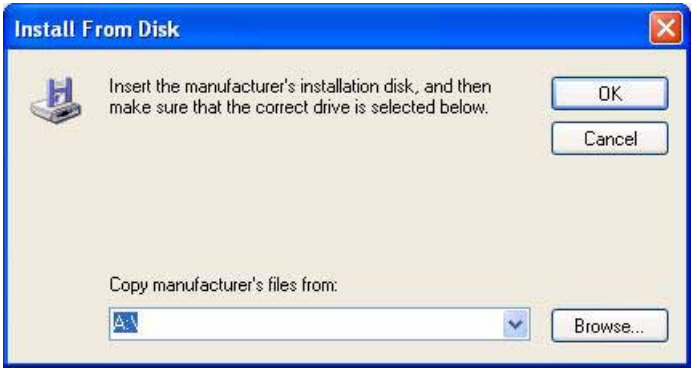
FIGURE 8-17 Hardware Update Wizard, Select Driver Dialog Box



7. **Click** Have Disk.

   The Install From Disk dialog box displays.

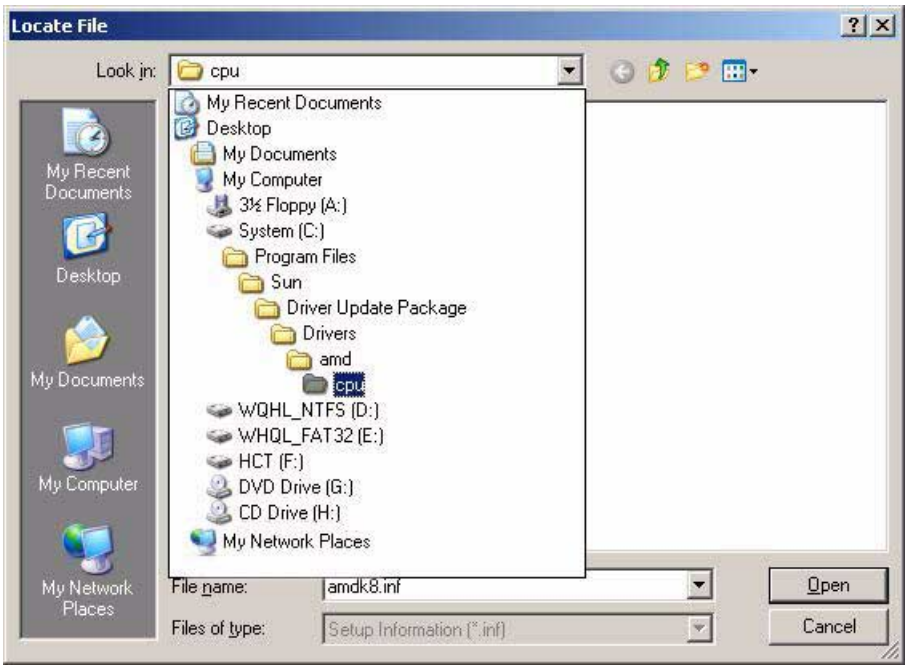
FIGURE 8-18 Install From Disk Dialog Box



8. **Click** Browse.

   The Locate File dialog box displays.

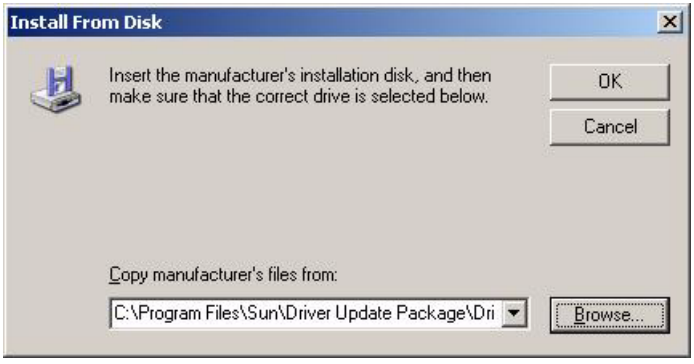
FIGURE 8-19 Locate File Dialog Box



9. Navigate to the location of the AMD processor driver, then click Open.[1]

The Install From Disk dialog box displays, with the path of the drive shown.

FIGURE 8-20 Install from Disk Dialog Box

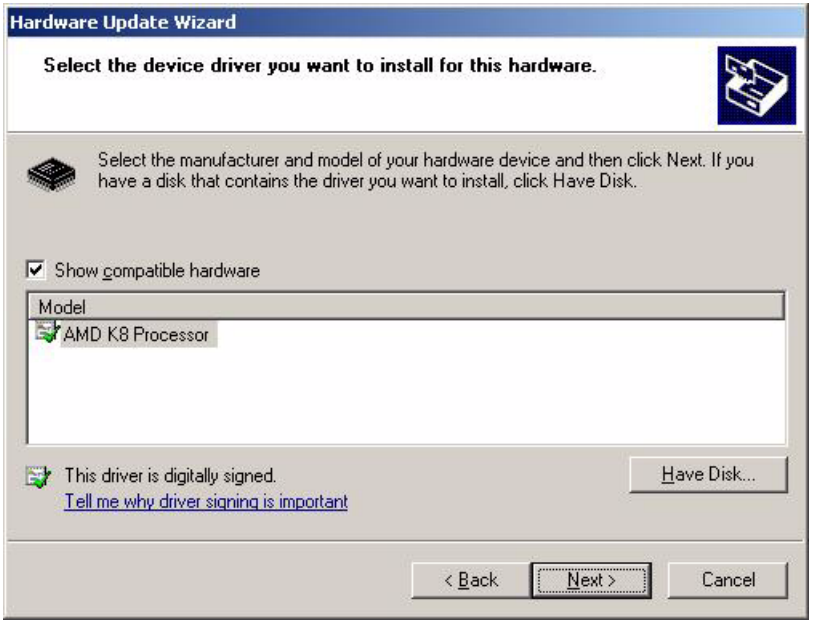


1. If you accepted the default installation folder in FIGURE 8-7, the location of the AMD CPU will be C: \Program Files \Sun \DriverUpdatePackage \Drivers \AMD \CPU for 32-bit or C: \Program Files(x86) \Sun \DriverUpdatePackage \Drivers \AMD \CPU for 64-bit.

10. **Click** OK.

    The Select Device Driver dialog box displays with the AMD K8 Processor in the Model list.

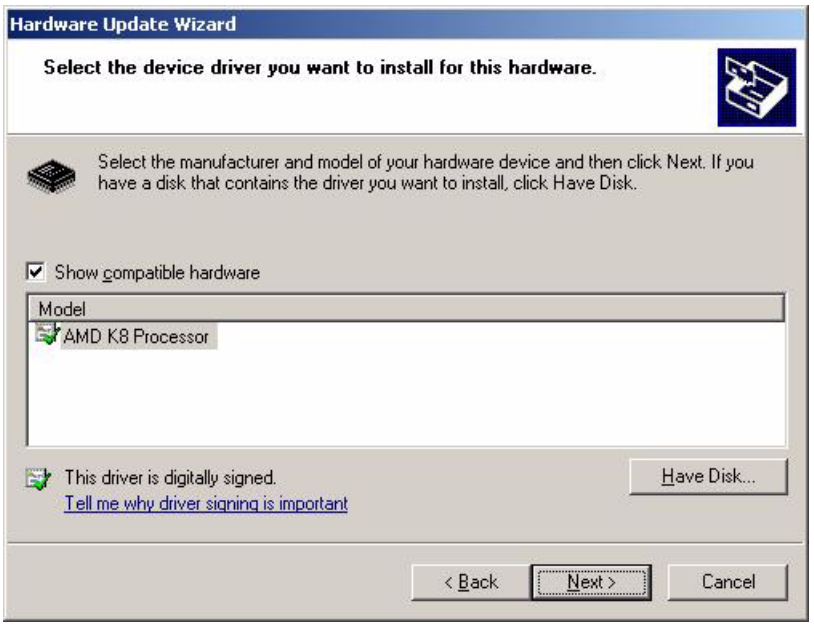
FIGURE 8-21 Select Device Driver Dialog Box



11. **Select the AMD K8 Processor, then click** Next.

    The Completing the Hardware Update Wizard dialog box displays.

FIGURE 8-22 Completing the Hardware Update Wizard Dialog Box



12. **Click** Finish**.**

    The System Settings Change dialog box displays.

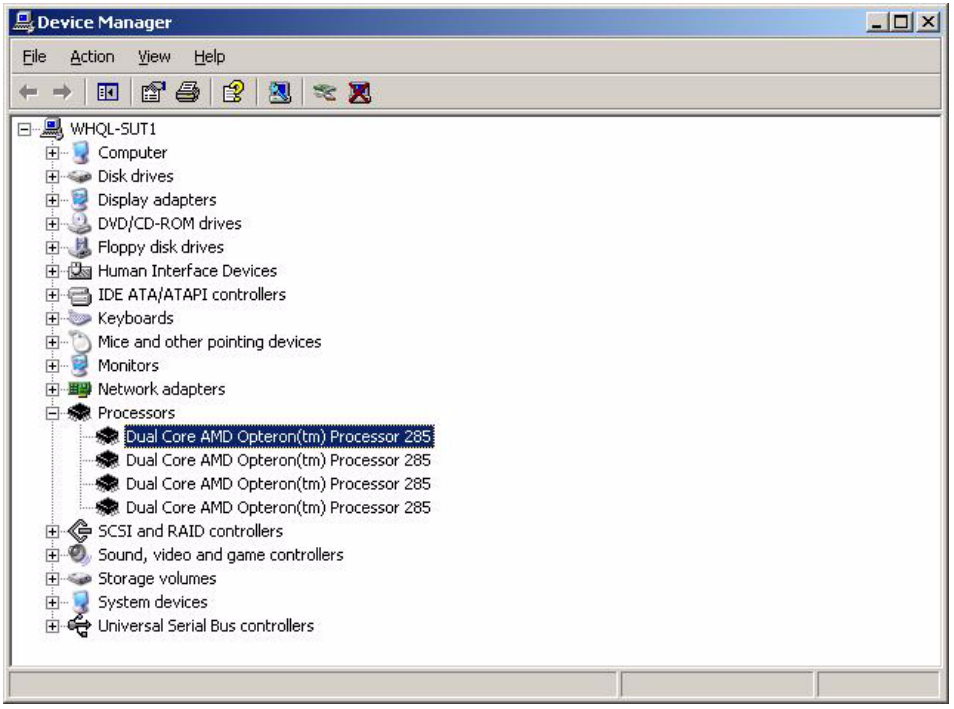
FIGURE 8-23 System Settings Change Dialog Box

13. **Click** No**.**

    You need to update all AMD processor drivers. It is not necessary to restart your computer until the drivers for all AMD processors have been updated. Continue with the following steps until all drivers have been updated.

14. **Open** Device Manager **and expand the Processor list.**

FIGURE 8-24 Device Manager Window With Processors Expanded



Note – The previously updated driver will be highlighted.

15. **Select the next processor on the list.**
16. **Right-click on the selected processor and choose** Update Driver **on the shortcut menu.**

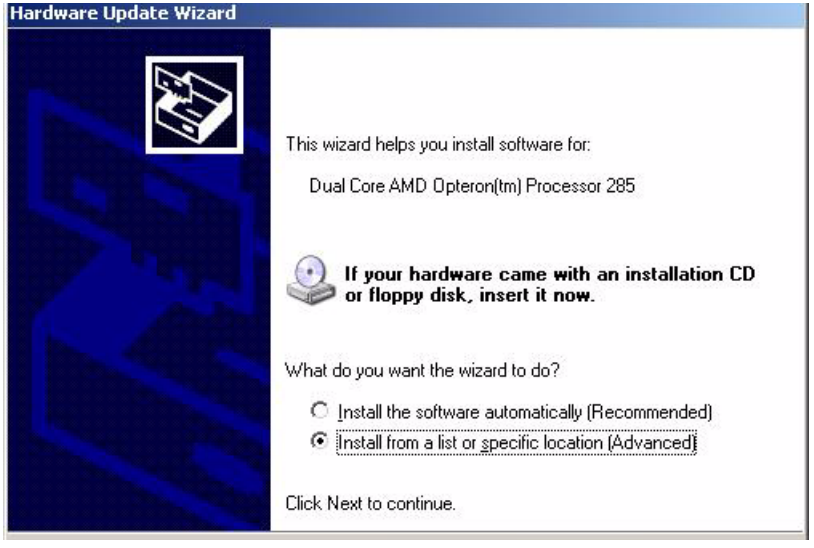
    The Welcome to the Hardware Update Wizard dialog box displays.

FIGURE 8-25 Welcome to Hardware Update Wizard Dialog Box

17. **Click the option** No, not this time **then click** Next.

    The Hardware Update Wizard dialog box displays.

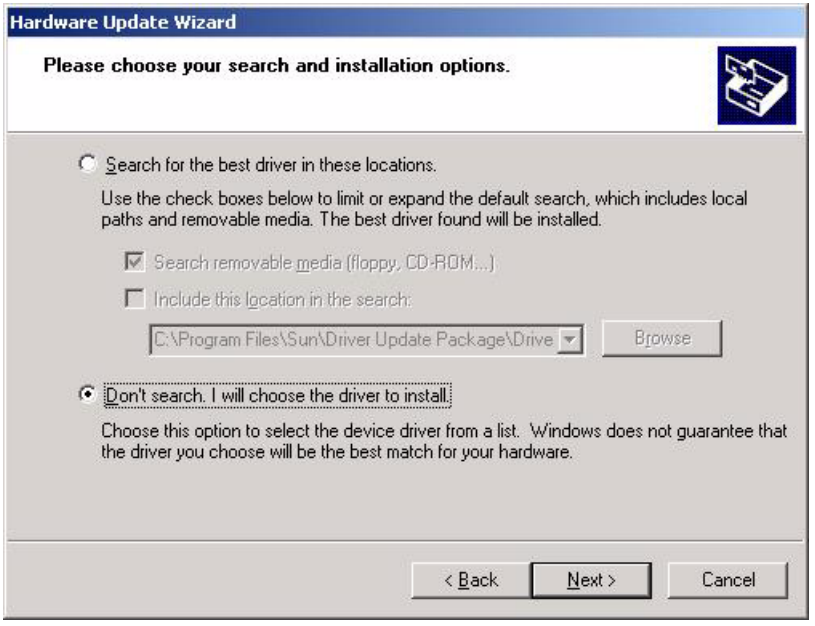
FIGURE 8-26 Hardware Update Wizard Dialog Box



18. **Click the option** Install from a list or specific location **and click** Next**.**

    The Hardware Update Wizard dialog box displays, prompting you to choose a search and installation option.

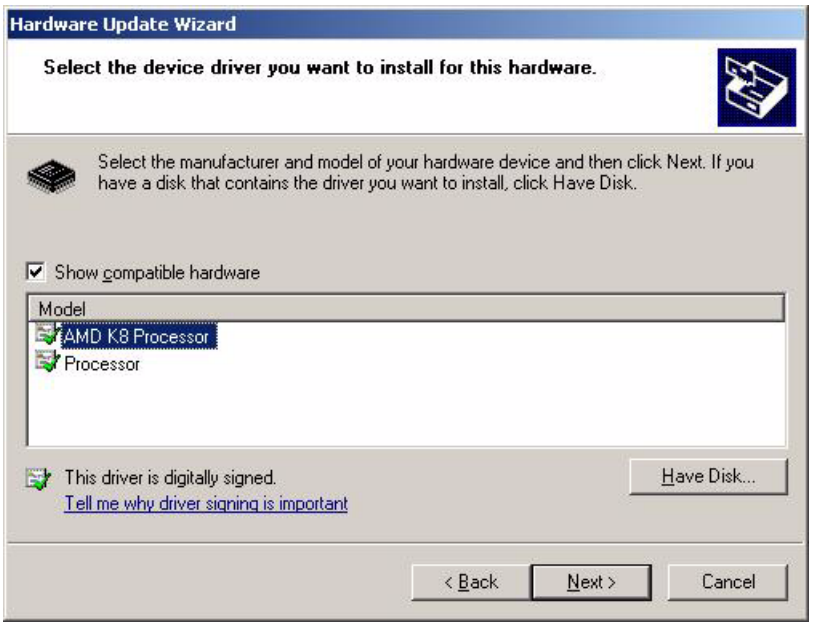
FIGURE 8-27 Hardware Update Wizard, Search Option Dialog Box



19. **Click the option** Don’t search, I will choose the driver to install**, then click** Next**.**

    The Hardware Update Wizard dialog box displays, prompting you to select a device driver to install.

FIGURE 8-28 Hardware Update Wizard, Select Driver Dialog Box



20. **Select the AMD K8 Processor, then click** Next**.**

    The Completing the Hardware Update Wizard dialog box displays.

FIGURE 8-29 Completing the Hardware Update Dialog Box

21. **Click** Finish**.**

    The System Settings Change dialog box displays, prompting you to restart your computer.

FIGURE 8-30 System Settings Change Dialog Box

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

- If there are additional AMD Processor drivers to update, click No and repeat Step 14 to Step 21.
- Once all of the AMD processor drivers have been installed, click Yes to restart the system.

Note – After all the system drivers are installed, you can remove the Sun Fire X4600 server Driver Update Package program from your system using the Add/Remove Program utility in the Control Panel.

You have now completed all of the steps necessary for Windows Server 2003 operating system and driver installation for Sun Fire X4600 server.

CHAPTER 9

Incorporating Sun Fire Drivers Into a RIS Image

This chapter is intended for advanced system administrators who need to incorporate the Sun Fire X4600 server driver package into a Remote Installation Service (RIS) image.

This chapter is not a tutorial on RIS; it provides guidance on how to incorporate the Sun Fire X4600 server-specific drivers into a RIS image.

- "Determine Required Drivers" on page 65
- "Add Drivers to the RIS Image" on page 66

Determine Required Drivers

The server-specific drivers that must be incorporated into a RIS image are shown in TABLE 9-1 for Sun Fire X4600 server.

TABLE 9-1 Server-specific Drivers Required for Sun Fire X4600 Server RIS

Device	Required for 32-bit Windows Server 2003	Required for 64-bit Windows Server 2003
AMD-8132 HyperTransport IOAPIC Controller	Yes	Yes
AMD K8 Processor	Yes	Yes
AMI Virtual Floppy	Yes	Yes
LSI 1064 HBA	Yes	Yes

TABLE 9-1 Server-specific Drivers Required for Sun Fire X4600 Server RIS

NVIDIA nForce PCI System Management	Yes	Yes
NVIDIA nForce4 HyperTransport Bridge	Yes	Yes
NVIDIA nForce4 Low Pin Count Controller	Yes	No

Add Drivers to the RIS Image

In the following procedure, `RemoteInstall\Setup\`*Language*`\Images\`*Dir_name*`\`*Arch* refers to the image located on the RIS server where the drivers will be added.

- *Language* is the language of the installed operating system (English, for example)
- *Dir_name* is the directory where the RIS image installed.
- *Arch* is either i386 or amd64 for the 32-bit or 64-bit images respectively.

The following procedure describes a method of incorporating the drivers into a RIS image.

1. **At the same level as the** `RemoteInstall\Setup\`*Language*`\Images\`*Dir_name*`\`*Arch* **folder on the RIS image, create a OEM folder.**
2. **In the OEM folder, create a** `Sun\Drivers` **folder.**
3. **Extract the contents of** `DriverPack.zip` **to a temporary location, making sure to maintain the directory structure.**
4. **Depending on the architecture (*Arch*) of your RIS image, copy the contents of the 32-bit or the 64-bit folder from the temporary location to the** `$OEM$\Sun\Drivers` **folder in the RIS image.**

   For `i386` use the 32-bit folder, for `amd64` use the 64-bit folder.
5. **Copy the** `$OEM$\Sun\Drivers\lsi\lsi_sas.sys` **file to the** `RemoteInstall\Setup\`*Language*`\Images\`*Dir_name*`\`*Arch* **folder.**
6. **Add the following text into the** `RemoteInstall\Setup\`*Language*`\Images\`*Dir_name*`\`*Arch*`\txtsetup.sif` **file, at the end of the visible text.**

```
[SourceDisksFiles]
lsi_sas.sys = 1,,,,,,3_,4,1

HardwareIdsDatabase]
PCI\VEN_1000&DEV_0050 = "lsi_sas"
PCI\VEN_1000&DEV_0054 = "lsi_sas"
PCI\VEN_1000&DEV_005E = "lsi_sas"
```

```
[SCSI.load]
lsi_sas = lsi_sas.sys,4

[SCSI]
lsi_sas = "LSI Logic Fusion-MPT SAS Driver (Server 2003 32-
bit)"
```

7. **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

8. **Make the following changes to the** `.sif` **file that is used for installation.**

   For readability, the OemPnpDriversPath information has been shown on multiple lines. The information must be entered on a single line..

TABLE 9-2 Sun Fire X4600 Server .sif File Changes

32-bit	64-bit

`[Unattended]`
`OemPreinstall = yes`
 	
`OemPnpDriversPath="`**`\Sun\Drivers\`**
`amd\8132\ioapic;\Sun\Drivers\`
`ami;\Sun\Drivers\lsi;\Sun\`
`Drivers\nvidia\smbus``"`
	`[Unattended]`
	`OemPreinstall = yes`
	
	`OemPnpDriversPath="`**`\Sun\Drivers\`**
	`amd\8132\ioapic;\Sun\Drivers\amd\`
	`cpu;\Sun\Drivers\ami;\Sun\Drivers\`
	`lsi;\Sun\Drivers\nvidia\smbus``"`

9. **Stop and start the Remote Installation Service (BINLSVC) 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**

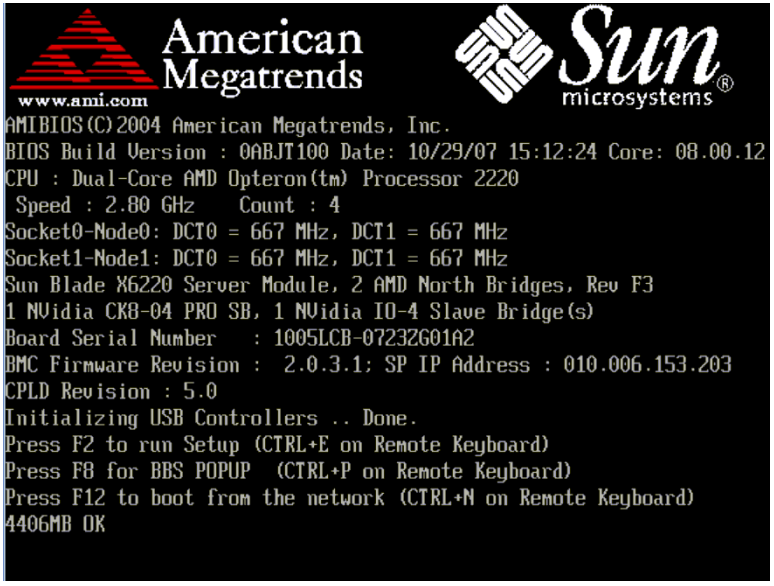
APPENDIX **A**

Configuring RAID for Any Operating System from the BIOS

If you want to install your OS on disks that are part of a RAID, there is an LSI RAID configuration utility that is entered from the server's BIOS and can be used for any operating system.

1. **Power off your server and then power it back on. The BIOS screen appears. Watch for the LSI Logic Corp. screen.**

FIGURE A-1 Opening Screen of the Server BIOS



Watch for the LSI Logic prompt to press Ctrl-C.

2. **When the BIOS screen shows the LSI Logic Corp. message, press Ctrl-C to start the LSI Logic Configuration Utility (see** FIGURE A-2**).**

FIGURE A-2 BIOS Screen Showing LSI Logic Corp. Message

3. **Follow the on-screen instructions to create a mirrored RAID.**

   You can choose between RAID 1 (two mirrored disks with an optional hot spare) or RAID 1E (three or more mirrored disks with one or two hot spares).

4. **Exit the LSI RAID configuration utility.**

5. **Install your OS on this RAID volume.**

Note – The LSI RAID configuration utility is described in detail in the *Sun LSI 106x RAID User's Guide* (820-4933), which is in the collection of documents for the X4600 server.

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