

# Sun Server X4-4 Installation Guide for Microsoft Windows Operating System

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## Using This Documentation

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This section describes how to get the latest firmware and software for the system, documentation and feedback, and a document change history.

- [“Sun Server X4-4 Model Naming Convention” on page 7](#)
- [“Getting the Latest Firmware and Software” on page 7](#)
- [“Documentation and Feedback” on page 8](#)
- [“About This Documentation” on page 8](#)
- [“Support and Training” on page 8](#)
- [“Contributors” on page 8](#)
- [“Change History” on page 9](#)

## Sun Server X4-4 Model Naming Convention

The Sun Server X4-4 name identifies the following:

- X identifies an x86 product.
- The first number, 4, identifies the generation of the server.
- The second number, 4, identifies the number of processor sockets in the server.

## Getting the Latest Firmware and Software

Firmware, drivers, and other hardware-related software for each Oracle x86 server are updated periodically.

You can obtain the latest version in one of following ways:

- Oracle System Assistant – This is a factory-installed option for Sun Oracle x86 servers. It has all the tools and drivers you need and resides on an internal USB flash stick.

- My Oracle Support – This is the Oracle support web site located at: <https://support.oracle.com>.

## Documentation and Feedback

Documentation	Link
All Oracle products	<a href="http://docs.oracle.com">http://docs.oracle.com</a>
Sun Server X4-4	<a href="http://www.oracle.com/goto/X4-4/docs">http://www.oracle.com/goto/X4-4/docs</a>
Oracle Integrated Lights Out Manager (ILOM). Refer to the documentation for your supported version of Oracle ILOM listed in the <i>Product Notes</i> .	<a href="http://www.oracle.com/goto/ILOM/docs">http://www.oracle.com/goto/ILOM/docs</a>
Oracle Hardware Management Pack. Refer to the documentation for your supported version of Oracle Hardware Management Pack listed in the <i>Product Notes</i> .	<a href="http://www.oracle.com/goto/ohmp/docs">http://www.oracle.com/goto/ohmp/docs</a>

Provide feedback on this documentation at: <http://www.oracle.com/goto/docfeedback>.

## About This Documentation

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

## Support and Training

These web sites provide additional resources:

- Support: <https://support.oracle.com>
- Training: <http://education.oracle.com>

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## Change History

The following lists the release history of this documentation set:

- April 2014. Initial publication.
- May 2014. Updated *Product Notes* for SW 1.0.1. Updated *Product Notes*, *Installation Guide* and *Service Manual* information for the 8 GB DIMM which will no longer be orderable as of June 2014.
- October 2014. Updated *Product Notes* for SW 1.1.0. Updated *Installation Guide* and *Sun Server X4-4 Installation Guide for Linux Operating System* information to add support for the Oracle Linux Fault Management Architecture software available with Oracle Hardware Management Pack 2.3. Minor editorial updates to *Sun Server X4-4 Installation Guide for Windows Operating System*.
- January 2015. Updated *Product Notes* for SW 1.1.1.
- August 2015. Updated *Product Notes* for SW 1.2. Updated the *Service Manual* information for the fan module replacement. Updated the *Installation Guide* for minor technical edits.
- September 2015. Updated *Product Notes* for SW 1.2.1.
- October 2015. Updated *Product Notes* to add note about important updates. Removed information in all books about obtaining physical media for Oracle software.



# About Windows OS Installation

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This document describes how to install the Microsoft Windows operating system on Oracle's Sun Server X4-4.

The following table summarizes an ordered list of tasks that you must perform to properly install the operating system.

Step	Description	Link
1	Review the list of supported Windows OS versions and learn how to obtain the latest and most up-to-date information about the server software and hardware.	<a href="#">“Supported OS Versions and Latest Information” on page 11</a>
2	Review the options for single server or multiple server OS installations.	<a href="#">“OS Installation Options” on page 12</a>
3	Prepare for the installation by performing required procedures.	<a href="#">“Preparing to Install the OS” on page 17</a>
4	Install the OS.	<a href="#">“Installing the Windows OS” on page 25</a>

## Supported OS Versions and Latest Information

At initial introduction, the Sun Server X4-4 supports Windows Server 2008 R2 SP1, Windows Server 2012 and Windows Server 2012 R2.

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**Note** - In this manual, the term Windows Server 2008 R2 is used to describe all supported versions of Windows Server 2008, and the term Windows Server 2012 R2 is used to describe all supported versions of Windows Server 2012.

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**Note** - The most up-to-date information about the server is in the *Sun Server X4-4 Product Notes*. The *Product Notes* document contains detailed information about the available firmware updates and any hardware or software issues for the server. Server-related documents are available online in the server documentation library. See: <http://www.oracle.com/goto/X4-4/docs>

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## 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 information about these two installation options.

Option	Description
Multiple servers	See the Enterprise Manager page at:  <a href="http://www.oracle.com/technetwork/oem/ops-center/index.html">http://www.oracle.com/technetwork/oem/ops-center/index.html</a>
Single server	Install an OS to a single server using one of the following methods: <ul style="list-style-type: none"><li>■ Locally: OS installation is performed locally at the server. This option is convenient if you have just completed the physical installation of the server in the rack. You can use Oracle System Assistant, or perform the installation manually. Additional hardware is required.</li><li>■ Remotely: OS installation is performed from a remote location. Uses the Oracle Integrated Lights Out Manager (ILOM) Remote Console Plus application to access Oracle System Assistant or to perform a manual OS installation.</li></ul> <p><b>Note</b> - Use Oracle System Assistant for local or remote single server OS installations.</p>

For more information about single-server OS installation methods and Oracle System Assistant, see:

- “Single-Server Installation Methods” on page 13
- “Oracle System Assistant” on page 14

## Single-Server Installation Methods

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

Media Delivery Method	Description	Requirements
<b>Local assisted OS installation</b>	Uses Oracle System Assistant.	<ul style="list-style-type: none"> <li>■ Video monitor</li> <li>■ USB keyboard and mouse</li> <li>■ USB CD/DVD drive</li> <li>■ Windows distribution media</li> </ul> <p>For more information, see <a href="#">“Assisted OS Installation” on page 13.</a></p>
<b>Remote assisted OS installation</b>	Uses Oracle System Assistant.	<ul style="list-style-type: none"> <li>■ Oracle ILOM Remote Console Plus application</li> <li>■ Redirected CD/DVD drive or ISO image file</li> <li>■ Windows distribution media</li> </ul> <p>For more information, see <a href="#">“Assisted OS Installation” on page 13.</a></p>
<b>Local manual OS installation using a CD/DVD drive</b>	Uses a physical CD/DVD drive connected to the server.	<ul style="list-style-type: none"> <li>■ Video monitor</li> <li>■ USB keyboard and mouse</li> <li>■ USB CD/DVD drive</li> <li>■ Windows distribution media</li> </ul> <p>For more information, see <a href="#">“Manual OS Installation” on page 14.</a></p>
<b>Remote manual OS installation using a CD/DVD drive or CD/DVD ISO image</b>	Uses a redirected physical CD/DVD drive on a remote system running the Oracle ILOM Remote Console Plus application.	<ul style="list-style-type: none"> <li>■ Remote system with a browser</li> <li>■ CD/DVD drive or ISO image</li> <li>■ Windows distribution media</li> <li>■ Network access to the server management port</li> </ul> <p>For more information, see <a href="#">“Manual OS Installation” on page 14.</a></p>
<b>Network PXE install</b>	Uses a customized Windows Imaging (WIM) file format on a Windows Deployment Services (WDS) server.	A server running WDS and a WIM image customized for the server. See <a href="#">“Windows Deployment Services OS Installation” on page 14.</a>

## Assisted OS Installation

This is the easiest method for installing a supported OS on the server. This method involves using Oracle System Assistant. You deliver the Windows OS installation media on either a local or remote CD/DVD drive or CD/DVD image, and the Oracle System Assistant application

initiates the installation process and installs the necessary drivers. Oracle System Assistant option must be installed in the server. For more information about Oracle System Assistant, refer to the [Oracle X4 Series Servers Administration Guide \(http://www.oracle.com/goto/x86AdminDiag/docs\)](http://www.oracle.com/goto/x86AdminDiag/docs).

## Manual OS Installation

With this method, you do not use Oracle System Assistant to install the OS. Instead, you deliver the Windows distribution media on either a local or remote CD/DVD drive, USB device, or CD/DVD image. You also need to supply the necessary tools and drivers. The tools and drivers for the server are available from the My Oracle Support site as server-specific and OS-specific packages. To install the OS, use the distribution media's installation wizard.

## Windows Deployment Services OS Installation

You can install Windows from a deployment server environment. Advanced users can create a customized Windows installation image (WIM) for the server on a Windows Deployment Services (WDS) server. Once this installation image file has been created, you can boot the server from its network card and select the image from the WDS system for deployment.

For more information about WDS, refer to:

<http://msdn.microsoft.com/en-us/library/aa967394.aspx>

For information about getting started with WDS and creating a WIM image, refer to:

<http://technet.microsoft.com/en-us/library/jj648426.aspx>

### Related Information

[“Oracle System Assistant” on page 14](#)

## Oracle System Assistant

Oracle System Assistant is a single-server system management tool for Oracle x86 servers. It integrates Oracle's Single Server 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
- Oracle Linux command-line environment
- Operating system drivers and tools (formerly Tools and Drivers CD/DVD)
- Server-specific firmware
- Server-related documentation

Oracle System Assistant resides inside the server and is factory configured with server-specific tools and drivers that are maintained using online updates.

For more information about Oracle System Assistant, see the following topics:

- [“Oracle System Assistant Tasks Overview” on page 15](#)
- [“Oracle System Assistant OS Installation Task” on page 15](#)
- [“Obtaining Oracle System Assistant” on page 16](#)

## Oracle System Assistant Tasks Overview

Oracle System Assistant consists of a set of common and useful single-server management provisioning tasks:

- Assisted OS installation
- System overview and system inventory information
- Online update acquisition for all components (including tools, drivers, and firmware)
- System firmware (BIOS and Oracle ILOM) and host bus adapter firmware updates
- RAID, Oracle ILOM (SP) configuration
- Server network configuration
- Disable feature and embedded media integrity check
- Linux shell terminal window allowing use of the runtime environment
- Oracle Hardware Management Pack access (using Linux shell)
- Oracle System Assistant recovery

### Related Information

[“Oracle System Assistant OS Installation Task” on page 15](#)

## Oracle System Assistant OS Installation Task

The Oracle System Assistant's Install OS task provides an assisted installation of a supported OS. You supply the OS installation media, and Oracle System Assistant initiates the installation process.

The assisted OS installation is not available for all server supported operating systems, but it is available for Windows. However, once a server-supported OS is installed, you can use Oracle System Assistant to update the OS drivers as well as all the components (firmware, tools, drivers, and other related software).

#### **Related Information**

[“Obtaining Oracle System Assistant” on page 16](#)

## **Obtaining Oracle System Assistant**

If the server supports Oracle System Assistant, then it might be already installed.

- If it is already installed, and you want the latest version, then update Oracle System Assistant by using the Get Updates task.
- If Oracle System Assistant is installed in the server, but it has been corrupted or overwritten, download the recovery ISO image from <http://support.oracle.com>.
- If the server supports Oracle System Assistant, but it is not installed, contact your Oracle representative.

#### **Related Information**

[Oracle X4 Series Servers Administration Guide \(http://www.oracle.com/goto/x86AdminDiag/docs\)](http://www.oracle.com/goto/x86AdminDiag/docs)



## Preparing to Install the OS

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Before installing the OS, you need to set up the installation method. This section describes the steps for preparing to install an OS. Use the following task table as a guide.

Step	Description	Links
1	You must have already reviewed the OS installation task table.	<a href="#">“About Windows OS Installation” on page 11</a>
2	Set up for the installation based on the selected installation method.	<ul style="list-style-type: none"><li>■ For local installation: <a href="#">“Set Up the Local Console” on page 17</a></li><li>■ For remote installation: <a href="#">“Set Up the Remote Console” on page 18</a></li></ul>
3	Prepare the BIOS by loading the optimal default values and selecting a BIOS mode.	<a href="#">“Setting Up the BIOS” on page 22</a>
4	When you have finished with the preparation procedures, install the OS.	<a href="#">“Installing the Windows OS” on page 25</a>

## Setting Up the Installation Method

- [“Set Up the Local Console” on page 17](#)
- [“Set Up the Remote Console” on page 18](#)

### ▼ Set Up the Local Console

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.

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

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- Before You Begin**
- You should have already performed the server installation as described in the [Sun Server X4-4 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 USB flash drive)
  - For online updates, server web access is required.
1. **Ensure the server is in standby power mode.**
  2. **Connect the video monitor to the video connector on the front of the server.**
  3. **Connect the keyboard and mouse to one of the USB connectors on the front of the server.**
  4. **Connect the CD/DVD drive to the other USB connector on the front of the server (only if your server did not come with a DVD drive).**

**Next Steps** [“Setting Up the BIOS” on page 22](#)

## ▼ Set Up the Remote Console

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

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**Note** - Using the CD/DVD-ROM or CD/DVD-ROM ISO image option to install the OS *significantly* increases the time necessary to perform the installation as the content of the CD/DVD-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.

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- Before You Begin** The following requirements must be met:
- You have already performed the server installation as described in the [Sun Server X4-4 Installation Guide](#).
  - The server service processor (SP) has been set up according to the instructions in the Oracle ILOM documentation for your server.

- The Oracle ILOM Remote Console system is connected to a network that has access to the Sun server Ethernet management port.
- Ensure that you have met the Java, browser, and configuration requirements to run Oracle ILOM Remote Console Plus on a remote client as described in the *Oracle ILOM Administrator's Guide for Configuration and Maintenance* for your server's version of Oracle ILOM at: <http://www.oracle.com/goto/ILOM/docs>

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

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

Answer any security prompts, as needed.

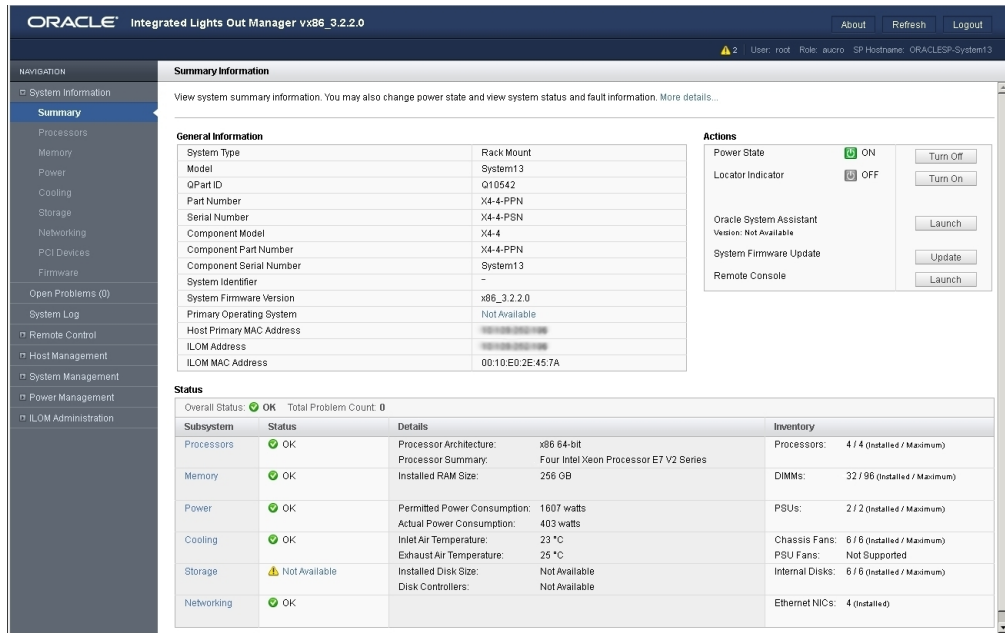
The Oracle ILOM login screen appears.



2. **Type the user name and password and click Log In.**

The to use the Oracle ILOM Remote Console Plus feature, you need to log in using an account that includes the Console (c) role privilege.

The Oracle ILOM System Summary screen appears.



**3. Click the Remote Console Launch button.**

Answer any prompts that might appear.

The Oracle ILOM Remote Console Plus screen appears.

**4. To redirect storage media, perform the following actions:**

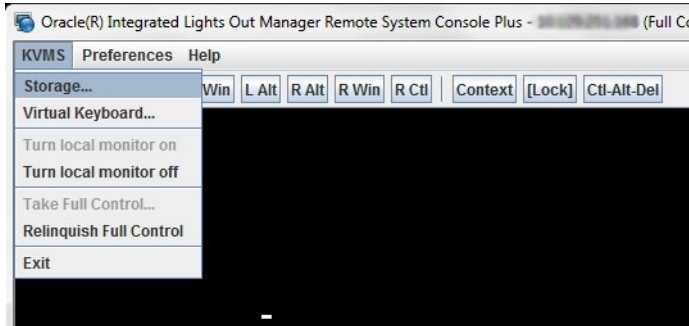
- a. **Verify you have full-control privileges for the redirection session. If not, click Take Full-Control in the KVMS menu.**

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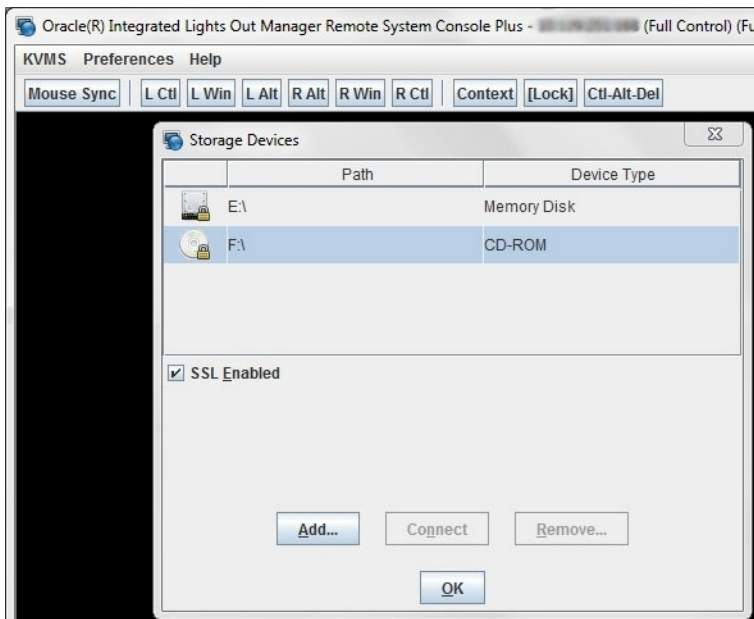
**Note** - If you are the primary user with full-control privileges, the option for Take Full-Control is disabled in the KVMS menu.

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- b. Click Storage in the KVMS menu.



The Storage Device dialog box appears.



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**Note** - The Storage Device dialog box automatically displays storage drive devices (such as CD, DVD, floppy, and USB devices) detected on the Oracle ILOM Remote Console Plus client. A lock icon appears on the drive to indicate: 1) the drive is present, and 2) bootable media was not found in the drive.

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- c. **To add a storage image (such as a CD/DVD image) to the Storage Device dialog box, click Add.**
- d. **To redirect storage media from the Storage Device dialog box, select the storage media and click Connect.**

---

**Note** - After clicking Connect in the Storage Device dialog, the label on the Connect button changes to Disconnect.

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**Next Steps** [“Setting Up the BIOS” on page 22](#)

## 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 22](#)
- [“Set the BIOS Boot Mode” on page 23](#)

### ▼ Load BIOS Optimal Default Settings



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**Caution** - Data loss. 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.

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

- Before You Begin**
- The server is equipped with a storage drive.

- A console connection is established to the server.
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 appears.
  3. **To ensure that the factory defaults are set, press F9.**
  4. **To save the changes and exit the BIOS Setup Utility, press F10.**

**Next Steps** [“Set the BIOS Boot Mode” on page 23](#)

## ▼ Set the BIOS Boot 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.

The following supported Microsoft Windows operating systems support UEFI or legacy BIOS boot modes:

- Microsoft Windows Server 2008 R2 SP1
- Microsoft Windows Server 2012
- Microsoft Windows Server 2012 R2

Follow these instructions for setting the BIOS boot mode before installing the OS:

1. **Power on the server.**  
POST messages appear on the console.
2. **Watch the messages, and, when the prompt appears, press F2 to access the BIOS Setup Utility.**  
The BIOS Setup Utility main screen appears.
3. **In the BIOS Setup Utility, use the left or right arrow keys to navigate to the Boot menu.**

The Boot Menu screen appears.

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 desired BIOS boot mode option.**

More information about using Legacy or UEFI boot mode is available in the "Setting Up and Configuring BIOS" section in the *X4 Series Administration Guide*. Refer to:

[Oracle X4 Series Servers Administration Guide \(http://www.oracle.com/goto/x86AdminDiag/docs\)](http://www.oracle.com/goto/x86AdminDiag/docs)

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

**Next Steps** [“Installing the Windows OS” on page 25](#)



# Installing the Windows OS

---

This section describes the OS installation process. Use the following task table as a guide.

Step	Description	Links
1	You must have already performed the steps in the Preparing to Install the OS task table.	<a href="#">“Preparing to Install the OS” on page 17</a>
2	Install Windows using the selected method. <b>Note</b> - For OSA version 1.2 and earlier, only the Full Installation options for Windows are supported (the Server Core Installation options are not supported).	<ul style="list-style-type: none"><li>■ <a href="#">“Install Windows (Oracle System Assistant)” on page 25</a></li><li>■ <a href="#">“Install Windows Server 2008 R2 (Manually)” on page 28</a></li><li>■ <a href="#">“Install Windows Server 2012 R2 (Manually)” on page 33</a></li><li>■ <a href="#">“Install Windows Server (PXE)” on page 38</a></li></ul>
3	Update server system tools, drivers, and supplemental software.	<a href="#">“Installing Server System Tools, Updating Drivers, and Setting Up iSCSI Virtual Disks” on page 40.</a>

## ▼ Install Windows (Oracle System Assistant)

The Oracle System Assistant Install OS task is the easiest method for installing a supported OS on the Sun Server X4-4.

For more information about Oracle System Assistant, refer to the [Oracle X4 Series Servers Administration Guide \(http://www.oracle.com/goto/x86AdminDiag/docs\)](http://www.oracle.com/goto/x86AdminDiag/docs).

- Before You Begin**
- Obtain the Microsoft Windows OS installation distribution media.
  - Configure a system network port to allow Oracle System Assistant to download the latest drivers/firmware from Oracle. Then, in OSA, configure it to use this port and any proxy your company requires.
  - Set up the server for a local or remote installation as described in [“Setting Up the Installation Method” on page 17](#). Then perform one of the following:
    - **For local installation:** Have the OS distribution media available to insert into the attached physical CD/DVD-ROM drive.

- **For remote installation:**

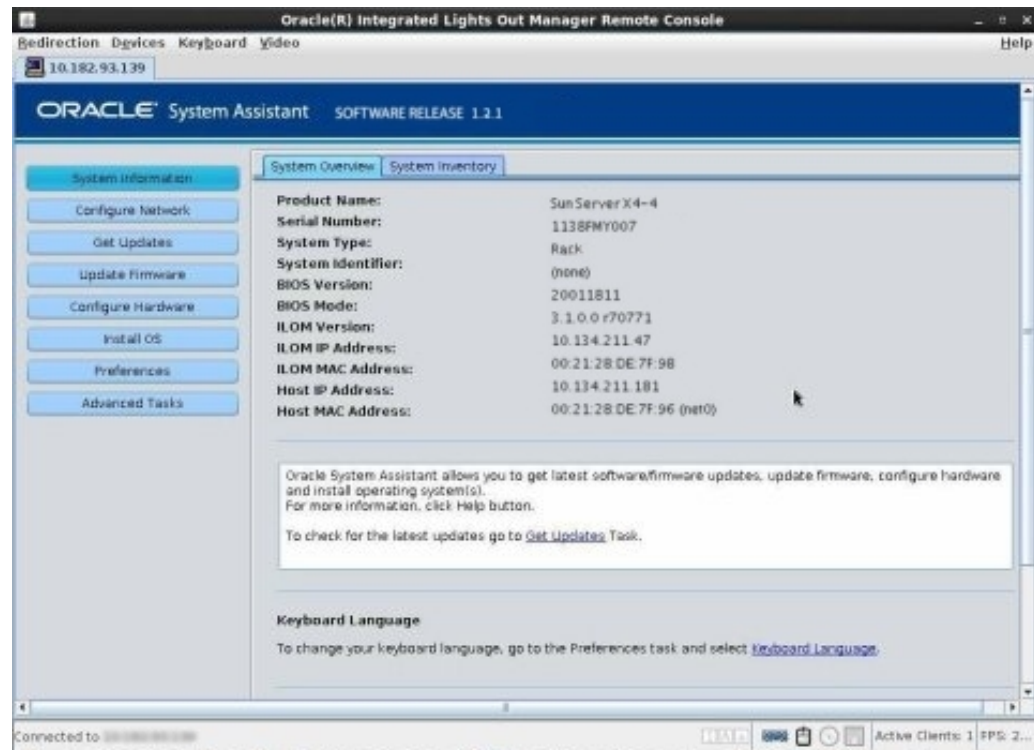
- If your OS distribution media is a DVD-ROM, insert it into the remote client's DVD-ROM drive and mount it through the Oracle ILOM Remote Console KVMS -> Storage menu.
- If you are using an ISO image of the OS distribution media, ensure that the image is mounted through the Oracle ILOM Remote Console KVMS -> Storage menu.

1. **Power on or boot the server and watch the video monitor, or Remote Console screen, for the prompt to press the F9 key to start Oracle System Assistant.**

```
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
```

2. **When the prompt appears, press the F9 key.**

The Oracle System Assistant System Overview main screen appears.



3. **Click the Configure Network task button.**
  - a. **Select the active network interface device from the drop-down list.**
  - b. **Set the network configuration method (DHCP or static IP).**
  - c. **Configure a proxy (if needed).**
  - d. **Click Apply and then Yes to proceed.**
4. **To update Oracle System Assistant, click the Get Updates button.**

This ensures that Oracle System Assistant has the latest firmware and tools and drivers before you begin the OS installation.

---

**Note** - Unless you have set up a local repository, web access is required to update Oracle System Assistant from the Oracle site.

---

**5. To update component firmware, click the Update Firmware button.**

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

**6. If your system has a Sun Storage 6 Gb SAS PCIe RAID Internal HBA (SGX-SAS6-R-INT-Z) and you have not already created a virtual drive (with at least RAID 0), click the Configure Hardware button and select the RAID Configuration tab.**

The RAID Configuration screen appears. Create a volume on the drive to be used for your OS and make it bootable. For details, refer to [“Configure RAID With a Sun Storage 6 Gb SAS PCIe RAID Internal HBA”](#) in *Sun Server X4-4 Installation Guide*.

**7. Click the Install OS button.**

The Install OS screen appears.

**8. To ensure that you are installing a supported version of the OS, review the list in the View supported operating systems window drop-down menu.**

**9. In the Select your media location section, indicate the location of the OS distribution media.**

The options are CD/DVD or virtual drive.

**10. Follow the prompts until the installation is finished.**

The server reboots one or more times during the installation process.

**See Also** [“Installing Server System Tools, Updating Drivers, and Setting Up iSCSI Virtual Disks”](#) on page 40

## ▼ Install Windows Server 2008 R2 (Manually)

This section describes how to install Windows Server 2008 R2 without the use of Oracle System Assistant. The OS can be installed using either a local or remote method.



---

**Caution** - Possible data loss. The OS installation formats the boot disk, which erases any existing data on the disk, including any preinstalled OS.

---

- Before You Begin**
- Obtain the Microsoft Windows OS installation distribution media.
  - Create a bootable virtual drive (with at least RAID 0) if your system has a Sun Storage 6 Gb SAS PCIe RAID Internal HBA (SGX-SAS6-R-INT-Z). For details, see [“Configure RAID With a Sun Storage 6 Gb SAS PCIe RAID Internal HBA”](#) in *Sun Server X4-4 Installation Guide*.
  - Prepare for a local or remote installation as described in [“Setting Up the Installation Method”](#) on page 17. Then perform one of the following:
    - **For local installation:** Have the OS distribution media available to insert into the attached physical CD/DVD-ROM drive.
    - **For remote installation:**
      - If your OS distribution media is a DVD-ROM, insert it into the remote client's DVD-ROM drive and mount it through the Oracle ILOM Remote Console KVMS -> Storage menu.
      - If you are using an ISO image of the OS distribution media, ensure that the image is mounted through the Oracle ILOM Remote Console KVMS -> Storage menu.

**1. Power on or reboot the server.**

If you are using the remote installation method, you can power on or reboot the server through Oracle ILOM.

BIOS messages appear.



**2. Watch the screen until you see a list of selections and then press F8 to select BBS Popup.**

---

**Note** - BIOS messages, including the BIOS menu selection list, can go by quickly. If you miss the messages, power cycle the server and hold down the F8 key during boot until the BBS Popup menu appears.

---

After a delay, a Select Boot Device menu appears with a list of possible boot devices.

**3. Select a boot device from the list, as follows:**

- For a local installation, insert the Windows distribution media into the server's CD/DVD drive, select it from the list of devices and press Enter.
- For a remote installation, select the client's remotely mounted virtual CD/DVD drive and press Enter.

---

**Note** - Make sure that the boot entry for the Oracle System Assistant USB is below the hard disk on which you want to install the OS. This ordering can be set using the system BIOS Setup Utility.

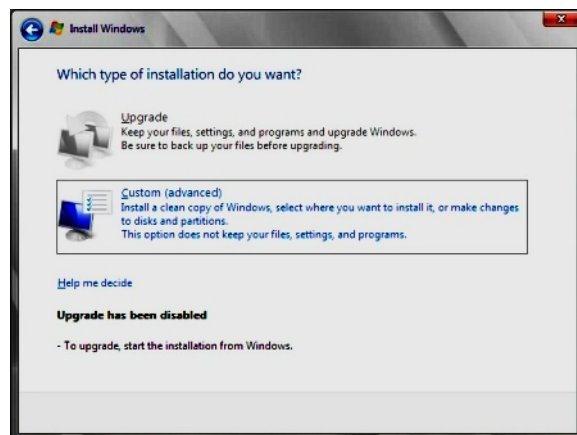
---

Control passes to the OS installation program on the media.

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

The Windows installation wizard starts.

**5. Proceed through the installation wizard until you see the Installation Type screen, then click Custom (advanced).**



6. **At the Where Do You Want to Install Windows screen, perform one of the following procedures:**

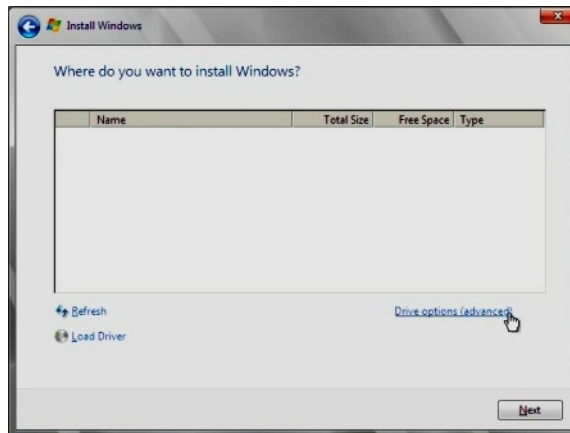
- To add a mass storage driver for Windows Server 2008 R2, click Load Driver, browse to the location of the mass storage device driver (CD/DVD or USB flash drive), and select the driver information file (.inf).

---

**Note** - For Windows Server 2008 R2, the driver must be accessible through a connected CD/DVD or the Oracle System Assistant USB flash drive. If the driver is not accessible, the disk is not visible as shown below.

---

- To select the Windows default partition settings, click Next. Go to Step 8.
- To override the Windows default partition settings, click Drive Options (advanced) and proceed to the next step.



---

**Caution** - Possible data loss. Formatting or repartitioning a preexisting partition destroys all data on the partition.

---

7. **At the Advanced Drive Options screen:**

- To delete the existing partition, click Delete.**
- To create the new partition, click New.**

- c. **Change size settings as needed, and then click Apply.**
- d. **Click Next.**



The Windows installation begins. During the installation process, the server reboots several times.

- 8. **When the installation process is complete, click OK.**  
Windows starts and prompts you for an administrator password.
- 9. **Enter a password and click OK.**

---

**Note** - The password must have 8 characters, with one number and one uppercase character. For more details, click the Accessibility link on the account creation screen.

---

Once you have assigned a password to the Administrator account, the Windows Server 2008 R2 desktop appears.

**See Also** [“Installing Server System Tools, Updating Drivers, and Setting Up iSCSI Virtual Disks” on page 40](#)



## ▼ Install Windows Server 2012 R2 (Manually)

This section describes how to install Windows Server 2012 R2 without the use of Oracle System Assistant. The OS can be installed using either a local or remote method.




---

**Caution** - Possible data loss. The OS installation formats the boot disk, which erases any existing data on the disk, including any preinstalled OS.

---

### Before You Begin

- Obtain the Microsoft Windows OS installation distribution media.
- Create a bootable virtual drive (with at least RAID 0) if your system has a Sun Storage 6 Gb SAS PCIe RAID Internal HBA (SGX-SAS6-R-INT-Z). For details, see [“Configure RAID With a Sun Storage 6 Gb SAS PCIe RAID Internal HBA” in Sun Server X4-4 Installation Guide](#).
- Prepare for a local or remote installation as described in [“Setting Up the Installation Method” on page 17](#). Then perform one of the following:
  - **For local installation:** Have the OS distribution media available to insert into the attached physical CD/DVD-ROM drive.
  - **For remote installation:**
    - If your OS distribution media is a DVD-ROM, insert it into the remote client's DVD-ROM drive and mount it through the Oracle ILOM Remote Console KVMS - > Storage menu.
    - If you are using an ISO image of the OS distribution media, ensure that the image is mounted through the Oracle ILOM Remote Console KVMS -> Storage menu.

### 1. Power on or reboot the server.

If you are using the remote installation method, you can power on or reboot the server through Oracle ILOM.

BIOS messages appear.



2. **Watch the screen until you see a list of selections and then press F8 to select BBS Popup.**

---

**Note** - BIOS messages, including the BIOS menu selection list, can go by quickly. If you miss the messages, power cycle the server and hold down the F8 key during boot until the BBS Popup menu appears.

---

After a delay, a Select Boot Device menu appears with a list of possible boot devices.

3. **Select a boot device from the list, as follows:**
  - For a local installation, insert the Windows distribution media into the server's CD/DVD drive, select it from the list of devices and press Enter.
  - For a remote installation, select the client's remotely mounted virtual CD/DVD drive and press Enter.

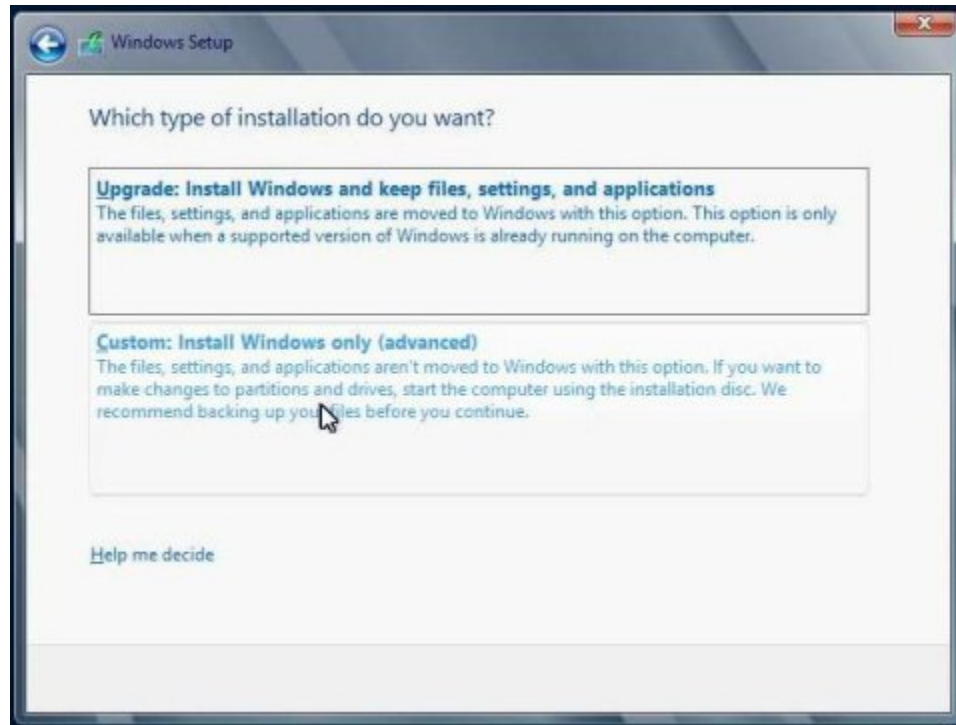
---

**Note** - Make sure that the boot entry for the Oracle System Assistant USB is below the hard disk on which you want to install the OS. This ordering can be set using the system BIOS Setup Utility.

---

Control passes to the OS installation program on the media.

4. **When prompted with Press any key to boot from CD, quickly press any key.**  
The Windows installation wizard starts.
5. **Proceed through the installation wizard until you see the Installation Type, then click Custom (advanced).**



6. **At the Where Do You Want to Install Windows screen, perform one of the following procedures:**
  - To add a mass storage driver for Windows Server 2012 R2, click Load Driver, browse to the location of the mass storage device driver (CD/DVD or USB flash drive), and select the driver information file (.inf).

---

**Note** - For Windows Server 2012 R2, the driver must be accessible through a connected CD/DVD or the Oracle System Assistant USB flash drive. If the driver is not accessible, the disk is not visible as shown below.

---

- To select the Windows default partition settings, click Next. Go to Step 8.
- To override the Windows default partition settings, click Drive Options (advanced) and proceed to the next step.



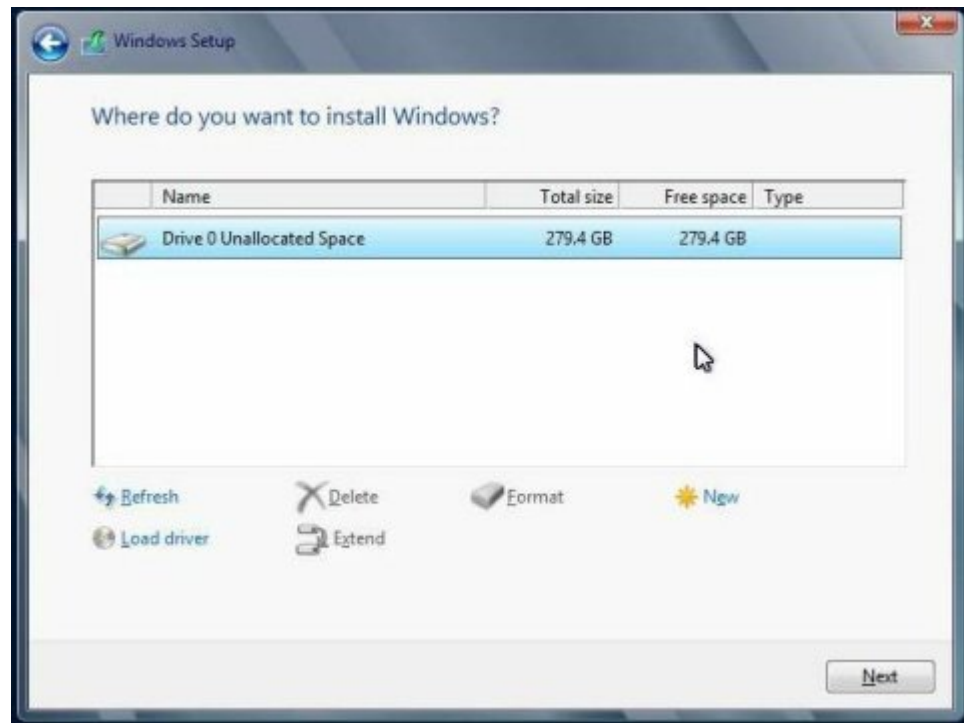
---

**Caution** - Possible data loss. Formatting or repartitioning a preexisting partition destroys all data on the partition.

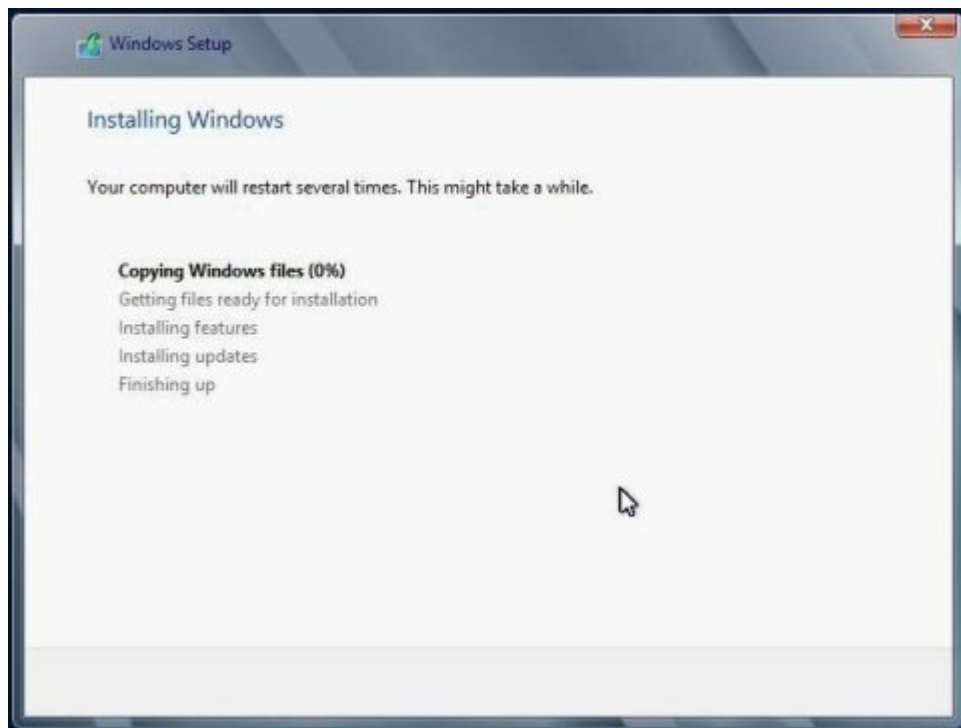
---

**7. At the Advanced Drive Options screen:**

- To delete the existing partition, click Delete.**
- To create the new partition, click New.**
- Change size settings as needed, and then click Apply.**
- Click Next.**

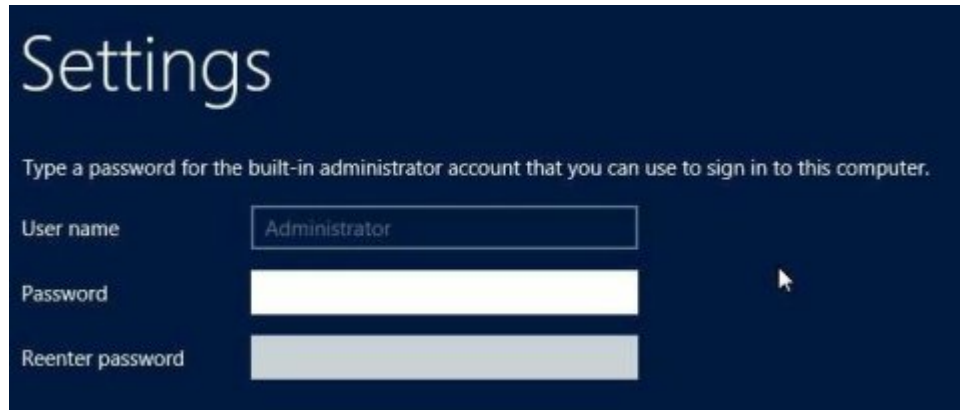


The Windows installation begins. During the installation process, the server reboots several times.



When the installation process is complete, Windows starts and prompts you to set the Administrator password.

## 8. Assign the administrator password.



---

**Note** - The password must have eight characters, with one number and one uppercase character. For more details, click the Accessibility link on the account creation screen.

---

Once you have assigned a password to the Administrator account, the Windows Server 2012 desktop appears.

**See Also** [“Installing Server System Tools, Updating Drivers, and Setting Up iSCSI Virtual Disks” on page 40.](#)

## ▼ Install Windows Server (PXE)

The following procedure applies to Windows Server 2008 R2 and Windows Server 2012 R2. This procedure installs the base operating system and then has you update drivers and supplemental software specific to your server later.

---

**Note** - Windows Server 2012 R2 includes the OEM drivers for your system. Check with your server's *Product Notes* for the latest information on drivers and software.

---

- Before You Begin**
- To deploy Windows Server 2008 R2 or Windows Server 2012 R2 using PXE, you need Windows Deployment Service (WDS) installed on a Windows Server 2012 server and you need to create an install image for the OS being deployed. You can find articles to help you do this on the Microsoft TechNet site.

- If your system has a Sun Storage 6 Gb SAS PCIe RAID Internal HBA (SGX-SAS6-R-INT-Z) you must have already created a bootable virtual drive (with at least RAID 0). For details, see [“Configure RAID With a Sun Storage 6 Gb SAS PCIe RAID Internal HBA” in Sun Server X4-4 Installation Guide](#).

---

**Note** - The power-on messages and prompts occur quickly and might appear on the screen for a brief time. You might want to enlarge the size of the screen to eliminate scroll bars.

---

**1. Reset or power on the server using one of the following methods:**

- **From the Oracle ILOM web interface**, on the Remote Power Control tab, select Reset.
- **When physically at the server**, press the Power button on the front panel of the server for approximately 1 second to initiate a graceful shutdown and power off the server. Once powered off, press the Power button again to power on the server.

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

The Please Select Boot Device screen appears.

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

---

**Note** - The PXE installation boot device is the physical network port used to communicate with the network installation server.

---

The Boot Agent screen appears.

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

**5. Continue the normal Windows Server WDS network installation.**

For additional information, consult Microsoft Windows Deployment Services product documentation.

**6. When the installation is complete, perform any necessary post installation tasks.**

**See Also** [“Installing Server System Tools, Updating Drivers, and Setting Up iSCSI Virtual Disks” on page 40](#)

# Installing Server System Tools, Updating Drivers, and Setting Up iSCSI Virtual Disks

These procedures describe how to install the server system tools, update system drivers, and set up iSCSI virtual disks. System tool and driver update installation is done using the InstallPack application that is available with the Oracle System Assistant software and the downloaded server-specific software package:

- [“Install Server System Tools” on page 40](#)
- [“Update System Drivers” on page 42](#)
- [“Setting Up iSCSI Virtual Disks” on page 43](#)

## ▼ Install Server System 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: [“Getting Server Firmware and Software” in Sun Server X4-4 Installation Guide](#).

- b. **Unzip the downloaded tools and drivers package to the server.**

The server system tools are located in the following directories:

- Windows Install Pack MSM (MegaRAID Storage Manager):  
Windows/*version*/Tools/LSI-MSM
- NIC Teaming for Windows: Windows/*version*/Tools/Intel-NIC-PROSet
- Oracle Hardware Management Pack: Windows/*version*/Tools/Hardware-Management-Pack

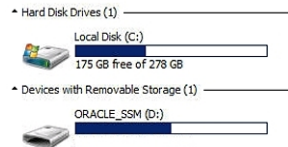
where *version* is the version of the installed Windows OS.

- **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. Double-click the ORACLE\_SSM USB drive.**

The server system tools are located in the following directories:

- Windows Install Pack MSM: `Windows/version/Tools/LSI-MSM`
- NIC Teaming for Windows: `Windows/version/Tools/Intel-NIC-PROSet`
- Oracle Hardware Management Pack: `Windows/version/Tools/Hardware-Management-Pack`

where *version* is the version of the installed Windows OS.

**2. To install server system tools:**

- For Oracle Hardware Management Pack, refer to the installation documentation at <http://www.oracle.com/goto/ohmp/docs>.
- For Windows InstallPack of MSM and NIC Teaming for Windows, continue to the next step.

**3. Navigate to the installer folder:**

`drive:\ORACLE_SSM\Windows\version\installer.`

where *version* is the version of the installed Windows OS.

**4. Double-click the InstallPack.hta file.**

The InstallPack application appears.

**5. To install the server system tools, ensure that Custom is selected and click next.**

The Custom setting allows you to select which tool to install.

**6. Ensure that Supplemental software option is selected.**

Ensure that the option to install Platform-specific drivers is *not* selected.

---

**Note** - The Platform-specific drivers option allows you to install the drivers for your server in instances where they are not already included with the OS. To perform this task, refer to [“Update System Drivers” on page 42](#).

---

7. **Click Next and select the tools to install.**
8. **Click Next and continue through the Install Pack application until the tool installation process is finished.**

## ▼ Update System Drivers

This procedure describes how to update the server system drivers using the Windows InstallPack application that is available with the Oracle System Assistant software and the downloaded server-specific software package.

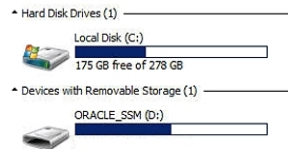
---

**Note** - Windows Server 2012 R2 includes most OEM drivers supported for your system. This means that, in most cases, you can skip this section as you do not need to run InstallPack to update system drivers. Refer to your server's *Product Notes* for exceptions.

---

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, refer to [“Getting Server Firmware and Software” in Sun Server X4-4 Installation Guide](#) .
    - b. **Unzip the downloaded tools and drivers package on the server.**  
The server system drivers are located in the following directory:  
Windows\version\Drivers  
where *version* is the version of the installed Windows 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. Double-click the ORACLE\_SSM USB drive.**

**2. Navigate to the installer folder:**

`drive:\ORACLE_SSM\Windows\version\installer.`

where *version* is the version of the installed Windows OS.

**3. Double-click the InstallPack.hta file.**

The InstallPack application appears.

**4. Proceed through the application and select the option to install Platform-specific drivers.**

Ensure that the option to install supplemental software is *not* selected.

---

**Note** - The Supplemental software option allows you to install server system tools. To perform that task, see “[Install Server System Tools](#)” on page 40.

---

**5. Click Next and continue through the Install Pack application until the tool installation process is finished.**

## Setting Up iSCSI Virtual Disks

You can set up iSCSI virtual drives with Microsoft Windows Server to remotely share block storage over the Ethernet network. For more information on configuring iSCSI using the server's BIOS Setup Utility, refer to the [Oracle X4 Series Servers Administration Guide \(http://www.oracle.com/goto/x86AdminDiag/docs\)](http://www.oracle.com/goto/x86AdminDiag/docs).



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