

**Netra Blade X3-2B
(formerly Sun Netra X6270 M3 Blade)
for Linux Operating Systems**

Installation Guide



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Using This Documentation

This documentation describes how to install the Linux Operating System on your server.

- “Product Notes” on page v
- “Related Documentation” on page vi
- “Feedback” on page vi
- “Support and Accessibility” on page vi

Product Notes

For late-breaking information and known issues about this product, refer to the product notes at:

<http://www.oracle.com/pls/topic/lookup?ctx=NetraBladeX3-2B>

Related Documentation

Documentation	Link
All Oracle products	http://www.oracle.com/documentation
Netra Blade X3-2B	http://www.oracle.com/pls/topic/lookup?ctx=NetraBladeX3-2B
Oracle Integrated Lights Out Manager (ILOM) 3.1	http://www.oracle.com/pls/topic/lookup?ctx=ilom31
Oracle Hardware Management Pack	http://www.oracle.com/pls/topic/lookup?ctx=ohmp

Feedback

Provide feedback about this documentation at:

<http://www.oracle.com/goto/docfeedback>

Support and Accessibility

Description	Links
Access electronic support through My Oracle Support	http://support.oracle.com For hearing impaired: http://www.oracle.com/accessibility/support.html
Learn about Oracle's commitment to accessibility	http://www.oracle.com/us/corporate/accessibility/index.html
Find out about training	http://education.oracle.com

About Linux Installation

Use the following task table to assist you with installing a supported version of Linux Operating System on the Sun Netra X6270 M3 server module.

Step	Description	Link
1	Perform the initial server installation and setup procedures.	<i>Netra Blade X3-2B Installation Guide</i>
2	Review the latest server hardware and software information, including a list of supported operating systems.	<i>Netra Blade X3-2B Product Notes</i>
3	Review the options for single-server or multiple-server OS installations.	“OS Installation Options” on page 2
4	Review the role of Oracle System Assistant in the OS installation process.	“Oracle System Assistant” on page 4
5	Prepare for the OS installation by performing the necessary procedures.	“Preparing to Install the OS” on page 7

Supported OS Versions and Latest Information

Use this section to learn about the supported versions of Linux and how to get the latest server-related information:

- [“Supported Linux Operating Systems” on page 2](#)
- [“Latest Information in Product Notes” on page 2](#)

Supported Linux Operating Systems

The Sun Netra X6270 M3 server module supports the following Linux operating systems:

- Oracle Linux (OEL)
- SUSE Linus Enterprise Server (SLES)
- Red Hat Enterprise Linux (RHEL)

For version numbers, refer to the *Netra Blade X3-2B Product Notes*.

Related Information

- [“Latest Information in Product Notes” on page 2](#)

Latest Information in Product Notes

The most up-to-date information about the server is maintained in the *Netra Blade X3-2B Product Notes*. This document contains detailed information about the supported operating systems, available firmware updates, and any hardware or software issues for the blade. For more information, refer to *Netra Blade X3-2B Product Notes*.

OS Installation Options

You can choose to install an OS on a single server or on multiple servers. The scope of this document is for single-server OS installations. The following table provides some information about these two installation options.

Option	Description
Single server	<p>Installs an OS to a single server using one of the following methods:</p> <ul style="list-style-type: none">• Locally: OS installation is performed locally at the server. Use this option if you have just completed the physical installation of the server in the rack. Additional hardware is required.• Remotely: OS installation is performed from a remote location. Uses the Oracle ILOM Remote Console application to access Oracle System Assistant or to perform a manual OS installation. <p>Note - Oracle System Assistant is the easiest method for local or remote single-server OS installations.</p>

Option	Description
Multiple servers	Go to: http://www.oracle.com/technetwork/oem/ops-center/index.html .

Single-Server Installation Methods

Select a method for providing the Linux installation media. Use the following information to determine the local or remote OS installation that best serves your needs.

Media Delivery Method	Additional Requirements
Local assisted OS installation – Uses Oracle System Assistant.	A monitor, USB keyboard and mouse, a USB device, and Linux distribution media. For more information, see “Assisted OS Installation” on page 3 .
Remote assisted OS installation – Uses Oracle System Assistant.	Oracle ILOM Remote Console application, a redirected CD/DVD drive or ISO image file, and Linux distribution media. For more information, see “Assisted OS Installation” on page 3 .
Local using a CD/DVD drive – Uses a physical CD/DVD drive connected to the server.	A monitor, USB keyboard and mouse, a USB CD/DVD drive, and Linux distribution media. For more information, see “Manual OS Installation” on page 4 .
Remote using a CD/DVD drive or CD/DVD ISO image – Uses a redirected physical CD/DVD drive on a remote system running the Oracle ILOM Remote Console application.	A remote system with a browser, an attached physical CD/DVD drive, Linux distribution media, and network access to the server management port. For more information, see “Manual OS Installation” on page 4 .

Assisted OS Installation

This is the easiest method for installing a supported OS on the server. This method involves using the Oracle System Assistant application. You deliver the Linux OS installation media on either a local or remote CD/DVD drive, USB device, or CD/DVD image, and Oracle System Assistant guides the installation process and installs the necessary drivers when necessary. The server must support Oracle System Assistant, and it must be installed in the server.

Related Information

- [“Oracle System Assistant” on page 4](#)

Manual OS Installation

With this method, you deliver the Linux distribution media on either a local or remote CD/DVD drive, USB device, or CD/DVD image. You also need to supply the necessary drivers. The drivers for the server are available from the My Oracle Support site as either OS-specific or server-specific packages. To install the OS, use the distribution media's installation wizard.

Related Information

- [“Oracle System Assistant” on page 4](#)

Oracle System Assistant

Oracle System Assistant is a single-server system startup and maintenance tool for x86 Sun Fire, Sun Netra, and Sun Blade servers. It integrates Oracle's Single System Management products and a selection of related software to provide a suite of tools that allow for the quick and convenient startup and maintenance of the server. The components of Oracle System Assistant include:

- Hardware Management Pack
- User interface access to startup and maintenance provisioning tasks (including Install OS task)
- Linux command-line environment
- Operating system drivers and tools
- Server-specific firmware
- Server-related documentation

Oracle System Assistant is a new factory-installed option for Sun Oracle x86 servers. It has all the tools and drivers you need and resides on a USB drive installed in most blades.

- [“Oracle System Assistant OS Installation Task” on page 4](#)
- [“Obtaining Oracle System Assistant” on page 5](#)

Oracle System Assistant OS Installation Task

The Oracle System Assistant Install OS task assists in the installation of a supported OS. You supply the OS installation media, and Oracle System Assistant guides you through the installation process. It then fetches the appropriate drivers based on the

server hardware configuration. The Install OS task is not available for all server-supported operating systems. However, once a server-supported OS is installed, you can use Oracle System Assistant to update the OS drivers as well as all the firmware components (BIOS, Oracle ILOM, HBAs, and expanders).

You can access Oracle System Assistant locally or remotely. If you just completed the installation of the server, then using Oracle System Assistant locally (while physically present at the server) can be a fast and efficient method of starting up the server. Once the server is operational, you can conveniently access Oracle System Assistant remotely while still retaining full-featured functionality.

Related Information

- [“Obtaining Oracle System Assistant” on page 5](#)

Obtaining Oracle System Assistant

Oracle System Assistant might be already installed in the server. For more information about how to determine if the server has Oracle System Assistant or how to perform updates and recovery procedures, refer to the *Netra Blade X3-2B Administration Guide*.

Related Information

- [“Preparing to Install the OS” on page 7](#)

Preparing to Install the OS

This section describes the steps for preparing to install an OS.

Step	Task	Link
1	You must have already reviewed the OS installation task table.	“About Linux Installation” on page 1
2	Download OS installation media kits.	“Downloading Installation Media Kits” on page 7
3	Set up for the installation based on the selected installation method.	<ul style="list-style-type: none">• For local: “Set Up for Local Installation” on page 9• For remote: “Set Up for Remote Installation” on page 9
4	Prepare the BIOS by loading the optimal default values, and selecting a BIOS mode.	“Setting Up the BIOS” on page 13
5	Install the OS.	“Installing the Operating System” on page 15

Downloading Installation Media Kits

This section contains the following procedures for downloading Linux installation media:

- [“Download Oracle Linux Media Kits” on page 8](#)
- [“Download SLES Media Kits” on page 8](#)
- [“Download RHEL Media Kits” on page 8](#)

▼ Download Oracle Linux Media Kits

1. **For Oracle Linux, go to the Oracle e-delivery site:**
<http://edelivery.oracle.com/linux>
2. **Create an account (if you do not already have one).**
You need an account to download the updated ISO images.
3. **Find and download Oracle Linux.**
4. **Before installing the OS, set up the BIOS.** See “Setting Up the BIOS” on page 13.

▼ Download SLES Media Kits

1. **Obtain your Novell account information.**
You must have a Novell account to download the ISO images.
2. **Download the SUSE Linux Enterprise Server media kit from:**
<http://download.novell.com>.
3. **Before installing the OS, set up the BIOS.** See “Setting Up the BIOS” on page 13.

▼ Download RHEL Media Kits

1. **Obtain your enterprise account information.**
You must have an enterprise account to download the updated ISO images.
2. **Download the Red Hat Enterprise Linux Update Media Kit from:**
<http://rhn.redhat.com>.
3. **Before installing the OS, set up the BIOS.** See “Setting Up the BIOS” on page 13.

Setting Up the Installation Method

- “Set Up for Local Installation” on page 9
- “Set Up for Remote Installation” on page 9

▼ Set Up for Local Installation

A local OS installation is performed at the server. The preferred procedure for a local installation method is to use the Oracle System Assistant's Install OS task. Use this procedure to set up for a local Oracle System Assistant assisted installation or a local manual (unassisted) installation.

Note – For a local OS installation, additional hardware is required and server web access is recommended.

- You must perform the server installation as described in the *Netra Blade X3-2B Installation Guide*.
 - You need the following items:
 - Video monitor with 15-pin (DB-15) connector capabilities
 - USB keyboard and mouse
 - USB device (CD/DVD drive or thumb drive)
 - To ensure that the server has the latest updates, server web access is recommended.
1. **Ensure the server is in standby power mode.**
 2. **Attach the 3-cable dongle to the universal connector port (UCP) on the front of the blade.**
 3. **Connect the video monitor to the video connector on the 3-cable dongle.**
 4. **Connect the keyboard and mouse to one of the USB connectors on the front of the server (or to one of the USB connectors on the 3-cable dongle).**
 5. **Connect the CD/DVD drive to the other USB connector on the front of the server (or to one of the USB connectors on the 3-cable dongle).**

Related Information

- [“Downloading Installation Media Kits” on page 7](#)

▼ Set Up for Remote Installation

A remote OS installation is performed using the Oracle ILOM Remote Console application and a redirected CD/DVD drive or CD ISO image. The easiest method for a remote installation is to use Oracle System Assistant's assisted Install OS task. Use this procedure to set up for a remote Oracle System Assistant assisted installation or a remote manual (unassisted) installation.

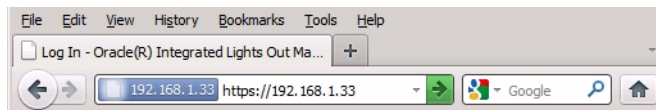
Note – Using the CD-ROM or CD-ROM image option to install the OS significantly increases the time necessary to perform the installation as the content of the CD-ROM is accessed over the network. The installation duration depends on the network connectivity and traffic. This installation method also has a greater risk of issues due to transient network errors.

The following requirements must be met:

- You have already completed the server installation as described in the *Netra Blade X3-2B Installation Guide*.
- The Remote Console system must be running on Solaris, Linux, or Windows.
- The Remote Console system must be connected to a network that has access to the Sun server Ethernet management port.
- Java Runtime Environment (JRE) 1.5 must be installed.
- If the Remote Console system is running Solaris, volume management must be disabled for Remote Console to access the CD/DVD-ROM drive.
- If the Remote Console system is running Windows, disable Internet Explorer Enhanced Security.
- The server service processor (SP) has been set up according to the instructions in the Oracle ILOM documentation for your server.
- You need the SP IP address to access Oracle ILOM.
- To ensure that the server has the latest updates, server web access is required.

Note – Some of the screen shots shown in this procedure might differ from the screens you see.

1. To access Oracle ILOM, type the IP address of the service processor into a browser on the Remote Console system.



The Security Alert dialog box is displayed.



This Connection is Untrusted

You have asked Firefox to connect securely to **192.168.1.33:8600**, but we can't confirm that your connection is secure.

Normally, when you try to connect securely, sites will present trusted identification to prove that you are going to the right place. However, this site's identity can't be verified.

What Should I Do?

If you usually connect to this site without problems, this error could mean that someone is trying to impersonate the site, and you shouldn't continue.

[Get me out of here!](#)

► Technical Details

▼ I Understand the Risks

If you understand what's going on, you can tell Firefox to start trusting this site's identification. **Even if you trust the site, this error could mean that someone is tampering with your connection.**

Don't add an exception unless you know there's a good reason why this site doesn't use trusted identification.

[Add Exception...](#)

2. Click the I Understand the Risks link.

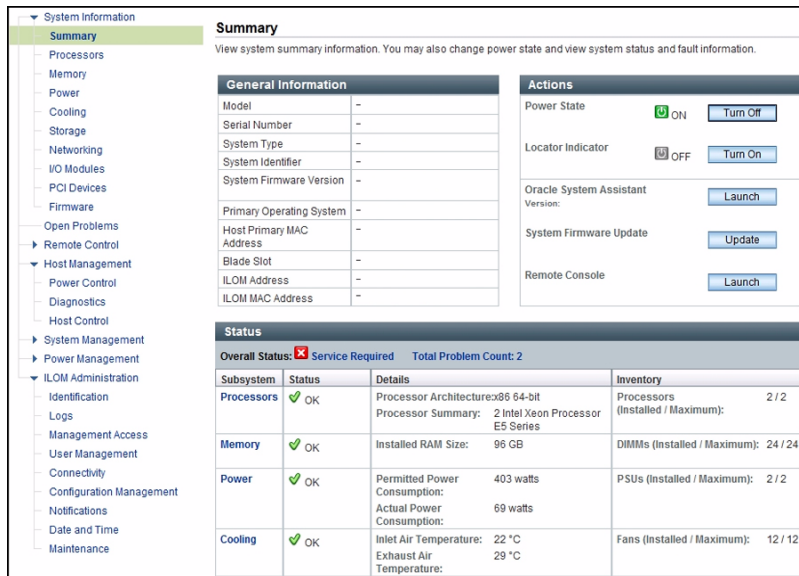
3. Click Add Exception.

The Oracle ILOM login screen is displayed.

4. Type the user name and password and click Log In.

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

The Oracle ILOM System Summary screen is displayed.



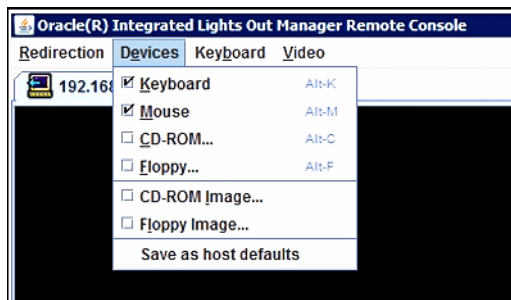
5. Click the Remote Console Launch button.

A dialog box for the `jnlpgenerator.jnlp` file is displayed.



6. Click Open.

The Remote Console screen is displayed.



7. From the Devices menu, select one CD item according to the delivery method you have chosen.

- **CD-ROM Remote.** Select CD-ROM to redirect the server to the operating system software CD/DVD contents from the CD/DVD-ROM drive attached to the Remote Console system.
- **CD-ROM Image.** Select CD-ROM Image to redirect the server to the operating system software .iso image file located on the Remote Console system.

Related Information

- [“Downloading Installation Media Kits” on page 7](#)

Setting Up the BIOS

Before you install the operating system, you should ensure that BIOS settings are configured to support the type of installation you plan to perform. The following topics provide specific instructions on how to configure the BIOS to support the installation:

- [“Load BIOS Optimal Default Settings” on page 13](#)
- [“Set the BIOS Mode” on page 14](#)

▼ Load BIOS Optimal Default Settings



Caution – This procedure resets the BIOS settings to the default values, and overwrites any previously customized settings. To retain customized settings, review each menu and make note of the customized values before loading the default values.

The BIOS Setup Utility contains an option to load the optimal BIOS settings for the server. Perform this procedure on a newly installed server to ensure that the BIOS is set to the optimal default values.

- The server is equipped with a properly installed storage drive.
- A console connection is established to the server. For details, see [“Setting Up the Installation Method” on page 8](#)

- 1. Power on the server.**

POST messages appear on the console.

- 2. Watch the messages, and, when prompted, press F2 to access the BIOS Setup Utility.**

The BIOS Setup Utility main screen is displayed.

- 3. To ensure that the factory defaults are set, press F9.**

- 4. To save the changes, and exit the BIOS Setup Utility, press F10.**

5. **Before installing the OS, set the BIOS mode.** See [“Set the BIOS Mode” on page 14.](#)

▼ Set the BIOS Mode

The BIOS firmware supports both legacy BIOS and Unified Extensible Firmware Interface (UEFI); the default setting is Legacy. Some operating systems support both legacy BIOS and UEFI BIOS and some support legacy BIOS only. These are the options for setting the BIOS mode before installing the OS:

- If the OS supports legacy BIOS only, you must make sure that BIOS is set to legacy mode before you do the OS installation.
- If the OS supports both legacy BIOS and UEFI BIOS, you have the option of setting BIOS to either legacy mode or UEFI mode before you perform the OS installation.

1. **Power on the server.**

POST messages appear on the console.

2. **Watch the messages, and, when the prompt is displayed, press F2 to access the BIOS Setup Utility.**

The BIOS Setup Utility main screen is displayed.

3. **In the BIOS Setup Utility, use the left or right arrow keys to navigate to the Boot screen.**

The Boot Menu screen is displayed.

4. **Use the down arrow key to select the UEFI/BIOS Boot Mode field.**

5. **Press Enter and use the up or down arrow keys to select the Legacy BIOS option.**

6. **To save the changes, and exit the BIOS Setup Utility, press F10.**

7. **Install the OS.** See [“Installing the Operating System” on page 15.](#)

Installing the Operating System

This section describes the procedures for installing the OS.

Step	Description	Link
1	You must have already reviewed the Preparing to Install the OS section.	“Preparing to Install the OS” on page 7
2	If necessary, get logical and physical network names.	“Identifying Logical and Physical Network Interface Names for Linux OS Configuration” on page 16
3	Install the OS using the selected method.	<ul style="list-style-type: none">• “Install a Linux OS (Oracle System Assistant)” on page 20• “Installing a Linux OS (Manually)” on page 24
4	Update server tools and drivers.	“Installing Server System Tools and Updating Drivers” on page 29
5	Update the OS to a new version.	“Updating a Linux OS to a New Version” on page 31

Identifying Logical and Physical Network Interface Names for Linux OS Configuration

While configuring an operating system for a networked server, you might need to provide the logical name (assigned by the OS) and the physical name (MAC address) of each network interface.

This section explains how to obtain the needed logical information in these situations. It provides the following topics.

- [“Identify Logical and Physical Network Interface Names While Installing Oracle Linux or RHEL” on page 16](#)
- [“Identify Logical and Physical Network Interface Names While Installing SLES” on page 18](#)

▼ Identify Logical and Physical Network Interface Names While Installing Oracle Linux or RHEL

During installation and configuration of the Oracle Linux or Red Hat Enterprise Linux OS, you reach a point where you must enter the logical and physical names (MAC addresses) of the network interfaces.

This section explains how to launch a user shell during the Linux configuration to obtain the logical and physical network interface names that you need to continue with the configuration.

1. **At the boot prompt type: `linux rescue` and then press Enter.**

The Choose a Language screen is displayed.

2. **In the Choose a Language screen, select the appropriate language, and click OK.**

The Keyboard Type screen is displayed.

3. **In the Keyboard Type screen, select the appropriate configuration, and then click OK.**

The Setup Network screen is displayed.

4. **In the Setup Network screen, click No.**

The Rescue screen is displayed.

5. In the Rescue screen, click Skip.

The user shell is displayed.

6. At the command prompt (#) in the user shell, type the following command to display all network interfaces, and then press Enter.

```
# ifconfig -a
```

The output of the Linux named network interfaces appear.

If you have multiple network interfaces and the output of interfaces scrolls off the top of the screen, you can display the output per interface.

7. To view the output of each network interface, type the following at the command prompt, and then press Enter:

```
# ifconfig eth#
```

where *eth#* is the interface number. For example, if you type:

```
# ifconfig eth0
```

the output for **eth0** is displayed:

```
Link encap:Ethernet  HWaddr 00:14:4F:0C:A1:F2  
inet addr:192.168.2.103  Bcast:192.168.2.255
```

- The eth0 entry in the first column refers to the Linux logical named interface. This first column in the output identifies the logical names Linux or RHEL assigned to the network interface.
- The HWaddr 00.14.4F.0C:A1:F2 entry in the second column (first row) refers to the physical MAC address of the network port.

8. Record the logical network interface name with the physical port MAC address for future reference. You need to refer to this record when configuring the network interfaces during the Linux or RHEL OS installation.

9. When you are done, do one of the following to exit the user shell.

- From Oracle ILOM, select Remote Control > Remote Power Control > Reset.
- From Oracle ILOM Remote Console in the Keyboard menu, select Control Alt Delete.
- From other consoles, press Ctrl+Alt+Delete.

10. Restart the OS installation program.

Additional Actions

- [“Install a Linux OS \(Oracle System Assistant\)” on page 20](#)
- [“Installing a Linux OS \(Manually\)” on page 24](#)

▼ Identify Logical and Physical Network Interface Names While Installing SLES

During installation and configuration of the SUSE Linux Enterprise Server OS, you reach a point where you must enter the logical and physical names (MAC addresses) of the network interfaces.

This section explains how to launch a user shell during the SUSE Linux OS configuration to obtain the logical and physical network interface names that you need to continue with the configuration.

Find and record the MAC addresses of all the physical ports from their labels.

1. If you have not already done so, select `Rescue System` and press `Enter`.

The message `Loading Linux Kernel` is displayed followed by the SUSE splash screen, and then the `Choose a Keyboard Map` screen is displayed.

2. In the `Choose a Keyboard Map` screen, select the appropriate keyboard configuration, and click `OK`.

The user shell launches, and the `Rescue Login` prompt is displayed.

3. At the `Rescue Login` prompt, type `root` to log in, and then press `Enter`.

The `Rescue` prompt is displayed.

4. At the `Rescue` prompt (`#`), type the following command, and then press `Enter` to display all network interfaces (active and inactive).

```
# ifconfig -a
```

The output of the Linux SUSE named and physical named network interfaces appear. Each interface found will list output similar to the following example:

```
eth0 Link encap:Ethernet HWaddr 00:14:4F:0C:A1:53
      inet addr:192.168.2.103 Bcast:192.168.2.255
Mask:255.255.0.0
      UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
      RX packets:23363 errors:0 dropped:0 overruns:0 frame:0
      TX packets:21798 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:100
      RX bytes:13479541 (12.8 MiB) TX bytes:20262643 (19.3 MiB)
      Interrupt:9
lo    Link encap:Local Loopback
```



```
inet addr:127.0.0.1  Mask:255.0.0.0
inet6 addr: ::1/128 Scope:Host
UP LOOPBACK RUNNING  MTU:16436  Metric:1
RX packets:9814 errors:0 dropped:0 overruns:0 frame:0
TX packets:9814 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:0
RX bytes:3655065 (3.4 MiB)  TX bytes:3655065 (3.4 MiB)
```

- The `eth0` entry in the first column refers to the logical name of the Ethernet interface assigned by the operating system. The `lo` entry in the first column refers to the loopback interface.
- The `HWaddr 00:14:4F:0C:A1:53` entry in second column (first row) refers to the physical MAC address of the network port.

If you have multiple network interfaces and the output of interfaces scrolls off the top of the screen, you can display the output per interface.

```
# ifconfig eth#
```

where *eth#* is the interface number.

5. Record the SUSE logical network interface name with the physical port MAC address for future reference.

You will need to refer to this record when configuring the network interfaces during the Linux SUSE OS installation.

6. To exit the Rescue shell, do one of the following:

- From the Oracle ILOM web interface, select Remote Control > Remote Power Control > Reset.
- From other consoles, at the Rescue prompt (`#`), type `reboot`, and then press Enter.

7. Restart the SLES installation program.

Additional Actions

- [“Install a Linux OS \(Oracle System Assistant\)” on page 20](#)
- [“Installing a Linux OS \(Manually\)” on page 24](#)

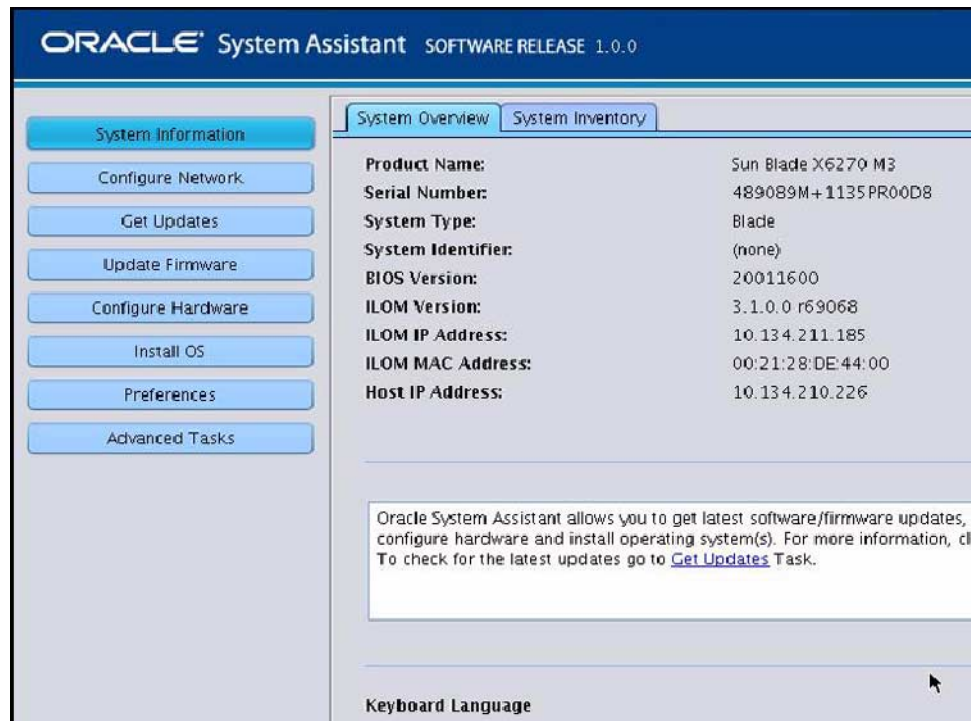
▼ Install a Linux OS (Oracle System Assistant)

The Oracle System Assistant Install OS task provides assisted OS installation of a supported versions of the Linux OS.

- Prepare the server storage drives. For more information, refer to the *Netra Blade X3-2B Installation Guide*.
- Perform the steps in [“Preparing to Install the OS” on page 7](#).
- During the OS installation and configuration process, you might need to provide logical and physical network names. For more information, see [“Identifying Logical and Physical Network Interface Names for Linux OS Configuration” on page 16](#).
- For local installation, have the installation media available to insert into the attached physical CD/DVD-ROM drive when prompted.
- For remote installation, insert the installation media into the Remote Console system’s CD/DVD-ROM drive. Make sure you have selected CD-ROM from the Remote Console Device menu.
- If you are using an ISO image, ensure that the it is accessible from the Remote Console system. Make sure you have selected CD-ROM Image from the Remote Console Device menu.

- 1. Ensure that the server is in standby power mode.**
- 2. Boot the server and watch the video monitor or Remote Console screen for the prompt to press the F9 key to enter Oracle System Assistant.**
- 3. When the prompt is displayed, press the F9 key.**

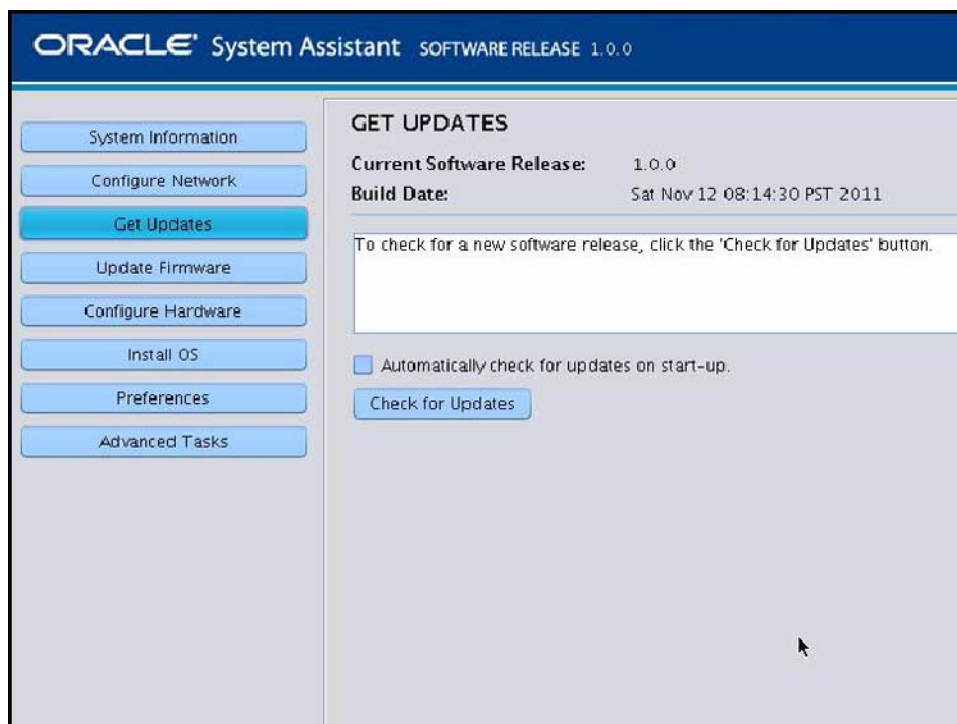
The Oracle System Assistant main screen is displayed.



4. To update the Oracle System Assistant application, click the Get Updates button.

This action ensures that the application has the latest firmware and drivers before you begin the OS installation.

Note – Server web access is required to update Oracle System Assistant.

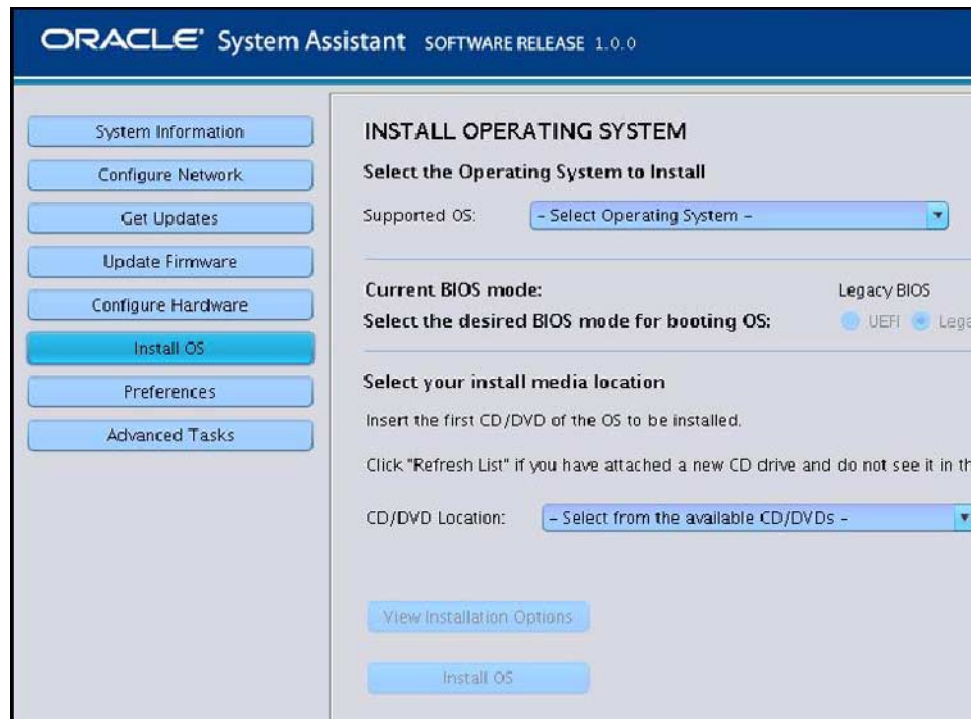


5. To update the server firmware, click the Update Firmware button.

This action ensures that the server has the latest firmware and before you begin the OS installation.

6. To install the OS, click the Install OS button.

The Install OS screen is displayed.



7. From the Select Operating System drop-down list, select the OS.
8. Select the BIOS mode. For more information, refer to the *Netra Blade X3-2B Administration Guide*.
9. In the Select your install media location section, indicate the location of the installation media .
This is the location of the OS distribution media. If you attached a CD/DVD drive, you might need to click the Refresh button to see it in the drop-down list.
10. To select a device, click View Installation Options.
This is the device on which you install the OS.



Caution – Loss of data. The OS installation erases the contents of the disk. All data on the selected disk is erased.

11. To begin the OS installation, click Install OS.
12. Follow the prompts until the installation is finished.
The server boots.

Additional Actions

- “Installing Server System Tools and Updating Drivers” on page 29

Installing a Linux OS (Manually)

The easiest method for installing a Linux OS is to use the Oracle System Assistant application. For more, see “Install a Linux OS (Oracle System Assistant)” on page 20.

Use the procedures in the following sections to install a Linux OS manually—without the assistance of Oracle System Assistant:

- “Install OEL Manually” on page 24
- “Install SLES Manually” on page 26
- “Install RHEL Manually” on page 27

▼ Install OEL Manually

Use this procedure to install the Oracle Linux OS without the use of Oracle System Assistant.

- Perform the steps in the section “Preparing to Install the OS” on page 7.
 - To complete this installation, you need the following Linux installation articles:
 - For Linux 5, go to:
<http://www.oracle-base.com/articles/linux/OracleEnterpriseLinux5Installation.php>
 - For Linux 6, go to:
<http://www.oracle-base.com/articles/linux/OracleLinux6Installation.php>
1. **Download the OS-specific ZIP package file from My Oracle Support. See *Netra Blade X3-2B Product Notes*.**
 2. **Unzip the file to a location accessible to the server.**

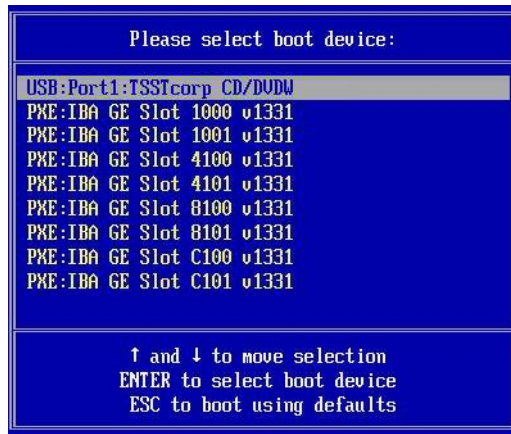
These are the OS-specific drivers and supplemental software (tools) for the server. For information about the folder file system structure, refer to *Netra Blade X3-2B Administration Guide*.
 3. **Insert the Linux distribution DVD, or access the ISO image distribution media.**
 4. **Power on or reset the server.**

BIOS messages appear on the console.

```
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.  
BIOS Date: 09/06/2011 12:12:06 Ver: 20011300  
Press F2 to run Setup (CTRL+E on serial keyboard)  
Press F8 for BBS Popup (CTRL+P on serial keyboard)  
Press F12 for network boot (CTRL+N on serial keyboard)  
Press F9 to start Oracle System Assistant
```

5. When you see a message offering a series of selections, press F8.

After a delay, a menu offers a selection of boot devices (see the following example).



6. Select a boot device from the list.

To boot from a physical CD/DVD or from an ISO image, select CD/DVD. Control passes to the OS installation program on the media.

7. Do one of the following at the boot prompt, depending on which type of interface you want to use:

■ Text mode:

Type the following command: `boot: linux text.`

■ Graphical mode:

Press Enter at the boot prompt.

8. To complete the installation, refer to the version-specific installation article:

Note – If you already have an operating system besides Linux installed (for example, the Oracle Solaris OS), it will appear as a partition during the installation process. If you choose to install Linux on that partition, it will overwrite the OS. If you wish to preserve the partition, you must install Linux on a different partition.

Additional Actions

- [“Installing Server System Tools and Updating Drivers” on page 29](#)

▼ Install SLES Manually

- Perform the steps in the section, [“Preparing to Install the OS” on page 7](#).
- While configuring an operating system for a networked server, it is necessary to provide the logical names (assigned by the OS) and the physical name (MAC address) of each network interface. See [“Identifying Logical and Physical Network Interface Names for Linux OS Configuration” on page 16](#) for details.
- OEM OS installation guide available with the media kit.

1. Download the OS-specific ZIP package file from My Oracle Support. See *Netra Blade X3-2B Product Notes*.

2. Unzip the file to a location accessible to the server.

These are the OS-specific drivers and supplemental software (tools) for the server. For information about the file system structure, refer to *Netra Blade X3-2B Administration Guide*.

3. Insert the Linux distribution DVD, or access the ISO image distribution media.

4. Power on or reset the server.

BIOS messages appear on the console.

```
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.  
BIOS Date: 09/06/2011 12:12:06 Ver: 20011300  
Press F2 to run Setup (CTRL+E on serial keyboard)  
Press F8 for BBS Popup (CTRL+P on serial keyboard)  
Press F12 for network boot (CTRL+N on serial keyboard)  
Press F9 to start Oracle System Assistant
```

5. When you see a message offering a series of selections, press F8.

After a delay, a menu offers a selection of boot devices (see the following example).



6. Select a boot device from the list.

To boot from a physical CD/DVD or from an ISO image, select CD/DVD.
Control passes to the OS installation program on the media.

7. Follow the instructions provided with the OEM installation guide to complete the installation of the system software.

Note – If you already have an operating system besides Linux installed (for example, the Solaris OS), it will appear as a partition during the installation process. If you choose to install SLES on that partition, it will overwrite the OS. If you wish to preserve the partition, you must install SLES on a different partition.

Additional Actions

- [“Installing Server System Tools and Updating Drivers” on page 29](#)

▼ Install RHEL Manually

- Perform the steps in the section, [“Preparing to Install the OS” on page 7](#).
 - While configuring an operating system for a networked server, it is necessary to provide the logical names (assigned by the OS) and the physical name (MAC address) of each network interface. See [“Identifying Logical and Physical Network Interface Names for Linux OS Configuration” on page 16](#) for details.
 - OEM OS installation guide available with the media kit.
1. **Download the OS-specific ZIP package file from My Oracle Support. See *Netra Blade X3-2B Product Notes*.**

2. Unzip the file to a location accessible to the server.

These are the OS-specific drivers and supplemental software (tools) for the server.
For information about the file system structure, refer to *Netra Blade X3-2B Administration Guide*.

3. Insert the Linux distribution DVD or access the ISO image distribution media.

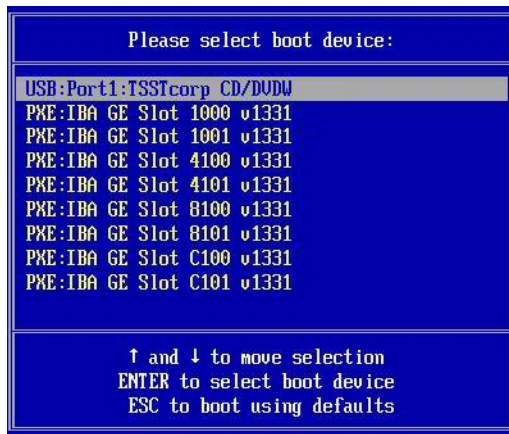
4. Power on or reset the server.

BIOS messages appear on the console.

```
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.  
BIOS Date: 09/06/2011 12:12:06 Ver: 20011300  
Press F2 to run Setup (CTRL+E on serial keyboard)  
Press F8 for BBS Popup (CTRL+P on serial keyboard)  
Press F12 for network boot (CTRL+N on serial keyboard)  
Press F9 to start Oracle System Assistant
```

5. When you see a message offering a series of selections, press F8.

After a delay, a menu offers a selection of boot devices (see the following example).



6. Select a boot device from the list.

To boot from a physical CD/DVD or from an ISO image, select CD/DVD.
Control passes to the OS installation program on the media.

7. Do one of the following at the boot prompt, depending on which type of interface you want to use:

- For text mode, type the following command: `boot: linux text.`
- For graphical mode, press Enter at the boot prompt.

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

Note – If you already have an operating system besides Linux installed (for example, the Solaris OS), it will appear as a partition during the installation process. If you choose to install RHEL on that partition, it will overwrite the OS. If you wish to preserve the partition, you must install RHEL on a different partition.

Additional Actions

- [“Installing Server System Tools and Updating Drivers” on page 29](#)

Installing Server System Tools and Updating Drivers

Use these procedures to access server system tools and update system drivers using the software available with the Oracle System Assistant and the downloaded OS software package.

- [“Install Server System Tools” on page 29](#)
- [“Update System Drivers” on page 30](#)

▼ Install Server System Tools

Server system tools, which include Oracle Hardware Management Pack and LSI MegaRAID Storage Manager, are available with the Oracle System Assistant software and the downloaded Linux OS software package. Use this procedure to access server system tools, and use the manufacturer’s installation documentation to install the tools.

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

- If your system does *not* have Oracle System Assistant:
 - a. **Download the latest server system tools and drivers package from the My Oracle Support site.**
For more information, see *Netra Blade X3-2B Product Notes*.
 - b. **Unzip the downloaded tools and drivers package to the server.**

- c. **Within the unzipped directory file system, navigate to the Linux OS Tools folder:**

`Linux/OS_name/version/Tools`

where *OS_name* is the installed OS: OL (Oracle Linux), RHEL (RedHat), or SLES (SUSE), and *version* is the version of the installed Linux OS.

- If your system has Oracle System Assistant:
 - a. **From the OS, open a file browser and navigate to the Oracle System Assistant USB device.**

The USB device is named ORACLE_SSM.
 - b. **Navigate to the appropriate Linux OS Tools folder, using the following path structure:**

`Linux/OS_name/version/Tools/tool`

where *OS_name* is the installed OS: OL (Oracle Linux), RHEL (RedHat), or SLES (SUSE), *version* is the version of the installed Linux OS, and *tool* is either Hardware-Management-Pack or MSM.

2. To install the software tools, see the appropriate installation instructions:

- For Oracle Hardware Management Pack, go to:
<http://www.oracle.com/pls/topic/lookup?ctx=ohmp>
- For LSI MSM, go to:
http://www.lsi.com/sep/Pages/oracle/sg_x_sas6-r-rem-z.aspx

▼ Update System Drivers

Use this procedure to update server system drivers using the Linux OS InstallPack application. The application is available with the Oracle System Assistant software and the downloaded OS-specific software package.

1. Do one of the following:

- If your system does not have Oracle System Assistant:
 - a. **Download the latest server system tools and drivers package from the My Oracle Support site.**

For more information, see *Netra Blade X3-2B Product Notes*.
 - b. **Unzip the downloaded tools and drivers package to the server.**
 - c. **Within the unzipped directory file system, navigate to the Linux OS InstallPack folder:**

`Linux/OS_name/version/InstallPack`

where *OS_name* is the installed OS: OL (Oracle Linux), RHEL (RedHat), or SLES (SUSE), and *version* is the version of the installed Linux OS.

- If your system has Oracle System Assistant:

- a. **From the OS, open a file browser and navigate to the Oracle System Assistant USB device.**

The USB device is named ORACLE_SSM.

- b. **Navigate to the Linux OS InstallPack folder, using the following path structure:**

Linux/*OS_name*/*version*/InstallPack

where *OS_name* is the installed OS: OL (Oracle Linux), RHEL (RedHat), or SLES (SUSE), and *version* is the version of the installed Linux OS.

2. **To update the drivers, double-click the `InstallPack.py` file.**
3. **Follow the InstallPack application instructions to complete the driver updates.**

Updating a Linux OS to a New Version

Use these procedures in the following sections to update a Linux OS to a new version:

- “Update the Linux Operating System Version” on page 31
- “Update the SLES Operating System Version” on page 32
- “Update the RHEL Operating System Version” on page 33

▼ Update the Linux Operating System Version

You must already have Linux installed the server.

- **Choose a method for updating the Linux operating system:**

- For Oracle Unbreakable Linux Network (ULN) installations, create local yum repositories and configure yum and up2date to install update packages from them.

Go to

<http://www.oracle.com/technology/tech/linux/htdocs/yum-repository-setup.html>.

- For Oracle Linux installations without Unbreakable Linux Network support, use the Oracle Public yum server and a yum client to install updates.

Go to <http://public-yum.oracle.com/>.

Note – This yum server is offered without support of any kind. If you require errata, security patches, and other updates, use the Oracle Unbreakable Linux Network (ULN) at <http://linux.oracle.com/>.

▼ Update the SLES Operating System Version

This procedure uses YaST to update SLES.

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

Obtain a Novell Customer Center user name and password, and a SLES product activation code.

1. Log in as superuser.
2. Open the YaST Online Update service:

```
# you
```

The YaST user window is displayed.

3. If you are behind a network firewall and need to use a proxy server to access the Internet, configure YaST with the correct proxy information:
 - a. Click the Network Services tab.
 - b. Click the Proxy screen on the right of the display.
 - c. Enter the correct proxy URLs in both the HTTP and HTTPS fields.
 - d. Exit YaST.
 - e. Type the following command:

```
# rug set-prefs proxy-url proxy URL
```

where *proxy URL* is the fully qualified URL of the proxy server. For example:

```
http:// proxy.yourdomain:3128/
```

- f. **Restart YaST.**
- 4. **To register with the Novell Customer center:**
 - a. **Click the Software tab.**
 - b. **Select Novell Customer Center Configuration, and follow the directions.**
This requires your Novell Customer Center user name and password, and a SLES product activation code.
- 5. **To perform the software update, select the Online Update tab .**

▼ Update the RHEL Operating System Version

You must already have RHEL installed the server.

The server must have access to the web.

1. **Run the `yum` update program.**

```
# yum
```

2. **Answer the questions and make your choices before the packages are downloaded and installed.**

Periodically update the system using `yum`.

For more information, refer to the man page. Type:

```
# man yum
```


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