

Sun Netra X4250 Server

Operating System Installation Guide



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Preface

This installation guide contains operating system installation and initial software configuration procedures for the Sun Netra X4250 server from Oracle.

Related Documentation

The documentation set for the Sun Netra X4250 server documentation set is available online at:

(<http://docs.sun.com/app/docs/prod/server.nebs>)

Documentation, Support, and Training

These web sites provide additional resources:

| Sun Function | URL | Description |
|----------------------|--|--|
| Documentation | (http://docs.sun.com/) | Download PDF and HTML documents, and order printed documents. |
| Support and Training | (http://www.sun.com/support/) (http://www.sun.com/training/) | Obtain technical support, download patches, and learn about Sun courses. |

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Operating System Installation Overview and Preparation

This chapter contains an overview for installing a new operating system (OS) on your Sun Netra X4250 server. This chapter also provides the OS installation preparation procedures.

This chapter contains the following sections:

- “Supported Operating Systems” on page 1
- “Preparing for OS Installation” on page 3
- “Accessing the Server Output During Installation” on page 3
- “Erasing the Primary Boot Hard Disk” on page 4
- “Configuring Your Server for RAID” on page 5
- “Choosing an OS Installation Method” on page 6

Note – If you have the Oracle Solaris 10 operating system (OS) preinstalled on your Sun Netra X4250 server, see the *Sun Netra X4250 Server Installation Guide* for information about configuring the OS.

Supported Operating Systems

The Solaris 10 Operating System (OS) might be preinstalled on your server. If you do not plan to use the preinstalled Solaris OS, you can install one of the following supported minimum OS versions listed below:

- Solaris 10 08/07 OS
- Red Hat Enterprise Linux – RHEL 5, 32-bit and 64-bit

- SUSE Linux Enterprise Server – SLES 10 SP2, 64-bit
- Windows Server 2003 Enterprise SP2, 32-bit and 64-bit

Additional OS Support

Support for additional operating systems is available after the initial release of the Sun Netra X4250 server. An updated list of the supported operating systems is available at (<http://www.sun.com/servers/netra/X4250/os.jsp>).

Retaining the Packaged Installation Instructions

Instructions for installing the supported operating systems are provided in the media sets that are packaged with the OS software. Retain these installation instructions for use in these procedures.

Ordering Supported Versions of Linux From Sun

You can order supported versions of Red Hat and SUSE operating systems from Sun at (<http://www.sun.com/software/linux/index.html>).

Preparing for OS Installation

The following task map provides an overview of the tasks and relevant procedures for installing a new OS. Perform the tasks in the order given.

| Task Description | Section or Procedure |
|---|---|
| Set up the display environment. | “Accessing the Server Output During Installation” on page 3 |
| If you are not planning to install the Solaris OS, then you must erase the primary boot disk. Or, if you have the Solaris OS preinstalled on the server, you must remove it before installing a new OS. | “Erasing the Primary Boot Hard Disk” on page 4 |
| Configure your server for RAID. If you plan to configure your server for RAID operation, you must perform some setup tasks before installing the OS. | “Configuring Your Server for RAID” on page 5 |
| Install the OS, update the drivers, and run the OS updates, as necessary. | “Choosing an OS Installation Method” on page 6 and the chapter that corresponds to your OS: <ul style="list-style-type: none">• Chapter 3, “Solaris Operating System Installation”• Chapter 4, “Linux Operating System”• Chapter 5, “Windows Server 2003 Operating System Installation” |

Accessing the Server Output During Installation

If you are not using the local DVD drive and a monitor for the OS installation CD/DVD (or tasks related to the Tools and Drivers DVD), you have the following options for your display environment:

- View system output serially, through the service processor (SP) or through the physical port. See the *Sun Netra X4250 Server Installation Guide* for instructions on viewing system output through the serial console using the Sun Integrated Lights Out Manager (ILOM) SP.
- Use the Remote Console feature of the ILOM. See the *Sun Integrated Lights Out Manager 2.0 User’s Guide* for instructions on setting up the remote KVMs Over IP for virtual CD operation.

Erasing the Primary Boot Hard Disk

The Sun Netra X4250 server might have the Solaris 10 OS preinstalled on the hard drive, depending on your hard drive configuration. If you want to install a different OS or reinstall the Solaris 10 OS, use the Erase Primary Boot Hard Disk option on the Sun Netra X4250 Server Tools and Drivers DVD main menu. This option enables you to erase previously installed operating systems to make room for the new installation.



Caution – Selecting the Erase Primary Boot Hard Disk option from the Tools and Drivers DVD erases all of the partitions on the hard drive, with the exception of the diagnostic partition. All user data is lost. Ensure that you back up the hard drive before performing this action.

▼ To Erase the Primary Boot Hard Drive

1. **Back up the data on the hard drive that you want to save.**
2. **Insert the Tools and Drivers DVD into the server's optional DVD drive.**
If you have a system without a DVD drive, you can boot the Tools and Drivers DVD from a PXE server.
3. **Boot the system from the Tools and Drivers DVD.**
4. **When the main menu appears, choose the following option from the Tools and Drivers DVD main menu:**
 4. Erase Primary Boot Hard Disk
This option erases all partitions currently located on the primary hard drive, except for the diagnostic partition. If the diagnostic partition is present, it remains untouched.

Preinstalled Diagnostic Partition

A diagnostic partition is preinstalled on the Sun Netra X4250 server. If the diagnostic partition has been removed from the server, refer to the *Sun Netra X4250 Server Service Manual* for information about how to reinstall the partition from the Sun Netra X4250 Tools and Drivers DVD.

Configuring Your Server for RAID

Your Sun Netra X4250 server supports the LSI SAS3081E-R RAID controller cards. [TABLE 1-1](#) list the RAID drive options. More information is available in “[RAID Support Using the LSI SAS3081E-R Card](#)” on page 5.

TABLE 1-1 RAID Drive Options Based on SAS Card

| SAS CARD | RAID Configuration Supported |
|----------------|--|
| LSI SAS3081E-R | IM (integrated mirror) array. 2-disk minimum, plus up to 2 hot-spare disks. Data on primary disk <i>might</i> be merged. |
| | IME (integrated mirror enhanced) array. 3 to 10 disks including up to 2 hot-spares. All data is deleted during creation. |
| | IS (integrated striping) array. 2 to 10 disks. All data is deleted during creation. |

RAID Support Using the LSI SAS3081E-R Card

The LSI SAS3081E-R SAS card supports all operating systems for SAS hard disks, and several RAID levels (see [TABLE 1-1](#)). Refer to the *Sun Netra X4250 Server Service Manual* for instructions on installing and cabling the LSI PCIe card. For LSI RAID support, you must have installed the LSI SAS3081E-R card and cables installed.

See the chapter that corresponds to the OS that you want to install for further details on configuring RAID:

| OS | Section |
|---------------------|--|
| Solaris | Chapter 3, Solaris Operating System Installation |
| Linux | Chapter 4, Linux Operating System Installation |
| Windows Server 2003 | Chapter 5, Windows Server 2003 Operating System Installation |

Choosing an OS Installation Method

This section provides an overview of the OS installation methods:

| Method | Section |
|--------------------|--|
| CD/DVD | “Using the CD/DVD Drive” on page 6 |
| Network/PXE | “Using Network Installation” on page 6 |
| Remote console | “Using Remote Console With Virtual CD-ROM” on page 7 |
| Serial redirection | “Using Serial Redirection” on page 7 |

Using the CD/DVD Drive

This method includes installing the OS directly onto the server, using the server’s CD/DVD drive and a VGA monitor attached to the system.

For information about CD/DVD installation for your specific OS, refer to the instructions included in your OS installation software or the online documentation referenced in the specific OS chapters in this document.

Using Network Installation

This method involves setting up an installation on a host server, and then installing the OS using the Preboot Execution Environment (PXE) protocol over the network. Network installation methods include:

- AutoYast for the SUSE
- Kickstart for Red Hat
- JumpStart for the Solaris OS
- Remote Installation Services (RIS) for the Windows OS

For details on network installation for your specific OS, refer to the instructions included in your installation software or the specific OS chapters in this document. For instructions on RIS installation for the Sun Netra X4250 server, see [Appendix B](#).

Using Remote Console With Virtual CD-ROM

This method includes using a remote networked system to install the OS onto the Sun Netra X4250 server. The CD/DVD drive of the remote system (virtual CD-ROM) is used to access the OS media. The output of the Sun Netra X4250 server is displayed on the remote system (Remote Console). Specific details on using the Remote Console in ILOM can be found in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

For more details on Remote Console installation, refer to the *Sun Integrated Lights Out Manager 2.0 User's Guide* or to the instructions included in your installation software or the specific OS chapters in this document.

Note – This procedure assumes that you are familiar with the ILOM web-based interface (web GUI) administration. For more information, see the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

Using Serial Redirection

Serial redirection involves directing the server output to a terminal connected to the server's serial port. For detailed instructions for other operating systems, refer to the installation instructions for your OS or specific OS chapters in this document.

RAID Configuration

This chapter provides information about configuring RAID on the Sun Netra X4250 server. This chapter contains instructions for configuring RAID on the LSI SAS3081E-R SAS controller card and for setting up a non-RAID configuration.

This chapter includes the following sections:

- “Configuring RAID” on page 9
- “To Create a RAID for the LSI Logic SAS3081E-R Controller Card” on page 9

Configuring RAID

The Sun Netra X4250 server supports the LSI SAS3081E-R 8-port internal SAS PCIe HBA card. RAID configuration is performed in the card’s BIOS.

See “To Create a RAID for the LSI Logic SAS3081E-R Controller Card” on page 9 for instructions on configuring RAID on this card.

▼ To Create a RAID for the LSI Logic SAS3081E-R Controller Card

Before you begin to create a RAID for your server using the LSI SAS3081E-R controller card, you must:

- Install the LSI SAS3081E-R controller card in the server. For SAS controller card installation instructions, see the *Sun Netra X4250 Server Service Manual*.
- Obtain the user guide for the installed LSI controller card available at (<http://www.lsi.com>).

- Obtain the latest *Sun Netra X4250 Server Tools and Drivers DVD* image at (<http://www.sun.com/download>).
 - Set up your display to access the server output (see “[Accessing the Server Output During Installation](#)” on page 3).
1. **Power on the server.**
 2. **Watch the video output, and when the LSI SAS controller card is recognized, press Control-C to access the LSI controller card’s BIOS setup utility.**
 3. **Set up the RAID according to the instructions in the *LSI Integrated RAID User’s Guide*.**
 4. **Exit the RAID utility.**
 5. **Install the OS that you want to use.**
 6. **Download the latest LSI utilities for managing RAID at (<http://www.lsi.com>) or from the Tools and Drivers DVD under the /DRIVERS/LINUX/RAID/LSI/MSM directory or the /DRIVERS/WINDOWS/RAID/LSI/MSM directory.**

Solaris Operating System Installation

This chapter includes information about installing the Solaris 10 OS and server-specific drivers on your Sun Netra X4250 server.

This chapter includes the following sections:

- [“Installing the OS” on page 11](#)
 - [“Installing Server-Specific Drivers” on page 21](#)
-

Note – Before you begin to install the OS you must have already configured the BIOS for your controller card (see [“Configuring RAID” on page 9](#)).

Installing the OS

This section provides guidelines for installing the Solaris 10 OS. Perform the tasks in the order given.

OS Installation Overview

The procedures in this chapter cover the installation of the Solaris OS and supported drivers for a new installation. See [TABLE 3-1](#) for the Solaris OS installation task map. Perform the tasks in the order given.

TABLE 3-1 Task Map for Initial Solaris OS Installation

| Step | Task | Description | Instructions |
|------|---|---|--|
| 1. | Set up your server. | Install your server hardware and configure the service processor. | <i>Sun Netra X4250 Server Installation Guide</i> |
| 2. | Prepare your server for OS installation. | Set the display environment. If necessary, erase the primary boot disk. | Chapter 1, “Operating System Installation And Preparation” |
| 3. | Set up your system for a RAID or non-RAID configuration based on the SAS controller card. | The Sun Netra X4250 server supports the LSI SAS controller card. | Chapter 2, “RAID Configuration” |
| 4. | Review the <i>Sun Netra X4250 Server Product Notes</i> . | The product notes contain late-breaking news about the Solaris OS software and patches. | <i>Sun Netra X4250 Server Product Notes</i> |
| 5. | Install the Solaris OS. | Choose an installation method and locate the installation instructions. | “OS Installation Methods” on page 12 |
| 6. | Install the server-specific drivers from the Tools and Drivers DVD. | Install the server-specific drivers needed to run the Solaris 10 OS on the Sun Netra X4250 server. | “Installing Server-Specific Drivers” on page 21 |
| 7. | Install patches, if necessary. | Patches are available from the SunSolve SM Patch Portal at http://www.sunsolve.sun.com | <i>Sun Netra X4250 Server Product Notes</i> |

OS Installation Methods

This section details the three methods you can use to install the Solaris OS on a Sun Netra X4250 server. See [“Choosing an OS Installation Method” on page 6](#) for a description of each method.

The installation methods are:

| Method | Section or Procedure |
|--|--|
| Install from CD/DVD media. | "To Use Direct Installation With CD/DVD Media and a Monitor" on page 13 –or– "To Use Direct Installation With CD/DVD Media and the Serial Port" on page 14 |
| Install from network using PXE. | "To Install Using JumpStart Network Installation" on page 15 |
| Install from a serial console. | "To Install Using the Serial Console" on page 16 |
| Install from a local console or RKVMS. | "To Install Using a Local Console" on page 19 |
| Install from KVMs over IP. | "To Install Using Remote Console With Virtual CD/DVD" on page 19 |

Note – The Solaris OS provides additional programs for installation, such as booting over a wide area network (WAN), but the Sun Netra X4250 server supports only those methods listed in this document.

Additional Solaris 10 OS documentation is available at (<http://docs.sun.com/>).

▼ To Use Direct Installation With CD/DVD Media and a Monitor

This procedure is for an installation using CD/DVD media and a monitor connected to the Sun Netra X4250 server video port.

- 1. Insert the Solaris 10 OS CD/DVD media into the CD/DVD drive.**
- 2. Power on the server.**

The system boots from the Solaris 10 OS CD/DVD.
- 3. Follow the installation wizard to complete the installation.**

▼ To Use Direct Installation With CD/DVD Media and the Serial Port

This procedure describes how to redirect the system output to the serial port and install the Solaris 10 8/07 OS using direct installation with CD/DVD media.

1. **Connect either a terminal or a laptop running terminal emulation software directly to the serial port.**

For information about connecting to the ILOM using a serial connection, see the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

Use the following terminal settings:

- 8, N, 1 – eight data bits, no parity, one stop bit
- 9600 baud rate
- Disable software flow control (XON/XOFF)

Press Enter.

2. **Log in to the CLI.**

The CLI prompt appears.

3. **Type the following command at the CLI prompt:**

```
start /SP/console
```

4. **Boot the system and press F2 (F4 on the remote keyboard) to enter the BIOS Setup Utility.**

5. **Use the right arrow key to navigate to the Server tab.**

The left and right arrow keys enable you to access the BIOS Setup Utility menu tabs.

6. **Use the down arrow key to highlight the External Serial Port.**

Select SYS in the option box.

7. **Use the down arrow key to highlight the Remote Access.**

Set Remote Access to Enable, if not already set.

8. **Press F10 to save the changes and exit the BIOS Setup Utility.**

The system processor output should be displayed to the serial port.

9. **Insert the Solaris CD/DVD media.**

The installation process begins, and the Solaris OS GRUB menu appears.

10. **To install the Solaris OS select `ttya` at the GRUB menu.**

11. If you need to use SSH to remotely access the SP and manage the Solaris OS, using the `start /SP/console` command, perform the following steps:
 - a. After the Solaris OS is installed, log in to the server as `root` (superuser).
 - b. Edit the following lines in the `/boot/solaris/bootenv.rc` file to read as follows:

```
setprop console 'ttya'
setprop ttya-mode 9600,8,n,1,-
```
 - c. Edit the following line in the `/boot/grub/menu.lst` file to read as follows:

```
kernel /platform/i86pc/multiboot -B console=ttya
```
12. Reboot the system with the following command:

```
reboot -- -r
```

13. Press F2.
14. Navigate to the Server tab.
15. Use the down arrow key to highlight the External Serial Port.
Select SP in the option box.
16. Use the down arrow key to highlight the Remote Access.
Set Remote Access to Enable, if not already set.
17. Save and exit the BIOS Setup Utility.
The SP output is now redirected to the serial port.
18. Log in to the ILOM and type:

```
-> start /SP/console
```

▼ To Install Using JumpStart Network Installation

JumpStart is a Solaris OS installation tool that enables you to boot and install the OS over a network. The system that you use as an installation server must have a CD/DVD drive. The system must also be part of the site's network and name service. If you use a name service, the server must already be in a name service, such as NIS, NIS+, DNS, or LDAP. If you do not use a name service, you must distribute information about this server by following your site's policies.

Note – For basic instructions on setup and configuration for network installations, go to (<http://docs.sun.com/app/docs/doc/817-5504>).

1. On the system that is to become the installation server, log in as `root` (superuser).
2. Insert the Solaris 10 OS installation media in the server's CD/DVD drive.
3. Open a terminal window.
Type the commands in this procedure in the terminal window at the system prompt.
4. Create a directory for the CD image:

```
# mkdir -p install_dir_path
```

where *install_dir_path* is the directory where the CD image is to be copied.

5. Change to the Tools directory on the mounted disk:

```
# cd /cdrom/cdrom0/Solaris_10/Tools
```

6. Copy the image in the drive to the installation server's hard drive:

```
# ./setup_install_server install_dir_path
```

where *install_dir_path* is the directory where the CD image is to be copied.

Note – Executing the `setup_install_server` command shows whether you have enough disk space available for the Solaris 10 software disc images. To determine available disk space, use the `df -k1` command.

7. Change directories to `root (/)`:

```
# cd /
```

8. Eject the Solaris 10 OS installation media.
9. Proceed with the instructions in [“To Install Using the Serial Console”](#) on page 16 or [“To Install Using a Local Console”](#) on page 19.

▼ To Install Using the Serial Console

This procedure is needed only if you want to force the installation output to the serial port.

Note – These steps are only for the installation output. If you want the system output to be forced out the serial port after installation, you must either follow the steps in [Appendix A](#) or create a finish script that performs the steps.

The system that you use as an installation server must include a CD/DVD drive and be part of the network and name service. If you use a name service, the system must already be in a name service, such as NIS, NIS+, DNS, or LDAP. If you do not use a name service, you must distribute information about this system by following your site's policies.

1. On the system that is to become the installation server, log in as `root` (superuser).
2. Insert the Solaris 10 (or later version) media in to the server CD/DVD drive.
3. Create a directory for the CD image:

```
# mkdir -p install_dir_path
```

where *install_dir_path* is the directory where the CD image is to be copied.

4. Change to the `Tools` directory on the mounted disk:

```
# cd /cdrom/cdrom0/Solaris_10/Tools
```

5. Copy the image in the drive to the installation server's hard disk:

```
# ./setup_install_server install_dir_path
```

where *install_dir_path* is the directory where the CD image is to be copied.

Note – The `setup_install_server` command indicates whether you have enough disk space available for the Solaris 10 software disc images. To determine available disk space, use the `df -k1` command.

6. Change directories to `root (/)`:

```
# cd /
```

7. Eject the Solaris 10 media.

8. Edit the files that are located in the miniroot on the network installation image that was created by `setup_install_server`.

To edit a Solaris 10 for x86 miniroot, your server must be running the Solaris 10 (or later) for x86 release.

a. If the installation server is not running the Solaris 10 for x86 release, log in as superuser to another system on the network that is running the Solaris 10 for x86 release.

- If your installation server is running the Solaris 10 for x86 release, continue to Step b.
- If you need to use a new server running the Solaris 10 for x86 release, complete the following steps:

i. Change to the `Tools` directory of the installation image that you created in Step 5:

```
# cd install_server_path/install_dir_path/Solaris_10/Tools
```

where *install_server_path* is the path to the install server system on your network (for example, `/net/installserver-1`) and *install_dir_path* is the directory where the CD image was copied.

ii. Create a new installation image and place that image on the system that is running the Solaris 10 for x86 release:

```
# ./setup_install_server remote_install_dir_path
```

where *remote_install_dir_path* is the path on the Solaris 10 x86 system in which to create the new installation image.

This command creates a temporary installation image on the Solaris 10 x86 system to enable you to patch this image.

b. Modify the server files to enable serial console redirection.

Edit the following lines in the `/destination_dir/boot/solaris/bootenv.rc` file to read as follows:

```
setprop input-device ttya
setprop output-device ttya
setprop console ttya
setprop ttya-mode 9600,8,n,1,-
```

9. Type:

```
# add_install_client -B console=ttya, input-device=ttya,\  
output-device=ttya
```

The output of the installation is pushed to the serial port.

10. Install the Solaris 10 OS.

▼ To Install Using a Local Console

- See the instructions at (<http://docs.sun.com/app/docs/doc/817-5504>). This installation method includes directing the server output to the local console or to a remote console (RVKM) when the local CD/DVD drive is used.

Note – Before performing a remote installation, use the ILOM web-based interface (web GUI) to disable the session timeout function.

▼ To Install Using Remote Console With Virtual CD/DVD

This method uses the Integrated Lights Out Manager's (ILOM) Remote Console application and a remote networked server to install the OS onto the Sun Netra X4250 server. The CD/DVD drive of the remote system (virtual CD-ROM) is used to access the OS media. The output of the Sun Netra X4250 server is displayed on the remote system (remote console).

Specific details on the ILOM Remote Console application can be found in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

Requirements for Remote Console installation include:

- Remote server connected to the network.
- One of the following browsers on the remote system – Internet Explorer, Mozilla, or Firefox.
- CD/DVD drive connected to the remote server.
- Media for installing the OS of your choice.
- SP of the Sun Netra X4250 server set up as instructed in the *Sun Netra X4250 Server Installation Guide*.
- You must be logged in to the remote server as `root` or as a user with administrator privileges.

1. **On a remote system, open a browser and enter the IP address of the service processor for the Sun Netra X4250 server on which you want to install the OS.**
The ILOM login screen appears.
2. **Enter a user name and password that has administrator privileges.**
The ILOM main screen appears.
3. **Change the session timeout.**
 - a. **From the main menu, click the System Information tab and then click the Session Time-Out submenu tab.**
The Session Time-Out screen appears.
 - b. **Select 15 minutes, 30 minutes, 1 hour, or 3 hours, and then click Apply.**
4. **From the main menu, click the Remote Control tab and then click the Redirection tab.**
The Redirection screen appears with a Launch Redirection button.
5. **Click the Launch Redirection button.**
A JavaRconsole screen appears asking “Do you want to run the application?”.
6. **Click the Run button.**
The Sun ILOM Remote Console screen is displayed.
7. **Click the Device tab and select CD-ROM.**
The CD-ROM Selection screen is displayed.
8. **Choose or type the CD-ROM drive that you are using to install the OS.**
9. **Insert the OS CD/DVD to be installed on the Sun Netra X4250 server into the remote CD/DVD drive.**

Note – If the local server has a CD/DVD drive, ensure that the CD/DVD drive does *not* contain a bootable disk. Or configure the server’s BIOS so that the virtual CD/DVD drive is higher on the boot list than the local CD/DVD drive.

10. Install the OS.

The instructions for installing the OS are the same as the instructions for using a local CD/DVD drive and monitor. See [“To Use Direct Installation With CD/DVD Media and the Serial Port”](#) on page 14.

Installing Server-Specific Drivers

You can use the methods described in the following sections to install server-specific drivers onto your Solaris 10 Sun Netra X4250 server:

- “To Use the Driver Installation Script” on page 21
- “To Install the Drivers Using Remote Console” on page 21
- “To Install Drivers Directly Onto the Server” on page 21

▼ To Use the Driver Installation Script

The driver installation script is available on the Sun Netra X4250 Server Tools and Drivers DVD image.

- **Download the Sun Netra X4250 Tools and Drivers DVD ISO image at:**
(<http://www.sun.com/download>)

Note – If you have created a new diagnostic partition, you also must run this script to mount the diagnostic partition. See the *Sun Netra X4250 Server Service Manual* for information about how to create a diagnostic partition.

▼ To Install the Drivers Using Remote Console

This method is for installing the drivers on a server without an attached DVD drive or monitor.

- **See the instructions in “To Install Using Remote Console With Virtual CD/DVD” on page 19.**

▼ To Install Drivers Directly Onto the Server

If your server has an on-board DVD drive or attached DVD drive, you can install the drivers directly, using the Sun Netra X4250 Server Tools and Drivers DVD.

1. **Log in to the server as root (superuser).**

2. Insert the Tools and Drivers DVD into the DVD drive.

The DVD is automatically mounted by the Solaris 10 OS.

3. Change to the /cdrom/cdrom0/drivers/sx86 directory:

```
# cd /cdrom/cdrom0/drivers/sx86
```

4. Run the installation script:

```
# sh install.sh
```

The AST2000 VGA drivers are now installed.

The script prompts you to reboot the server for changes to take effect.

5. Reboot the server.

Installing the RAID Management Utility Software

LSI does not provide Solaris OS support for its RAID management software. If your server is equipped with an LSI SAS3081E-R controller card, you must manage RAID using the controller card's BIOS.

Linux Operating System Installation

This chapter contains information about installing the Red Hat Enterprise Linux (RHEL) and SUSE Linux Enterprise System (SLES) operating systems and system-specific drivers onto your Sun Netra X4250 server.

This chapter includes the following sections:

- “Installing the Operating System” on page 23
- “Installing the System-Specific Drivers” on page 27
- “Running the `up2date` Utility for the RHEL” on page 29

Installing the Operating System

This section provides an overview of the Linux OS installation process and is not meant to be a comprehensive source of information for installing a Linux OS. This section provides installation methods and tasks for installing a supported version of Linux on the Sun Netra X4250 server.

OS Installation Overview

The following procedures are for installing drivers if you are performing a fresh installation of a Linux OS. You do not need to reinstall the drivers if you are using the preinstalled version of the OS. Perform the tasks in the order given.

See TABLE 4-1 for the task map for OS installation.

TABLE 4-1 OS Installation Task Map

| Step | Task | Description | Instructions |
|------|---|---|--|
| 1. | Set up your server. | Install your server hardware and configure the service processor. | <i>Sun Netra X4250 Server Installation Guide</i> |
| 2. | Prepare your system for OS installation. | Set the display environment. If necessary, erase the primary boot disk. | Chapter 1, "Operating System Installation Overview And Preparation" |
| 3. | Set up your system for a RAID or non-RAID configuration based on the SAS controller card. | Sun Netra X4250 server supports two SAS controller cards. RAID setup is different for each card. | Chapter 2, "RAID Configuration" |
| 4. | Review the <i>Sun Netra X4250 Server Product Notes</i> . | The product notes contain late-breaking news about the Solaris OS software and patches. | <i>Sun Netra X4250 Server Product Notes</i> |
| 5. | Install the Linux OS. | Choose an installation method and locate the installation instructions. | "OS Installation Methods" on page 24 |
| 6. | Install the system-specific drivers from the Tools and Drivers DVD. | Install the system-specific drivers needed to run the Linux OS on the Sun Netra X4250 server. | "Installing the System-Specific Drivers" on page 27 |
| 7. | Run the <code>up2date</code> utility. | Patches are available from the SunSolve Patch Portal at: (http://www.sunsolve.sun.com) | "To Run the <code>up2date</code> Utility for the RHEL OS" on page 29 |

OS Installation Methods

See the following list of installation methods to determine the type of installation that you want to perform and the information source for the installation.

| Method | Section or Procedure |
|-------------------------------|--|
| Install from CD/DVD media. | "To Install Using CD/DVD Media" on page 25 |
| Install from the network. | "To Install Using PXE" on page 25 |
| Install from a remote server. | "To Install Using Remote Console With Virtual CD/DVD" on page 25 |

See "Choosing an OS Installation Method" on page 6 for a description of each method.

▼ To Install Using CD/DVD Media

- See the instructions for basic installation in the document that corresponds to the OS you are installing:
 - *Red Hat Enterprise Linux Installation Guide for the x86, Itanium, and AMD64 Architectures* at:
(<http://www.redhat.com/docs/manuals/enterprise/>)
 - *SUSE Linux Enterprise Server 10 Administration and Installation* at:
(<http://www.novell.com/documentation/sles10/>)

▼ To Install Using PXE

- See the instructions for network installation in the document that corresponds to the OS you are installing:
 - *Red Hat Enterprise Linux Installation Guide for the x86, Itanium, and AMD64 Architectures* at:
(<http://www.redhat.com/docs/manuals/enterprise/>)
 - *SUSE Linux Enterprise Server 10 Administration and Installation* at:
(<http://www.novell.com/documentation/sles10/>)

▼ To Install Using Remote Console With Virtual CD/DVD

This method includes using a remote networked system to install the OS onto the Sun Netra X4250 server. The CD/DVD drive of the remote system (virtual CD-ROM) is used to access the OS media. The output of the Sun Netra X4250 server is displayed on the remote system (Remote Console).

Specific details on the using the Remote Console in the Integrated Lights Out Manager (ILOM) can be found in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

Note – This procedure assumes that you are familiar with the ILOM web GUI administration. More information can be found in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

Requirements for Remote Console installation include:

- Remote system connected to the network.
- One of the following browsers on the remote system – Internet Explorer, Mozilla, or Firefox.

- CD/DVD drive connected to the remote system.
 - Media for installing the OS of your choice.
 - SP of the Sun Netra X4250 server set up as instructed in the *Sun Netra X4250 Server Installation Guide*.
 - You must be logged into the remote system as `root`.
1. **On a remote system, open a browser and enter the IP address of the ILOM SP for the Sun Netra X4250 server on which you want to install the OS.**
The ILOM login screen appears.
 2. **Type the user name and password for an account with administrator privileges and click Login.**
The ILOM main menu screen appears.
 3. **Set the session timeout:**
 - a. **From the main menu, click the System Information tab.**
The System Information submenu tabs appear.
 - b. **Click the Session Time-Out submenu tab.**
The Session Time-Out screen appears.
 - c. **Select 15 minutes, 30 minutes, 1 hour, or 3 hours, and then click Apply.**
 4. **From the main menu, click the Remote Control tab.**
The Remote Control screen appears.
 5. **Select the Redirection tab.**
The Redirection Screen appears with a Launch Redirection button.
 6. **Click the Launch Redirection button.**
A screen appears with a Launch button, your current host name, IP address, and user name.
 7. **Click Launch.**
 8. **Insert the OS CD/DVD to be installed on the Sun Netra X4250 server into the local CD/DVD drive.**
 9. **In the remote console screen, select Storage and then select Mount Devices.**
The Device Configuration screen appears.
 10. **In the Storage 1 Source drop-down list, select the CD/DVD drive to be used for installing the OS.**
 11. **Click Submit.**

12. Reboot the server.

The server boots from the virtual CD.

Installing the System-Specific Drivers

You can use the methods described in the following sections to install system-specific drivers onto your Sun Netra X4250 server.

Driver Installation Script

A driver installation script is available on the *Sun Netra X4250 Server Tools and Drivers DVD*. You can download the Tools and Drivers DVD ISO image from the downloads link at (<http://www.sun.com/download>).

Note – If you have created a new diagnostic partition, you also must run this script to mount the diagnostic partition. See the *Sun Netra X4250 Server Service Manual* for information about how to create a diagnostic partition.

▼ To Install the Drivers Using KVMS Over IP

- See the instructions in “To Install Using Remote Console With Virtual CD/DVD” on page 25 or the *Sun Integrated Lights Out Manager 2.0 User’s Guide* for specific details.

Note – Before performing a remote installation, use the ILOM web-based interface (web GUI) to disable the session timeout function. The installation process then can proceed without interruption.

▼ To Install Drivers Directly Onto the Sun Netra X4250 Server

If your server has a DVD drive, you can install the drivers directly onto the server, using the Sun Netra X4250 Server Tools and Drivers DVD.

1. Log in to the Sun Netra X4250 server as `root` (**superuser**).

2. Insert the Sun Netra X4250 Server Tools and Drivers DVD into the DVD drive and type:

```
# cd /mountpoint/DRIVERS/LINUX/operating_system
```

where */mountpoint* is the directory to which the DVD is mounted and *operating_system* is the type of Linux installed on the server (value is RED_HAT or SUSE).

- If the directory does not exist, the DVD did not automount. You must mount the DVD and change to the correct directory as shown in [Step 3](#) and [Step 4](#).
- If you were able to access the *operating_system* directory, go to [Step 5](#).

3. If the DVD does not automount, open a terminal window and mount the DVD:

```
# mount /dev/cdrom /mountpoint
```

where */mountpoint* is the appropriate mount point for the OS and optical drive type.

For example:

```
# mount /dev/cdrom /mnt/dvdrom
```

4. Change to the */mountpoint/DRIVERS/LINUX/operating_system* directory.

where */mountpoint* is the directory where the DVD is mounted and *operating_system* is the version of Linux installed on the server (value is RED_HAT or SUSE).

For example:

```
# cd /mnt/dvdrom/DRIVERS/LINUX/RED_HAT
```

5. Eject the DVD after the driver installation is complete.
6. Reboot the server.

▼ To Install the LSI RAID Management Utilities

1. Insert the Tools and Drivers DVD in the server's DVD drive.
2. Change to the */DRIVERS/LINUX/RAID/LSI/MSM* directory and list the directory contents:

```
# cd /DRIVERS/LINUX/RAID/LSI/MSM  
# ls -al
```

3. Copy the compressed MSM tar file to a directory of your choice and extract the RAID storage manager contents.
4. Follow the instructions in the `disk/readme.txt` file.

Running the `up2date` Utility for the RHEL

Run the `up2date` utility after installing the OS and drivers from the Sun Netra X4250 Tools and Drivers DVD.

▼ To Run the `up2date` Utility for the RHEL OS

Run the `up2date` utility after installing the OS and drivers from the Sun Netra X4250 Server Tools and Drivers DVD.

1. **Set up the `up2date` utility on the server.**
See the documentation included with your RHEL media kit for details.
2. **Run the `up2date` program.**
Select the kernel packages in the available package updates section.

Windows Server 2003 Operating System Installation

This chapter includes information about installing the Windows Server 2003 drivers onto your server.

The driver installation scripts are available on the Sun Netra X4250 Tools and Drivers DVD. The Tools and Drivers DVD ISO image is available at:

(<http://www.sun.com/download>)

This chapter includes the following sections:

- “Installing the Operating System” on page 31
- “Running Windows Update” on page 35
- “Installing Windows Server 2003 for a RAID Configuration” on page 36
- “Installing the Drivers” on page 39
- “Installing RAID Management Utility Software for Windows Server 2003” on page 41

Note – If you plan to install Windows RAID drivers, you must install the RAID drivers *during* the installation of the OS.

Installing the Operating System

This section does not provide comprehensive instructions for installing the Windows operating system. This section does provide guidelines for the tasks involved in the OS installation and the installation methods available.

Windows Server 2003 OS Installation Overview

See [TABLE 5-1](#) for the task map for operating system installation. Perform the tasks in the order given.

TABLE 5-1 Task Map for Initial Windows 2003 OS Installation

| Step | Task | Description | Instructions |
|------|---|---|---|
| 1. | Set up your server. | Install your server hardware and configure the service processor. | <i>Sun Netra X4250 Server Installation Guide</i> |
| 2. | Determine the SAS controller. | Configure the hard drives as required by the SAS controller on-board configuration utility. | Chapter 1 , “Operating System Installation Overview And Preparation” and Chapter 2 , “RAID Configuration” |
| 3. | Review the <i>Sun Netra X4250 Server Product Notes</i> . | The product notes contain late-breaking news about the Windows OS software and patches. | <i>Sun Netra X4250 Server Product Notes</i> |
| 4. | Install the Windows OS. | Choose an installation method and locate the installation instructions. | “ Windows Server 2003 OS Installation Methods ” on page 33 If you are using RAID, see “ Installing Windows Server 2003 for a RAID Configuration ” on page 36 |
| 5. | Install the system-specific drivers from the Tools and Drivers DVD. | Install the system-specific drivers needed to run the Windows operating system on the Sun Netra X4250 server. | “ Installing Windows Server 2003 for a RAID Configuration ” on page 36 and “ Installing the Drivers ” on page 39 |
| 6. | Run Windows Update. | Run Windows Update to make sure that you have the latest Microsoft Windows features. | (http://update.microsoft.com/microsoftupdate/) |

Windows Server 2003 OS Installation Methods

See the following list of OS installation methods to determine the type of installation that you want to perform and the relevant procedure for the installation.

| Method | Section or Procedure |
|-------------------------------|--|
| Install from CD/DVD media. | “To Install Windows Server 2003 Using Direct Installation With DVD or CD-ROM Media” on page 33 |
| Install from the network. | “To Install Windows Server 2003 Using RIS” on page 33 |
| Install from a remote server. | “To Install the Windows Server 2003 Using Remote KVMS Over IP With Virtual CD-ROM” on page 34 |

See [“Choosing an OS Installation Method” on page 6](#) for a description of each methods.

Note – If you plan to install Windows using the disks attached to the LSI SAS card, you need to install the RAID drivers *while* installing the OS. See [“Installing Windows Server 2003 for a RAID Configuration” on page 36](#).

▼ To Install Windows Server 2003 Using Direct Installation With DVD or CD-ROM Media

- See the instructions for basic installation in *Installing Windows Server 2003 R2* at: [\(http://technet2.microsoft.com/WindowsServer/en/Library/\)](http://technet2.microsoft.com/WindowsServer/en/Library/)

▼ To Install Windows Server 2003 Using RIS

- See the instructions for RIS installation in **Appendix B**.

▼ To Install the Windows Server 2003 Using Remote KVMS Over IP With Virtual CD-ROM

This method includes using a remote networked system to install the operating system onto the Sun Netra X4250 server. The CD or DVD drive of the remote system (virtual CD-ROM) is used to access the operating system media. The output of the Sun Netra X4250 server is displayed on the remote system (Remote Console).

Specific details on the using Remote Console in the Integrated Lights Out Manager (ILOM) can be found in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

Note – This procedure assumes that you are familiar with the ILOM web-based interface (web GUI) administration. More information can be found in the *Sun Integrated Lights Out Manager 2.0 User's Guide*.

Requirements for Remote Console:

- Remote system connected to the network.
- One of the following browsers on the remote system – Internet Explorer, Mozilla, or Firefox.
- CD/DVD drive connected to the remote system.
- Media for installing the operating system of your choice.
- SP of the Sun Netra X4250 server set up as instructed in the *Sun Netra X4250 Server Installation Guide*.

1. On a remote system, open a browser and enter the IP address of the ILOM SP for the Sun Netra X4250 server on which you want to install the operating system.

2. At the login screen, enter a user name and password for an account that has administrator privileges.

The ILOM main menu screen appears.

3. Set the session timeout:

a. From the main menu, click the System Information tab.

The System Information submenu tabs appear.

b. Click the Session Time-Out submenu tab.

The Session Time-Out screen appears.

c. Select 3 hours, and then click Apply.

4. From the main menu, click the Remote Control tab.

The Remote Control screen appears.

5. **Click the Redirection tab.**
The Redirection screen appears with a Launch Redirection button.
6. **Click the Launch Redirection button.**
A JavaRconsole screen appears asking “Do you want to run the application?”.
7. **Click the Run button.**
The Sun ILOM Remote Console screen is displayed.
8. **On the Sun ILOM Remote Console screen, click the Device tab and select CD-ROM.**
The CD-ROM Selection screen is displayed.
9. **Choose or type the CD-ROM drive that you are using to install the OS.**
10. **Insert the Operating System CD/DVD to be installed on the Sun Netra X4250 server into the local CD/DVD drive.**

Note – The LSI RAID drivers should be installed on the server. See “[Installing the Drivers](#)” on page 39 to install the LSI drivers.

11. **Reboot the server:**
 - a. **Click the Remote Control tab on the Sun ILOM screen’s main menu.**
 - b. **Click the Remote Power Control tab and select Reset from the Select Action menu.**
 - c. **Click on the Save button.**
The server boots from the virtual CD.

Running Windows Update

To Run Windows Update

Follow the instructions at the Windows Update download site at:

(<http://windowsupdate.microsoft.com>)

Installing Windows Server 2003 for a RAID Configuration

The Sun Netra X4250 Tools and Drivers DVD contains the following drivers:

- Intel® NIC drivers
- Intel chipset drivers
- AST2000 video drivers
- LSI SAS3081E-R RAID drivers
- TPM drivers

The server supports the LSI SAS3081E-R RAID card. Use these procedures to install Windows Server 2003 with a RAID configuration:

| Method | Section or Procedure |
|--|--|
| Install Windows Server 2003 using a Reburn CD created with Solaris or Linux. | “To Install Windows Server 2003 Using a Reburn CD Containing LSI Drivers” on page 36 |
| Install Windows Server 2003 using a driver diskette. | “To Install Windows 2003 Using a Driver Diskette” on page 38 |

▼ To Install Windows Server 2003 Using a Reburn CD Containing LSI Drivers

The Tools and Drivers DVD contains a script that enables you to create a new Windows Server 2003 CD with the necessary LSI drivers. After creating the new CD, you can boot from the CD and install Windows Server 2003 in the usual way. This CD automatically installs the drivers.

For specific and current information about the 2003 Reburn script, see the description at the top of the script, which is located in `/utilities/REBURN` on the Tools and Drivers DVD.

You need the following:

- A system running Solaris Operating System for x86 Platforms, Red Hat Enterprise Linux 5, or SUSE Linux Enterprise Server (SLES) 10
- A CD burner and a blank CD-R or CD-RW
- A Windows Server 2003 CD (retail media only – not an OEM version)

- The latest Sun Netra X4250 Server Tools and Drivers DVD
- 1. On a Solaris x86, RHEL 5, or SLES 10 system, insert the Sun Netra X4250 Server Tools and Drivers DVD into a DVD drive.
- 2. Log in as `root` (superuser).
- 3. Create a temporary directory with at least 1.2 GByte of space.

For example:

```
# mkdir /files
```

- 4. Copy the `2003REBURN_version.zip` file to that directory.

where *version* is the current version of 2003Reburn.

For example:

```
# cp /utilities/REBURN/2003reburn_Linux/2003Reburn_1.3.2.zip  
/files
```

- 5. Eject the Tools and Drivers DVD and insert your retail Windows 2003 32-bit CD.
- 6. Change to the directory that you copied the `.zip` file to in [Step 4](#).
- 7. Unzip the `2003Reburn_version.zip` file.

For example:

```
# unzip -q 2003Reburn_1.3.2.zip
```

- 8. Run the `2003Reburn` script.

For example:

```
# ./files/2003Reburn -b
```

Note – If your system does not have the ability to burn CDs, type the command *without* the `-b` option. An ISO image is created, which you can save to a system that has a CD burner.

The script displays the driver files it expects to be located in the current directory. When the four driver files or have been downloaded into that directory, the script creates a new ISO image and then automatically burns that ISO image onto a CD (if the system has a CD burner).

- 9. After you create the CD, install Windows Server 2003 on the Sun Netra X4250 server, using the newly created CD.

10. When the OS installation is complete, install the display and chipset drivers as explained in “Installing the Drivers” on page 39.

Note – Installing with the Windows Server 2003 Reburn CD does not allow for the ability to team the NICs. To team the NICs, run the OS-specific *.bat file located in the /DRIVERS/WINDOWS/IntelNIC/ on the Tools and Drivers DVD:
windows_1a32_install.bat or windows_x64_install.bat

▼ To Install Windows 2003 Using a Driver Diskette

1. Before installing Windows Server 2003 with LSI drivers, configure the disks as described in Chapter 2.
2. Create a driver diskette and install the OS following the steps in “To Create an LSI SAS3081E-R RAID Drivers Boot Diskette” on page 38.

▼ To Create an LSI SAS3081E-R RAID Drivers Boot Diskette

This procedure describes how to create an LSI drivers boot diskette in preparation for installing Windows Server 2003.

Note – This procedure requires a USB diskette drive.

1. Copy drivers from the Tools and Drivers DVD to the diskette drive:

```
# /DRIVERS/WINDOWS/RAID/LSI/MSM/ USB floppy
```

2. Attach a USB diskette drive to the Sun Netra X4250 server.
3. On a Windows system, insert the Sun Netra X4250 Server Tools and Drivers DVD.
4. Insert a blank diskette into the Windows system.
5. Copy the contents of the MSM directory on the Tools and Drivers DVD to the diskette:

```
> Copy d: \DRIVERS\WINDOWS\RAID\LSI\MSM\ a:
```

▼ To Install Windows Server 2003 Using the LSI SAS3081E-R Driver Diskette

This procedure describes how to use the LSI SAS3081E-R driver diskette to install the Windows Server 2003 OS.

1. Attach a USB diskette drive to the Sun Netra X4250 server.
2. Insert a Windows Server 2003 32-bit or 64-bit installation DVD into the DVD drive.
3. Press the F6 key to install the third-party RAID driver.
4. Press the S key to specify additional drivers, and insert the diskette.
5. Select LSI Logic Fusion-MPT SAS Driver (Server 2003), and then press Enter.
6. To continue the Windows Server 2003 installation, press Enter.
7. When the OS installation is finished, install the drivers as explained in [“Installing the Drivers” on page 39](#).

Installing the Drivers

The following sections describe how to install the drivers from the Tools and Drivers DVD. Choose one of the following procedures to install the drivers:

| Method | Section or Procedure |
|---|--|
| Use KVMS Over IP to install the drivers. | “To Install the Drivers Using Remote KVMS” on page 40 |
| Install the drivers using the on-board DVD. | “To Install the Drivers Directly Onto the Sun Netra X4250 Server” on page 40 |

Note – If you used the 2003Reburn option to create a Windows Server 2003 CD that contains the drivers, the drivers are installed during the OS installation.

▼ To Install the Drivers Using Remote KVMs

- See instructions in [“To Install the Windows Server 2003 Using Remote KVMs Over IP With Virtual CD-ROM”](#) on page 34 or the *Sun Integrated Lights Out Manager 2.0 User’s Guide* for specific details.

▼ To Install the Drivers Directly Onto the Sun Netra X4250 Server

If your server has an on-board DVD drive, you can install the drivers directly onto the server, using the Sun Netra X4250 Server Tools and Drivers DVD.

1. Insert the Sun Netra X4250 Server Tools and Drivers DVD into the DVD drive.

2. To install the chipset drivers, double-click the executable file:

d:\DRIVERS\WINDOWS\Chipset

3. To install the Ethernet drivers, do one of the following:

- Install the drivers using the installation wizard:
 - a. Double-click the .bat file and follow the installation wizard.
 - b. When the wizard is done, go to [Step 4](#).
- Install the drivers using the Windows Device Manager:
 - a. Open the Device Manager.
 - b. Right-click the NIC with a yellow exclamation point and choose Update.
 - c. Select No, not at this time and click Next.
 - d. Select Install from a List or Specific Location and click Next.
 - e. Click Browse and point to the NIC driver on the CD/DVD path:
d:\DRIVERS\WINDOWS\IntelNIC
 - f. Click OK.
 - g. When the installation is done, go to [Step 4](#).

4. To install TPM drivers, extract the .zip file from d:\DRIVERS\WINDOWS\TPM.

- a. Double-click the executable.
- b. Follow the installation wizard to install TPM drivers.

5. To install the AST2000 display drivers, open the Windows Device Manager and update the device driver as follows:

a. Right-click the display driver and choose Update.

The Hardware Update Wizard appears.

b. Select No, not at this time and click Next.

c. In the next dialog box, select Install from a list or specific location and click Next.

d. Click Browse and change to the following directory on the Tools and Drivers DVD:

D:\DRIVERS\WINDOWS\Display\[2003_32|2003_64]

e. Click OK and then click Next.

The AST2000 driver is installed.

6. Reboot the server.

Installing RAID Management Utility Software for Windows Server 2003

Windows Server 2003 RAID Management Utility Software is available for the LSI SAS3081E-R controller cards. This section contains a procedure for installing the utility software on the LSI SAS3081E-R controller card.

▼ To Install the LSI RAID Management Utility Software for Windows Server 2003

Use this procedure to install the RAID Management Utility Software for a server equipped with an LSI SAS3081E-R controller card.

- 1. Insert the Tools and Drivers DVD into the server's DVD drive.**
- 2. Use the Windows file browser to navigate to the**
`/DRIVERS/WINDOWS/RAID/LSI/MSM` **directory on the Tools and Drivers DVD.**
- 3. To start the LSI RAID Management Utility Software installation wizard, double-click the executable (.exe) file.**
- 4. To install the software, follow the installation wizard.**

Solaris Output Redirection

This chapter shows how to redirect Solaris Operating System (OS) output from the Sun Netra X4250 server to a serial console. Use these instructions to redirect OS output after the software is installed.

- [“Redirecting Solaris Output” on page 43](#)

Note – For information about how to redirect the server output to the console during OS installation, see the instructions in [Chapter 3](#).

Redirecting Solaris Output

▼ To Redirect Solaris Output to the Serial Port

1. After Solaris is installed, log in to the server as `root` (superuser).
2. Make edits to the following files:
 - a. Edit the following lines in the `/boot/solaris/bootenv.rc` file to read as follows:

```
setprop console 'ttya'  
setprop ttya-mode 9600,8,n,1,-
```

- b. Save and close the file.

c. Edit the following line in the `/boot/grub/menu.lst` file to read as follows:

```
kernel /platform/i86pc/multiboot -B console=ttya
```

d. Save and close the file.

e. Add the following line to the end of the `/kernel/drv/asy.conf` file:

```
name="asy" parent="isa" reg=1,0x2f8,8 interrupts=3;
```

f. Save and close the file.

g. Edit the following line in the `/var/svc/manifest/system/console-login.xml` file to read as follows:

```
<propval name='label' type='astring' value='9600' />
```

h. Save and close the file.

3. Reboot the system:

```
# reboot -- -r
```

The SP CLI prompt appears.

4. Type:

```
-> start /SP/console
```

You should now begin to see console output of the system starting up.

Windows RIS Installation

This appendix contains instructions for performing a Remote Installation Services (RIS) network installation for the Windows Server 2003 operating system onto the Sun Netra X4250 server. Choose the section that corresponds to the version of Windows Server 2003 that you wish to install:

- “Installing Windows Server 2003 SP1 32-bit” on page 45
- “Installing Windows Server 2003 SP1 64-bit” on page 49

Installing Windows Server 2003 SP1 32-bit

▼ To Install Windows Server 2003 SP1 32-bit

1. Install RIS support on a Windows Server 2003 system.

For a complete set of instructions, go to:

<http://support.microsoft.com/default.aspx?scid=kb;en-us;325862>)

2. Install Windows Server 2003 SP1 32-bit on the RIS server by doing the following:

- a. Insert the Windows Server 2003 SP1 32-bit CD into the RIS server CD-ROM drive.
- b. From the Start menu choose Run.

- c. Type `risetup.exe` in the Run field and press Enter.

The Welcome to the Remote Installation Services Setup Wizard screen appears.

- d. Click Next.

- e. Select Add a New OS image to this remote installation server and click Next.

- f. Select the drive location that has the Windows 2003 SP1 32-bit CD in it and then click Next.

- g. Type a descriptive name for the stored Windows 2003 SP1 32-bit CD and then click Next.

For example: `X4250_Windows_2003_SP1_32bit`

- h. Type a description and Help text for the end user and click Next.

- i. Select Use the Old Client Installation Screens and click Next.

- j. Review the settings and click Finish to install the image.

- k. Click Done when the image is installed on the server.

3. Update the RIS image created in Step 2 with the RIS Intel Ethernet drivers for Windows 2003 SP1 32-bit.

The RIS Intel Ethernet drivers are on the Tools and Drivers DVD.

- a. Insert the Tools and Drivers DVD into the RIS server.

- b. Copy the Windows 2003 SP1 32-bit RIS Intel Ethernet driver files locally to the RIS server:

```
> copy cdrom_drive:\drivers\windows\IntelNIC\2003\RIS\2003_32\* C:\temp\intel
```

where `cdrom_drive` is the media drive that contains the Tools and Drivers DVD.

- c. Copy all of the files in the `c:\temp\intel` directory to the RIS image on the RIS server. For example:

```
> copy C:\temp\intel\*. * D:\RemoteInstall\Setup\English\ Images\image_dir\i386
```

4. Modify the `ristndrd.sif` file, located in `D:\RemoteInstall\Setup\English\Image\image_dir\i386\templates:`

```
[Unattended]
OemPreinstall=yes
[GuiUnattended]
AdminPassword="password"
```

where `image_dir` is the directory on the RIS server that contains the RIS image.

a. Edit the file to include the following for the LSI SAS3081E-R card:

```
[Unattended]
DriverSigningPolicy = Ignore
OemPnPDriversPath = "\drivers\nic;\drivers\chipset;\drivers\
video;\drivers\tpm" [MassStorageDrivers]

[MassStorageDrivers]
"LSI Logic Fusion-MPT SAS Driver (Server 2003 32-bit)"="OEM"

[OEMBootFiles]
txtsetup.oem
cocopyinf.dll
lsi_sas.cat
lsi_sas.inf
lsi_sas.tag
lsi_sas.sys
lsipseud.inf
symmpi.inf
symmpi.sys

[UserData]
ProductKey = XXXXX-XXXXX-XXXXX-XXXXX-XXXXX

[Identification]
JoinWorkgroup = WORKGROUP
```

5. Add the `oem` directory and its subdirectories to the RIS image.

a. Add the `oem` subdirectory to the RIS image located at:

`d:\RemoteInstall\Setup\English\Images\image_dir`

where `image_dir` is the directory on the RIS server that contains the RIS image.

b. Create the following subdirectories under the `oem` directory:

`$1`

`textmode`

c. Create the following subdirectory under the `$1` directory:

`drivers`

d. Create the following subdirectories under the `drivers` directory:

`nic`

`chipset`

`video`

`tpm`

6. Copy driver files into the \$oem\$ directory tree:

For the LSI SAS3081E-R card, copy the files as shown:

```
> Copy cdrom_drive:\drivers\windows\RAID\LSI\2003_32\* D:\remoteinstall\setup\
english\images\image_dir\%oem%\textmode

> Copy cdrom_drive:\drivers\windows\RAID\chipset\win2003\SP\* D:\remoteinstall\
setup\english\images\image_dir\%oem%\$1\drivers\sp

> Copy cdrom_drive:\drivers\windows\IntelNIC\2003\2003_32\* D:\remoteinstall\
setup\english\images\image_dir\%oem%\$1\drivers\nic

> Copy cdrom_drive:\drivers\windows\chipset\win2003\* D:\remoteinstall\setup\
english\images\image_dir\%oem%\$1\drivers\chipset

> Copy cdrom_drive:\drivers\windows\TPM\2003_32\Win32\TPM Driver\* D:\
remoteinstall\setup\english\images\image_dir\%oem%\$1\drivers\tpm

> Copy cdrom_drive:\drivers\windows\Display\2003_32\* D:\remoteinstall\setup\
english\images\image_dir\%oem%\$1\drivers\video
```

7. Modify the txtsetup.oem file.

a. In a text editor, open the `D:\RemoteInstall\Setup\English\Images\image_dir\%oem%\textmode\txtsetup.oem` file.

where `image_dir` is the directory on the RIS server that contains the RIS image.

b. Comment out the `dll` files in the `[Files.scsi.RAIDCLASS]` and `[Files.scsi.BUSDRV]` sections by adding a semicolon at the beginning of each line.

c. Save the changes and exit the file.

8. Stop and start the Remote Installation Service (BINLSVC) on the RIS server:

```
net Stop binlsvc
net Start binlsvc
```

9. Install the image onto the Sun Netra X4250 server.

Installing Windows Server 2003 SP1 64-bit

▼ To Install Windows Server 2003 SP1 64-bit

1. Install RIS support on a Windows Server 2003 system.

For a complete set of instructions on how to install the RIS on Windows Server 2003 go to:

(<http://support.microsoft.com/default.aspx?scid=kb;en-us;325862>)

2. Install Windows Server 2003 SP1 64-bit on the RIS server:

a. Insert the Windows Server 2003 SP1 64-bit CD into the RIS server CD-ROM drive.

b. Type `risetup.exe` in the Run field and press Enter.

The Welcome to the Remote Installation Services Setup Wizard screen appears.

c. Click Next.

d. Select Add a new OS image to this remote installation server and click Next.

e. Select the drive location that has the Windows 2003 SP1 64-bit CD in it and click Next.

f. Type a descriptive name for the stored Windows 2003 SP1 64-bit CD and click Next.

For example: X4150_Windows_2003_64bit

g. Type a description and Help text for the end user and click Next.

h. Select Use the Old Client Installation Screens, overwrite the old ones and click Next.

i. Review the settings in the Review Settings window and then click Finish.

j. Click Done when the image is installed on the server.

3. Update the RIS image created in Step 2 with the RIS Intel Ethernet drivers for Windows 2003 SP1 64-bit.

The RIS Intel Ethernet drivers can be found on the Tools and Drivers DVD.

- a. Insert the Tools and Drivers DVD into the RIS server.
- b. Copy the Windows 2003 SP1 64-bit RIS Intel Ethernet driver files locally to the RIS server:

```
copy cdrom-drive:\drivers\windows\IntelNIC\2003\RIS\2003_64\* C:\temp\intel
```

where *cdrom_drive* is the media drive that contains the Tools and Drivers DVD.

- c. Copy all of the files in the `c:\temp\intel` directory to the RIS image on the RIS server. For example:

```
copy C:\temp\intel\*. * D:\RemoteInstall\Setup\English\ Images\image_dir\amd64
```

where *image_dir* is the directory on the RIS server that contains the RIS image.

4. Modify the `ristndrd.sif` file with the following additions.

The `ristndrd.sif` file can be found at `D:\RemoteInstall\Setup\English\Images\image_dir\amd64\templates`, where *image_dir* is the directory on the RIS server that contains the RIS image.

a. Change the following entries:

```
[Unattended]
OemPreinstall = yes
[GuiUnattended]
AdminPassword = "password"
```

b. Add the following entries.

For the LSI SAS3081E-R card, use the following:

```
[Unattended]
DriverSigningPolicy = Ignore
OemPnPDriversPath = "\drivers\nic;\drivers\chipset;\drivers\
video;\drivers\tpm"

[MassStorageDrivers]
"LSI Logic Fusion-MPT SAS Driver (Server 2003 x64)"="OEM"

[OEMBootFiles]
txtsetup.oem
s2k3am64.cat
lsi_sas.sys
lsi_sas.inf
lsinodrv.inf

[UserData]
```

```
ProductKey = XXXXX-XXXXX-XXXXX-XXXXX-XXXXX
```

```
[Identification]
```

```
JoinWorkgroup = WORKGROUP
```

5. Add the `oem` directory and its subdirectories to the RIS image.

a. Add the `oem` subdirectory to RIS image located at:

```
d:\RemoteInstall\Setup\English\Images\image_dir
```

where *image_dir* is the directory on the RIS server that contains the RIS image.

b. Create the following subdirectories under the `oem` directory:

```
$1
```

```
textmode
```

c. Create the following subdirectory under the `$1` directory:

```
drivers
```

d. Create the following subdirectories under the `drivers` directory:

```
nic
```

```
video
```

```
chipset
```

```
tpm
```

6. Copy driver files into the `oem` directory tree.

For the LSI SAS3081E-R card, use the following:

```
> Copy cdrom_drive:\drivers\windows\RAID\LSI\2003_64\* D:\remoteinstall\setup\
english\images\image_dir\%oem%\textmode

> Copy cdrom_drive:\drivers\windows\RAID\chipset\win2003\SP\* D:\remoteinstall\
setup\english\images\image_dir\%oem%\$1\drivers\sp

> Copy cdrom_drive:\drivers\windows\IntelNIC\2003\2003_64\* D:\remoteinstall\
setup\english\images\image_dir\%oem%\$1\drivers\nic

> Copy cdrom_drive:\drivers\windows\chipset\win2003\* D:\remoteinstall\setup\
english\images\image_dir\%oem%\$1\drivers\chipset

> Copy cdrom_drive:\drivers\windows\TPM\2003_32\Win32\TPM Driver\* D:\
remoteinstall\setup\english\images\image_dir\%oem%\$1\drivers\tpm

> Copy cdrom_drive:\drivers\windows\Display\2003_64\* D:\remoteinstall\setup\
english\images\image_dir\%oem%\$1\drivers\video
```

7. **Modify the `txtsetup.oem` file.**

a. In a text editor, open the `D:\RemoteInstall\Setup\English\Images\image_dir\%oem%\textmode\txtsetup.oem` file, where *image_dir* is the directory on the RIS server that contains the RIS image.

b. Save and exit the file.

8. **Start and stop the Remote Installation Service (BINLSVC) on the RIS server:**

```
net Stop binlsvc  
net Start binlsvc
```

9. **Install the image onto the server.**

Network Interface Configuration

This appendix includes the following topic;

- [“NIC Connectors” on page 53](#)

NIC Connectors

The network interface card (NIC) connectors are labeled physically on the Sun Netra X4250 server from Oracle as follows:

TABLE C-1 NIC Connector Label

| NIC Connector Label | Interface Type |
|----------------------------|---|
| net0 | First Intel interface (Intel E1000 G0) |
| net1 | Second Intel interface (Intel E1000 G1) |
| net2 | Third Intel interface (Intel E1000 G2) |
| net3 | Fourth Intel interface (Intel E1000 G3) |

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