

Oracle® Server X5-8 Installation Guide for Windows Operating Systems



Part No: E56310-03
December 2015

Part No: E56310-03

Copyright © 2015, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Référence: E56310-03

Copyright © 2015, Oracle et/ou ses affiliés. Tous droits réservés.

Ce logiciel et la documentation qui l'accompagne sont protégés par les lois sur la propriété intellectuelle. Ils sont concédés sous licence et soumis à des restrictions d'utilisation et de divulgation. Sauf stipulation expresse de votre contrat de licence ou de la loi, vous ne pouvez pas copier, reproduire, traduire, modifier, accorder de licence, transmettre, distribuer, exposer, exécuter, publier ou afficher le logiciel, même partiellement, sous quelque forme et par quelque procédé que ce soit. Par ailleurs, il est interdit de procéder à toute ingénierie inverse du logiciel, de le désassembler ou de le décompiler, excepté à des fins d'interopérabilité avec des logiciels tiers ou tel que prescrit par la loi.

Les informations fournies dans ce document sont susceptibles de modification sans préavis. Par ailleurs, Oracle Corporation ne garantit pas qu'elles soient exemptes d'erreurs et vous invite, le cas échéant, à lui en faire part par écrit.

Si ce logiciel, ou la documentation qui l'accompagne, est livré sous licence au Gouvernement des Etats-Unis, ou à quiconque qui aurait souscrit la licence de ce logiciel pour le compte du Gouvernement des Etats-Unis, la notice suivante s'applique :

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

Ce logiciel ou matériel a été développé pour un usage général dans le cadre d'applications de gestion des informations. Ce logiciel ou matériel n'est pas conçu ni n'est destiné à être utilisé dans des applications à risque, notamment dans des applications pouvant causer un risque de dommages corporels. Si vous utilisez ce logiciel ou ce matériel dans le cadre d'applications dangereuses, il est de votre responsabilité de prendre toutes les mesures de secours, de sauvegarde, de redondance et autres mesures nécessaires à son utilisation dans des conditions optimales de sécurité. Oracle Corporation et ses affiliés déclinent toute responsabilité quant aux dommages causés par l'utilisation de ce logiciel ou matériel pour des applications dangereuses.

Oracle et Java sont des marques déposées d'Oracle Corporation et/ou de ses affiliés. Tout autre nom mentionné peut correspondre à des marques appartenant à d'autres propriétaires qu'Oracle.

Intel et Intel Xeon sont des marques ou des marques déposées d'Intel Corporation. Toutes les marques SPARC sont utilisées sous licence et sont des marques ou des marques déposées de SPARC International, Inc. AMD, Opteron, le logo AMD et le logo AMD Opteron sont des marques ou des marques déposées d'Advanced Micro Devices. UNIX est une marque déposée de The Open Group.

Ce logiciel ou matériel et la documentation qui l'accompagne peuvent fournir des informations ou des liens donnant accès à des contenus, des produits et des services émanant de tiers. Oracle Corporation et ses affiliés déclinent toute responsabilité ou garantie expresse quant aux contenus, produits ou services émanant de tiers, sauf mention contraire stipulée dans un contrat entre vous et Oracle. En aucun cas, Oracle Corporation et ses affiliés ne sauraient être tenus pour responsables des pertes subies, des coûts occasionnés ou des dommages causés par l'accès à des contenus, produits ou services tiers, ou à leur utilisation, sauf mention contraire stipulée dans un contrat entre vous et Oracle.

Accès aux services de support Oracle

Les clients Oracle qui ont souscrit un contrat de support ont accès au support électronique via My Oracle Support. Pour plus d'informations, visitez le site <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> ou le site <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> si vous êtes malentendant.

Contents

Using This Documentation	7
 About Microsoft Windows Operating Systems Installs	 9
Windows OS Installation Task Map	9
Supported Windows Server Operating Systems	10
SAS PCIe HBA Requiring Mass Storage Driver for Windows Server 2012 or 2012 R2	11
Selecting the Console Display Option	12
Console Display Options	12
▼ Set Up the Local Console	12
▼ Set Up the Remote Console	13
Selecting the Boot Media Option	14
Boot Media Options Requirements	14
▼ Set Up the Boot Media for a Local Installation	15
▼ Set Up the Boot Media for a Remote Installation	16
Selecting the Installation Target Option	20
Installation Target Options	20
▼ Set Up a Local Storage Drive (HDD) as the Installation Target	21
▼ Set Up a Fibre Channel Storage Area Network Device as the Installation Target	21
Windows Server OS Installation Options	21
Single-Server Installation Methods	22
Assisted Windows Server OS Installation	23
Manual Windows Server OS Installation	23
Windows Deployment Services OS Installation	23
 Preparing to Install the Windows Server Operating System	 25
Preparing the Boot Environment	25

▼ Set the Boot Mode	26
Configuring RAID	29
Installing a Windows Server Operating System	31
Related Information	31
Before You Begin	31
Installing Windows Server 2012 or 2012 R2 on a Single System Using Oracle System Assistant	32
▼ Install Windows Server 2012 or 2012 R2 on a Single System Using Oracle System Assistant	32
Installing Windows Server 2012 or 2012 R2 on a Single System Manually	36
▼ Install Windows Server 2012 or 2012 R2 Manually Using Local or Remote Media	37
▼ Install Windows Server 2012 or 2012 R2 Using PXE Network Boot	57
Post Installation Tasks for Windows Server	63
Supplemental Software Component Options	63
Manually Installing Device Drivers and Supplemental Software	64
▼ Install Server-Specific Device Drivers and Supplemental Software	65
Configuring Intel NIC Teaming	66
Index	69

Using This Documentation

- **Overview** – This installation guide contains procedures for installing and configuring the Windows Server operating system on your Oracle Server X5-8.
- **Audience** – Technicians, system administrators, authorized service providers, and users.
- **Required knowledge** – Experience installing operating systems.

This section describes how to get the latest firmware, software, and documentation for the Oracle Server X5-8. It also provides feedback links and a document change history.

- [“Oracle Server X5-8 Model Naming Convention” on page 7](#)
- [“Getting the Latest Firmware and Software” on page 7](#)
- [“Documentation and Feedback” on page 8](#)
- [“Contributors” on page 8](#)
- [“Change History” on page 8](#)

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

Oracle Server X5-8 Model Naming Convention

The Oracle Server X5-8 name identifies the following:

- X identifies an x86 product.
- The first number, 5, identifies the generation of the server.
- The second number, 8, identifies the maximum number of processors.

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 the following ways:

- Oracle System Assistant: This is a factory-installed option for Oracle x86 servers. It has all the tools and drivers you need and resides on a USB drive installed in most servers.
- You can download updates from My Oracle Support: <https://support.oracle.com>

Documentation and Feedback

Documentation	Link
All Oracle products	https://docs.oracle.com
Oracle Server X5-8	http://www.oracle.com/goto/X5-8/docs-videos
Oracle Integrated Lights Out Manager (ILOM). Refer to the Oracle ILOM documentation.	http://www.oracle.com/goto/ILOM/docs
Oracle Hardware Management Pack. Refer to the documentation for your supported version of Oracle Hardware Management Pack as listed in the <i>Product Notes</i> .	http://www.oracle.com/goto/ohmp/docs

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

Contributors

Primary Authors: Michael Bechler, Cynthia Chin-Lee, Mark McGothigan.

Contributors: William Schweickert, Anthony Villamor, Mick Tabor, Richard Masoner, Ray Angelo, Tamra Smith-Wasel, Denise Silverman.

Change History

The following lists the release history of this documentation set:

- December 2015. Technical updates.
- September 2015. Editorial improvements.
- July 2015. Initial publication.

About Microsoft Windows Operating Systems Installs

This section contains an overview for installing a new Microsoft Windows Server 2012 or 2012 R2 operating system (OS) on your server.

Description	Links
Review Windows operating system installation steps.	“Windows OS Installation Task Map” on page 9
Review the supported Windows operating systems.	“Supported Operating Systems” in <i>Oracle Server X5-8 Product Notes</i> “Supported Windows Server Operating Systems” on page 10
Review storage driver requirements for SAS HBAs.	“SAS PCIe HBA Requiring Mass Storage Driver for Windows Server 2012 or 2012 R2” on page 11
Review console display options and how to set them up.	“Selecting the Console Display Option” on page 12
Review boot media options and how to set them up.	“Selecting the Boot Media Option” on page 14
Review installation target options and how to set them up.	“Selecting the Installation Target Option” on page 20
Review operating system installation options.	“Windows Server OS Installation Options” on page 21
Review Oracle System Assistant.	“Oracle System Assistant” in <i>Oracle X5 Series Servers Administration Guide</i>

Related Information

- [“Installing a Windows Server Operating System” on page 31](#)

Windows OS Installation Task Map

The following table lists and describes the steps for installing the Windows Server operating system.

Step	Description	Links
1.	Install the server hardware and configure the Oracle ILOM service processor.	■ “Install the Server into the Rack” in Oracle Server X5-8 Installation Guide ■ “Cabling the Server” in Oracle Server X5-8 Installation Guide ■ “Connecting to Oracle ILOM” in Oracle Server X5-8 Installation Guide
2.	Review the product notes. Review the Windows Server versions supported on the server.	Oracle Server X5-8 Product Notes “Supported Operating Systems” in Oracle Server X5-8 Product Notes “Supported Windows Server Operating Systems” on page 10 Oracle Server X5-8 Product Notes at: http://www.oracle.com/goto/X5-8/docs-videos
3.	Obtain the Windows Server installation media.	http://technet.microsoft.com/en-us/windowsserver/default.aspx
4.	Set up the console, the boot media, and the installation target that you will use to perform the installation.	■ “Selecting the Console Display Option” on page 12 ■ “Selecting the Boot Media Option” on page 14 ■ “Selecting the Installation Target Option” on page 20
5.	Verify and, if necessary, configure BIOS.	“Preparing the Boot Environment” on page 25
6.	Install the Windows Server operating system.	■ “Install Windows Server 2012 or 2012 R2 on a Single System Using Oracle System Assistant” on page 32 ■ “Install Windows Server 2012 or 2012 R2 Manually Using Local or Remote Media” on page 37 ■ “Install Windows Server 2012 or 2012 R2 Using PXE Network Boot” on page 57
7.	Perform the post installation tasks, if applicable.	“Post Installation Tasks for Windows Server” on page 63

Related Information

- [“Preparing to Install the Windows Server Operating System” on page 25](#)

Supported Windows Server Operating Systems

The Oracle Server X5-8 supports the following Microsoft Windows operating systems.

Windows OS	Edition
■ Windows Server 2012	■ Standard Edition ■ Datacenter Edition
■ Windows Server 2012 R2	■ Standard Edition ■ Datacenter Edition

Note - For all late-breaking requirements for the Windows Server operating system, refer to the latest version of the *Oracle Server X5-8 Product Notes* at <http://www.oracle.com/goto/X5-8/docs-videos>.

Additionally, you can install any other supported operating system or virtual machine software on your server. The Windows Hardware Compatibility List (HCL) identifies the latest operating system version supported on Oracle hardware. To find the latest Windows version supported for the Oracle Server X5-8, go to the following site and search using your server model number:

<http://www.windowsservercatalog.com/>

Related Information

- “Installing a Windows Server Operating System” on page 31
- “Supported Operating Systems” in *Oracle Server X5-8 Product Notes*

SAS PCIe HBA Requiring Mass Storage Driver for Windows Server 2012 or 2012 R2

The following table identifies the SAS external PCIe host bus adapter (HBA) option that is supported on the Oracle Server X5-8 at the time of this publication. If you have this SAS external PCIe HBA configured on your server and you are installing Microsoft Windows Server 2012 or 2012 R2, you need to load the mass storage driver for the HBA when you install the Windows Server 2012 or 2012 R2 operating system. This mass storage driver is available on the internal Oracle System Assistant USB flash drive.

TABLE 1 Supported SAS PCIe HBAs Requiring Mass Storage Driver

Supported SAS PCIe HBA	Model Number	Driver Required During Installation
Oracle Storage 12 Gb/s SAS PCIe HBA, External	7110118/7110119	LSI Adapter, SAS3 3008 Fury -StorPort (LSI_SAS3.INF)

Instructions for loading the mass storage driver during the Windows Server 2012 or 2012 R2 installation are provided in [“Installing Windows Server 2012 or 2012 R2 on a Single System Manually” on page 36](#).

If your server does not have an internal Oracle System Assistant USB flash drive, you can download the ISO image that includes the drivers. For download instructions, refer to [“Getting Server Firmware and Software” in Oracle Server X5-8 Installation Guide](#).

Selecting the Console Display Option

This section describes the options for connecting a console to perform the installation.

- [“Console Display Options” on page 12](#)
- [“Set Up the Local Console” on page 12](#)
- [“Set Up the Remote Console” on page 13](#)

Console Display Options

You can install the OS and administer the server by attaching a local console directly to the server's service processor (SP). The server supports two types of local consoles:

- A terminal connected to the serial management port (SER MGT)
You can connect the terminal directly to the port or connect it to a terminal emulator that is connected directly to the port.
- A VGA monitor, USB keyboard, and USB mouse connected directly to the video port (VGA) and any of the four exterior USB connectors

You can also install the OS and administer the server from a remote console by establishing a network connection to the server SP. There are two types of remote consoles:

- Web-based client connection using the Oracle ILOM Remote System Console Plus application
- Secure Shell (SSH) client connection to the network management port (NET MGT)

▼ Set Up the Local Console

1. To connect a local console, do one of the following:

- Connect a terminal to the serial management port (SER MGT) either directly or through a terminal emulator.

Note - The default baud rate of the serial management port is 9600 baud.

- Connect a VGA monitor, keyboard, and mouse to the video port (VGA) and the USB ports.

2. For serial management port (SER MGT) connections only, to establish a connection to the host serial port:

- a. Type your Oracle ILOM user name and password.**

The default Oracle ILOM user name is root and the password is changeme.

- b. At the Oracle ILOM login prompt, type:**

-> `start /HOST/console`

The serial management port output is automatically routed to the server's host serial local console.

Related Information

- Oracle Integrated Lights Out Manager (ILOM) 3.2 Documentation Library at: <http://www.oracle.com/goto/ILOM/docs>

▼ Set Up the Remote Console

1. View or establish an IP address for the server SP.

To log in to Oracle ILOM remotely using either the command-line interface (CLI) or the web interface, you must know the IP address of the server's service processor (SP). For instructions, refer to “[Modify Network Settings From the Oracle ILOM Web Interface](#)” in *Oracle Server X5-8 Installation Guide*.

2. If you are using a web-based client connection, perform these steps; otherwise go to the next step.

- a. In a web browser, type the IP address for the server SP.**
- b. Log in to the Oracle ILOM web interface.**

The default Oracle ILOM user name is **root** and the password is **changeme**.

The Oracle ILOM Summary Information page appears.

- c. **Redirect the video output from the server to the web client by launching the Oracle ILOM Remote System Console Plus application.**
3. **If you are using an SSH client connection, perform these steps.**
 - a. **From a shell command line in a terminal window, establish an SSH connection to the server SP. Type: `ssh root@hostname`.**

Where *hostname* can be the DNS name or the IP address for the server SP.
 - b. **Log in to Oracle ILOM.**

The default Oracle ILOM user name is **root** and the password is **changeme**.
 - c. **Redirect the serial output from the server to the SSH client. Type:**
`-> start /HOST/console`

Related Information

- Oracle Integrated Lights Out Manager (ILOM) 3.2 Documentation Library at: <http://www.oracle.com/goto/ILOM/docs>

Selecting the Boot Media Option

You can start the operating system installation to the server by booting a local or remote installation media source. This section identifies the supported media sources and the setup requirements for each source.

- [“Boot Media Options Requirements” on page 14](#)
- [“Set Up the Boot Media for a Local Installation” on page 15](#)
- [“Set Up the Boot Media for a Remote Installation” on page 16](#)

Boot Media Options Requirements

This section describes the requirements for using local and remote media.

- [“Local Boot Media Requirements” on page 15](#)
- [“Remote Boot Media Requirements” on page 15](#)

Local Boot Media Requirements

Local boot media requires a built-in storage device on the server or an external storage device attached to the server.

Supported OS local boot media sources can include:

- DVD-ROM installation media
- USB removable flash drive media

Remote Boot Media Requirements

Remote media requires you to boot the install image over the network. You can start installation from a redirected boot storage device or another networked system that exports an ISO image over the network using a Pre-Boot eXecution Environment (PXE).

Supported OS remote boot media sources can include:

- DVD-ROM installation media, and a remote USB removable flash drive installation media
- DVD-ROM installation media, and a USB DVD drive locally connected
- DVD ISO image available in a location on the network that is setup for virtual redirection
- DVD-ROM installation media image mounted on the server service processor (SP)

For instructions on mounting an installation image onto the server SP, refer to the *Oracle ILOM Administrator's Guide for Configuration and Maintenance* at <http://www.oracle.com/goto/ILOM/docs>. Alternatively, refer to the More Details link in the Oracle ILOM Remote Control → Remote Device web interface page.

- Automated installation image (requires PXE boot). For instructions for performing PXE network installations for the supported Windows Server operating systems, see [“Install Windows Server 2012 or 2012 R2 Using PXE Network Boot” on page 57](#).

▼ Set Up the Boot Media for a Local Installation

To set up the local boot media, you must insert a storage device that contains the Windows Server OS installation media into the server using one of the following options.

1. **Insert an external USB DVD drive that contains the Linux OS installation media into a server external USB port.**

Note - For information about the location of the server's external USB ports, refer to [“Server Features and Components” in Oracle Server X5-8 Installation Guide](#) .

2. **Insert an external USB flash drive that contains the Linux OS installation media into a server external USB port.**

▼ Set Up the Boot Media for a Remote Installation

To install the OS from media sourced from a remote location using the Oracle ILOM Remote System Console Plus application, perform these steps.

1. **To redirect the boot media from a remote storage device, perform these steps; otherwise, go to the next step.**

- a. **Mount or present the OS boot media so that it is accessible, for example:**

- **For DVD-ROM**, insert media into the built-in or external DVD-ROM drive on a remote system.
- **For DVD-ROM ISO image**, ensure that the ISO image(s) are readily available on a network shared location or are mounted on the server service processor (SP).

For instructions on mounting an installation image onto the server SP, refer to the *Oracle ILOM Administrator's Guide for Configuration and Maintenance* at <http://www.oracle.com/goto/ILOM/docs>. Alternatively, refer to the More Details link in the Oracle ILOM Remote Control → Remote Device web interface page.

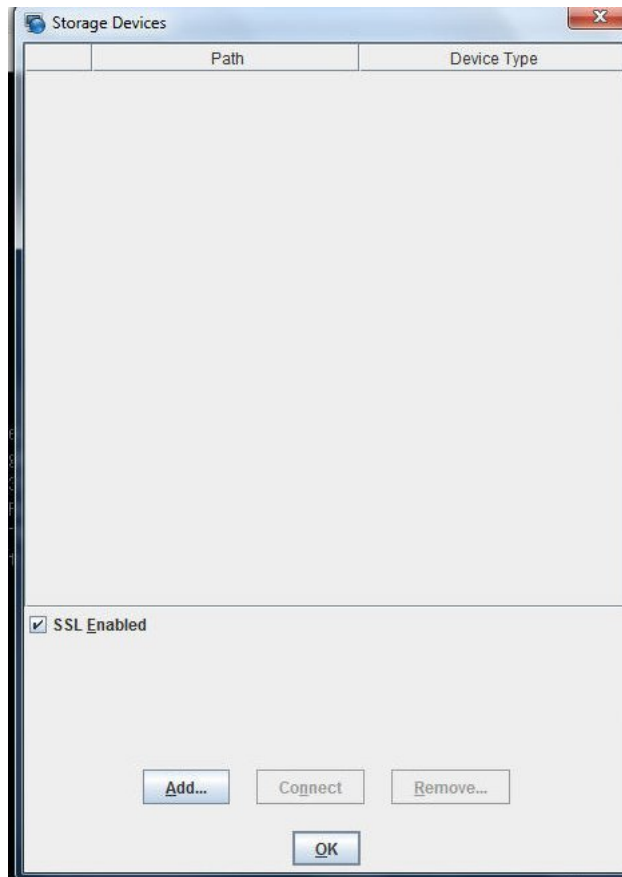
2. **Establish a web-based client connection to the server Oracle ILOM SP and launch the Oracle ILOM Remote System Console Plus application.**

For more details, see the setup requirements for web-based client connection in [“Selecting the Console Display Option” on page 12](#).

3. **In the remote console, do the following:**

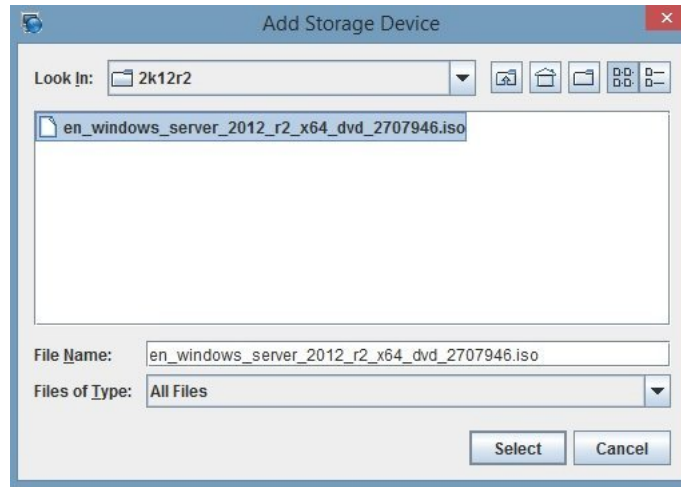
- a. **Click KVMS to display the KVMS drop-down menu.**
- b. **Click Storage.**

The Storage Devices dialog appears.



- c. In the Storage Devices dialog, click Add.

The Add Storage Device dialog appears.



- d. **Browse to the ISO image, select it, and click Select.**

The Storage Devices screen appears and lists the ISO image.

- e. **Select the ISO image and click Connect.**

The ISO image is mounted to the remote console and can be used to perform the OS installation.

4. **To perform the installation using PXE, perform these steps.**

For detailed instructions for automating the installation setup process, consult the Windows operating system documentation.

- a. **Configure Windows Deployment Services to PXE install the Windows operating system.**

Configure the PXE server to export the Windows operating system.

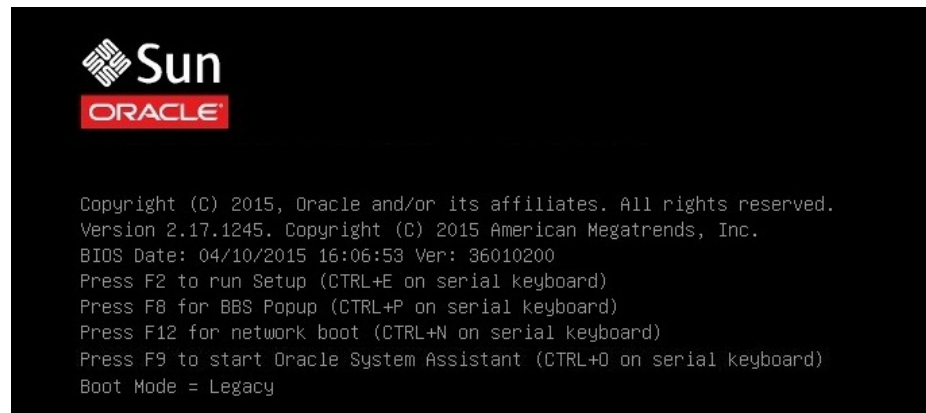
If you are using an automated OS installation image, create and provide the automated OS install image.

- b. **To boot the installation media, select the network adapter card as the temporary boot device.**

i. Reset or power on the server.

The server begins the boot process and the BIOS screen appears.

Note - The BIOS screen might take a while to appear. Please be patient.



Note - The next events occur very quickly; therefore, focused attention is needed for the following steps. Watch carefully for these messages as they appear on the screen for a brief time. You might want to enlarge the size of your screen to eliminate scroll bars.

- ii. When prompted in the BIOS screen, select F8 for BBS Popup.**
- iii. Select the network adapter as the default boot device to PXE boot.**
- iv. Move to the Select Boot Device menu and select the network adapter card as the default boot device.**

For details for performing a Windows Server installation using a PXE network boot, see [“Install Windows Server 2012 or 2012 R2 Using PXE Network Boot” on page 57.](#)

c. Verify that the network adapter card is the default boot device in the BIOS.

i. Reset or power on the server.

See step b., substep i.

- ii. **When prompted in the BIOS screen, select F2 to run Setup.**
- iii. **In the BIOS Setup Utility, use the arrow keys to navigate to the Boot menu.**
The Boot menu screen appears.
- iv. **Verify that the network adapter card is the default boot device.**
- v. **Save and exit the setup utility.**

Selecting the Installation Target Option

This section describes how to set up the installation target.

- [“Installation Target Options” on page 20](#)
- [“Set Up a Local Storage Drive \(HDD\) as the Installation Target” on page 21](#)
- [“Set Up a Fibre Channel Storage Area Network Device as the Installation Target” on page 21](#)

Installation Target Options

You can install the operating system on any of the hard disk drives (HDDs) installed in the server.

Note - NVMe drives cannot be used as installation targets. These drives do not support the installation and booting of operating systems.

NVMe drives are not supported for servers running the Windows Server operating system. If your server is equipped with NVMe drives, you have to install either the Oracle Solaris or Oracle Linux operating system to use them.

For servers equipped with Fibre Channel PCIe host bus adapters (HBAs), you can choose to install the operating system to an external fibre channel storage device.

▼ Set Up a Local Storage Drive (HDD) as the Installation Target

- **Ensure that the target drive (HDD) is properly installed and server power is applied.**

For information about installing and powering on a HDD or SSD, refer to “[Servicing Storage Drives](#)” in *Oracle Server X5-8 Service Manual* .

Note - NVMe drives cannot be used as installation targets. These drives do not support the installation and booting of operating systems.

▼ Set Up a Fibre Channel Storage Area Network Device as the Installation Target

1. **Ensure that the PCIe host bus adapter (HBA) is properly installed in the server.**
For information about installing a PCIe HBA option, refer to “[Servicing PCIe Cards and the Dual PCIe Card Carriers \(DPCCs\)](#)” in *Oracle Server X5-8 Service Manual* .
2. **Ensure that the storage area network (SAN) is installed and configured to make the storage device visible to the host on the server.**

For instructions, refer to the documentation supplied with the Fibre Channel PCIe host bus adapters (HBAs).

Windows Server OS Installation Options

For single-server OS installations, Oracle System Assistant is recommended. For multiple-server OS installations, Oracle Enterprise Manager Ops Center is recommended. The scope of this document is for single-server OS installations. The table below provides some information about these two installation options.

Option	Description
Multiple servers	You can use Oracle Enterprise Manager Ops Center to install an OS on multiple servers. For information, go to http://www.oracle.com/technetwork/oem/ops-center/index.html .
Single server	Install an OS to a single server using one of the following methods:

Option	Description
	■ Locally: Perform the OS installation locally at the server. This option is recommended if you have just completed the physical installation of the server in the rack. ■ Remotely: Perform the OS installation from a remote location. This option uses the Oracle ILOM Remote System Console Plus application to access Oracle System Assistant or to perform a manual OS installation.
	Note - Oracle recommends the use of Oracle System Assistant for single-server OS installations.

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

- [“Single-Server Installation Methods” on page 22](#)
- [“Oracle System Assistant” in *Oracle X5 Series Servers Administration Guide*](#)

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	Additional Requirements
Local assisted OS installation – Uses Oracle System Assistant. (Recommended)	A monitor, USB keyboard and mouse, a USB device, and Windows distribution media. For more information, see “Assisted Windows Server OS Installation” on page 23 .
Remote assisted OS installation – Uses Oracle System Assistant. (Recommended)	Oracle ILOM Remote System Console Plus application, a redirected DVD drive or ISO image file, and Windows distribution media. For more information, see “Assisted Windows Server OS Installation” on page 23 .
Local using a DVD drive – Uses a physical DVD drive connected to the server.	A monitor, USB keyboard and mouse, a USB DVD drive, and Windows distribution media. For local installations, you deliver the installation media using a local DVD drive or USB flash drive attached directly to the server. For more information, see “Manual Windows Server OS Installation” on page 23 .
Remote using a DVD drive or a DVD ISO image – Uses a redirected physical DVD drive on a remote system running the Oracle ILOM Remote System Console Plus application.	A remote system with a browser, an attached physical DVD drive, Windows distribution media, and network access to the server's management port. For remote installations, you deliver the installation media using the remote DVD, USB flash drive, or DVD ISO image. For more information, see “Windows Deployment Services OS Installation” on page 23 .
WDS WIM image – Uses a customized Windows Imaging Format (WIM) image on a Windows Deployment Services (WDS) server.	A server running WDS and a WIM image customized for your server. For more information, see “Windows Deployment Services OS Installation” on page 23 . This installation method is for Windows PXE installations using WDS.

Assisted Windows Server OS Installation

This is the recommended method for installing a supported OS on your server. This method involves using Oracle System Assistant. You deliver the Windows OS installation media on either a local or remote DVD drive, USB device, or DVD image, and Oracle System Assistant guides the installation process and gathers and installs Oracle OEM drivers when necessary. Your server must support Oracle System Assistant, and it must be installed in the server.

Manual Windows Server OS Installation

With this method, you deliver the Windows distribution media on either a local or remote DVD drive, USB device, or DVD image. You also need to install any necessary drivers. The drivers for your server are available on the server's internal Oracle System Assistant flash drive (if installed) and from the My Oracle Support web site as either OS-specific and server-specific packages or as an ISO image file. To install the OS, use the distribution media's installation wizard.

Windows Deployment Services OS Installation

You can install the Windows OS from Windows Deployment Services. For the advanced user, you can create a customized Windows Imaging Format (WIM) image for your server on a system running Windows Deployment Services (WDS). After this WIM image has been created, you can network boot (PXE) your server from its network adapter card and select the WIM image from the WDS system for deployment. For more information about WDS, go to: <http://technet.microsoft.com/library/hh831620>

Preparing to Install the Windows Server Operating System

This section describes how to prepare the server for installing the operating system.

Description	Links
Set up UEFI.	“Preparing the Boot Environment” on page 25 “Reset the BIOS Firmware to Default Settings (BIOS)” in Oracle X5 Series Servers Administration Guide
Set the boot mode.	“Set the Boot Mode” on page 26 “Viewing or Modifying the Current Boot Mode” in Oracle X5 Series Servers Administration Guide
Configure RAID on the server.	“Configuring RAID” on page 29 “Configure Storage Drives for OS Installation” in Oracle Server X5-8 Installation Guide

Related Information

- [“Installing Windows Server 2012 or 2012 R2 on a Single System Using Oracle System Assistant” on page 32](#)
- [“Installing Windows Server 2012 or 2012 R2 on a Single System Manually” on page 36](#)

Preparing the Boot Environment

Before you install the operating system, you should ensure that Unified Extensible Firmware Interface (UEFI) settings are configured to support the type of installation you plan to perform.

The server is equipped with Unified Extensible Firmware Interface (UEFI), which supports both Legacy BIOS and UEFI boot modes. UEFI is a specification that defines a software interface between an operating system and platform firmware. UEFI firmware is meant to

replace the Basic Input/Output System (BIOS) firmware interface. The server can be configured to boot in either Legacy BIOS Boot Mode (default) or UEFI Boot Mode.

In the BIOS Setup Utility, you can set optimal defaults, as well as view and edit UEFI settings as needed. By setting optimal defaults, you ensure that the server is operating efficiently with a known-good configuration. You can review the optimal defaults in the *Oracle Server X5-8 Service Manual*. Setting optimal defaults resets the BIOS to the default Legacy BIOS Boot Mode if the server was in UEFI Boot Mode. Selecting optimal defaults resets the UEFI firmware to the factory default of Legacy BIOS Boot Mode.

Note - The set optimal defaults procedure is optional. If the server is newly installed and this is the first time an operating system is being installed, then UEFI is probably configured to its optimal default settings and you do not have to perform this procedure.

Any changes you make in the BIOS Setup Utility (using the F2 key) are permanent until the next time you change them.

In addition to using the F2 key to view or edit the system's UEFI/BIOS settings, you can use F8 during the UEFI/BIOS start-up to specify a temporary boot device. If you use F8 to set a temporary boot device, this change is only in effect for the current system boot. The permanent boot device specified in the UEFI/BIOS using F2 will be in effect after booting from the temporary boot device.

The following topic provides specific instructions on how to configure UEFI to support the installation:

- [“Set the Boot Mode” on page 26](#)

For more information about UEFI firmware settings, setting UEFI optimal defaults, and changing boot properties, refer to [“Reset the BIOS Firmware to Default Settings \(BIOS\)” in Oracle X5 Series Servers Administration Guide](#).

UEFI is a specification that defines a software interface between an operating system and platform firmware. UEFI replaces the Basic Input/Output System (BIOS) firmware interface.

▼ Set the Boot Mode

The server can be configured to boot in either Legacy BIOS Boot Mode (default) or UEFI Boot Mode. Legacy BIOS Boot Mode is enabled by default. Because Windows Server 2012 and 2012 R2 operating systems support both Legacy BIOS and UEFI, you have the option of setting the boot mode to either Legacy BIOS Boot Mode or UEFI Boot Mode before you perform the OS installation.

Note - After you have the installed Windows Server operating system, if you decide you want to switch from Legacy BIOS Boot Mode to UEFI Boot Mode, or vice versa, you must reinstall the operating system.

Before You Begin Ensure that the following requirements are met:

- A console connection is established to the server. For details, see [“Selecting the Console Display Option” on page 12.](#)

1. Reset or power on the server.

For example, do one of the following:

- **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to turn the server off, then press the Power button again to power on the server.
- **From the Oracle ILOM web interface**, click Host Management → Power Control, select Reset from the Select Action list box, then click Save.
- From the Oracle ILOM CLI, type: `reset /System`

The server begins the boot process and the BIOS screen appears.

Note - The BIOS screen might take a while to appear. Please be patient.



```
Copyright (C) 2015, Oracle and/or its affiliates. All rights reserved.  
Version 2.17.1245. Copyright (C) 2015 American Megatrends, Inc.  
BIOS Date: 04/10/2015 16:06:53 Ver: 36010200  
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 (CTRL+O on serial keyboard)  
Boot Mode = Legacy
```

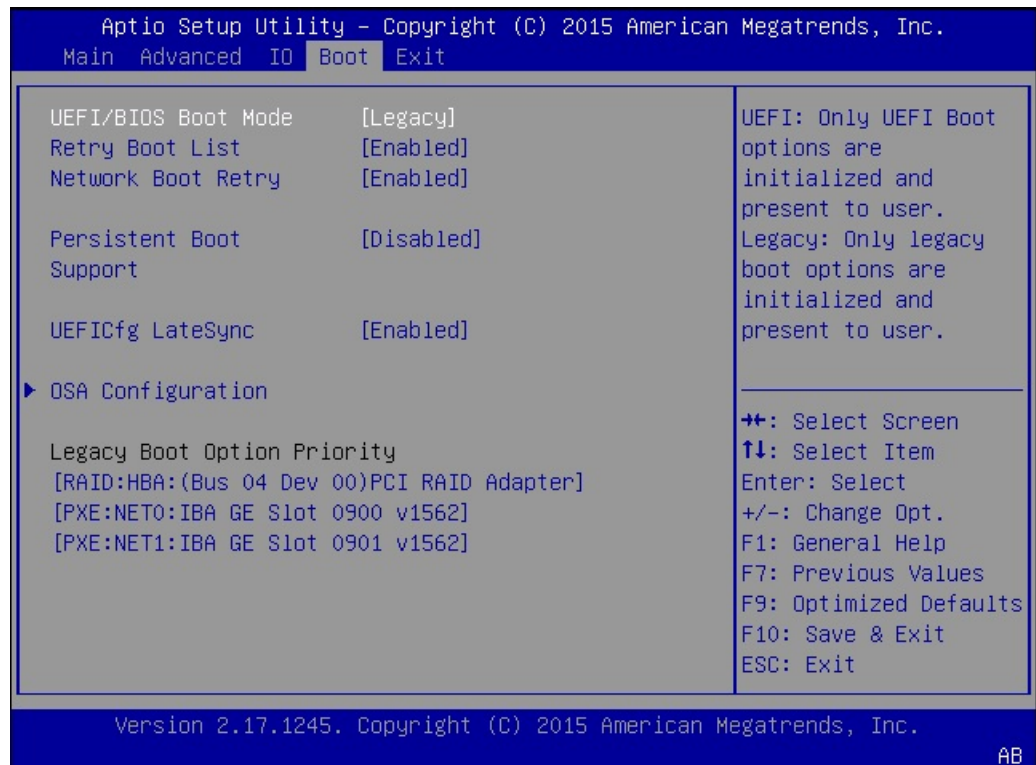
Note - The next events occur very quickly; therefore, focused attention is needed for the following steps. Watch carefully for these messages as they appear on the screen for a brief time. You might want to enlarge the size of your screen to eliminate scroll bars.

2. When prompted in the BIOS screen, press the F2 key to access the BIOS Setup Utility.

After a few moments, the BIOS Setup Utility appears.

3. In the BIOS Setup Utility, use the arrow keys to navigate to the Boot menu.

The Boot menu screen appears.



Note - The options in the boot order list differ depending on the storage drive configuration and whether you have enabled the Persistent Boot Support feature. For more information about Persistent Boot Support, refer to the *Oracle X5 Series Servers Administration Guide* at <http://www.oracle.com/goto/x86AdminDiag/docs>.

4. **Use the down arrow key to select the UEFI/BIOS Boot Mode field, and then press Enter.**
5. **Select your preferred boot mode, and then press Enter.**
6. **To save changes and exit BIOS, press the F10 key.**

Note - You must select the desired boot mode, Legacy BIOS Boot Mode or UEFI Boot Mode, before starting the operating system installation.

Configuring RAID

If you want to configure the server storage drives in a RAID configuration, configure RAID on your server before you install the Windows OS. For instructions for configuring RAID, refer to “Configure Storage Drives for OS Installation” in *Oracle Server X5-8 Installation Guide*.

Related Information

- *Oracle X5 Series Servers Administration Guide* at: <http://www.oracle.com/goto/x86AdminDiag/docs>

Installing a Windows Server Operating System

This section describes how to install the Microsoft Windows Server operating systems on the server.

Description	Links
Preinstallation requirements.	“Before You Begin” on page 31
Using Oracle System Assistant to install the Windows operating system.	“Installing Windows Server 2012 or 2012 R2 on a Single System Using Oracle System Assistant” on page 32
Using media to install the Windows operating system.	“Installing Windows Server 2012 or 2012 R2 on a Single System Manually” on page 36

Related Information

- [“Preparing the Boot Environment” on page 25](#)
- [“Configuring RAID” on page 29](#)

Before You Begin

Ensure that the following requirements are met:

- If you want to configure RAID (redundant array of independent disks) on the server's storage drives, you must do so before you install the operating system. For instructions for configuring RAID, refer to [“Configure Storage Drives for OS Installation” in *Oracle Server X5-8 Installation Guide*](#).

Note - If you are using the Oracle Storage 12 Gb/s SAS PCIe RAID HBA Internal to manage your storage drives, you must create a RAID volume and make it bootable before installing the operating system; otherwise, the HBA will not be able to identify the server's storage drives.

- Verify that the UEFI firmware settings are set to the optimal defaults. For more information about UEFI optimal defaults, refer to the *Oracle X5 Series Servers Administration Guide* at: <http://www.oracle.com/goto/x86AdminDiag/docs>.
- Set the UEFI firmware to the desired boot mode, Legacy BIOS or UEFI. For instructions on how to set the UEFI boot mode, see “[Set the Boot Mode](#)” on page 26.
- The console display option is selected and set up prior to performing the installation. For more information about this option and setup instructions, see “[Selecting the Console Display Option](#)” on page 12.
- The boot media option is selected and set up prior to performing the installation. For more information about this option and setup instructions, see “[Selecting the Boot Media Option](#)” on page 14.
- The storage drive to be used as the installation target option is selected and set up prior to performing the installation. For more information about this option and setup instructions, see “[Selecting the Installation Target Option](#)” on page 20.
- Gather the Microsoft Windows Server 2012 or Windows Server 2012 R2 operating system documentation so that you can use it with the Windows Server operating system instructions provided in this section. You can obtain a copy of Microsoft Windows Server 2012 and 2012 R2 installation documentation at: <http://technet.microsoft.com/en-us/windowsserver/default.aspx>.

Installing Windows Server 2012 or 2012 R2 on a Single System Using Oracle System Assistant

The Oracle System Assistant application's Install OS task is the recommended method for installing a supported Microsoft Windows Server OS on the Oracle Server X5-8, because it automatically injects platform drivers into the Windows OS during installation.

- “[Install Windows Server 2012 or 2012 R2 on a Single System Using Oracle System Assistant](#)” on page 32

▼ Install Windows Server 2012 or 2012 R2 on a Single System Using Oracle System Assistant

Before You Begin

- Perform the steps in “[Preparing to Install the Windows Server Operating System](#)” on page 25.
- If you want to configure the boot drive (that is, the storage drive onto which you are installing the Windows Server OS) for RAID, you must do so before you install the OS. For

instructions on how to configure RAID on your server, refer to [“Configure Storage Drives for OS Installation” in Oracle Server X5-8 Installation Guide](#) .

1. Ensure that the installation media is available to boot.

- **For Distribution DVD**, insert the Windows Server Distribution media (single DVD) into the local or external USB DVD-ROM drive.
- **For ISO image**, ensure that the ISO image is available and the Oracle ILOM Remote System Console Plus application has mounted the ISO image.

For additional information about how to set up the installation media, see [“Selecting the Boot Media Option” on page 14](#).

2. To launch Oracle System Assistant directly from the Oracle ILOM web interface (recommended), perform the following steps; otherwise proceed to [Step 3](#).

a. Log in to the Oracle ILOM web interface.

The Oracle ILOM Summary Information page appears.

ORACLE Integrated Lights Out Manager v3.2.5.12

User: root Role: auro SP Hostname: OS-WIN-X5-8-P1-0-004

NAVIGATION

- Chassis View
- System Information
- Summary**
- Processors
- Memory
- Power
- Cooling
- Storage
- Networking
- PCI Devices
- Firmware
- Open Problems (3)
- System Log
- Remote Control
- Host Management
- System Management
- Power Management
- ILOM Administration
- Site Map

Summary Information

View system summary information. You may also change power state and view system status and fault information. [More details...](#)

General Information

System Type	Rack Mount
Model	ORACLE SERVER X5-8
QPart ID	Q11159
Part Number	0FM-X441-36
Serial Number	00000-00-12345
Component Model	ORACLE SERVER X5-8
Component Part Number	000-0000-00
Component Serial Number	0000CNW000
System Identifier	OS-WIN-X5-8-P1-0-004
System Firmware Version	3.2.5.12
Primary Operating System	Not Available
Host Primary MAC Address	00:10:40:3c:42:d8
ILOM Address	10.129.228.123
ILOM MAC Address	00:10:ED:3C:42:DA

Status

Overall Status: OK Total Problem Count: 0

Subsystem	Status	Details	Inventory
Processors	OK	Processor Architecture: x86 64-bit Processor Summary: Eight Intel Xeon Processor E7 V3 Series	Processors: 8 / 8 (Installed / Maximum)
Memory	OK	Installed RAM Size: 176 GB	DIMMs: 11 / 192 (Installed / Maximum)
Power	OK	Permitted Power Consumption: 3754 watts Actual Power Consumption: 1049 watts	PSUs: 4 / 4 (Installed / Maximum)
Cooling	OK	Inlet Air Temperature: 29 °C Exhaust Air Temperature: Not Supported	Chassis Fans: 16 / 16 (Installed / Maximum) PSU Fans: Not Supported
Storage	Not Available	Installed Disk Size: Not Available Disk Controllers: Not Available	Internal Disks: 1 / 8 (Installed / Maximum)
Networking	OK		Ethernet NICs: 2 (Installed)

Actions

Power State: ON Turn Off

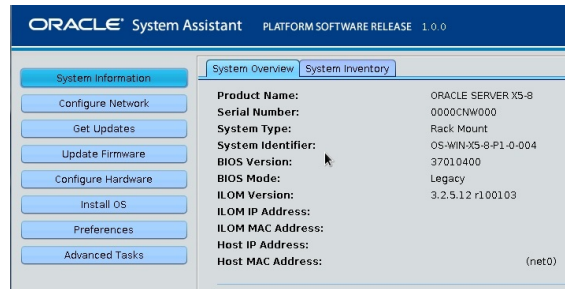
Locator Indicator: OFF Turn On

System Firmware Update: Update

Remote Console: Launch

b. In the Actions panel on the Oracle ILOM Summary Information page, click the Oracle System Assistant Launch button.

The Oracle System Assistant System Overview screen appears.



c. Proceed to [Step 4](#).

3. To launch Oracle System Assistant using the remote console and BIOS, perform the following steps:

a. From the Oracle ILOM Summary Information page, click the Remote Console Launch button.

The Oracle ILOM Remote System Console Plus window appears.

b. Reset or power on the server.

For example, do one of the following:

- **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to power off the server, then press the Power button again to power on the server.
- **From the Oracle ILOM web interface**, click Host Management → Power Control, select Reset from the Select Action list box, then click Save.
- **From the Oracle ILOM CLI**, type: `reset /System`

The server begins the boot process and the BIOS screen appears in the Oracle ILOM Remote System Console Plus application.



Note - The next event occurs very quickly; therefore, focused attention is needed for the following steps. Watch carefully for these messages as they appear on the screen for a brief time. You might want to enlarge the size of your screen to eliminate scroll bars.

c. Press the F9 key.

The Oracle System Assistant System Overview screen appears.

4. To update Oracle System Assistant to the latest software release version, click the Get Updates button in Oracle System Assistant.

This action ensures that the server has the latest software release package installed 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 BIOS before you begin the OS installation.

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

The Install Operating System screen appears.

7. **From the Supported OS drop-down list, select the Windows Server OS.**
8. **In the Current BIOS mode portion of the screen, select the boot mode (UEFI or Legacy BIOS) that you want to use for the OS installation.**
9. **In the Select Your Install Media Location portion of the screen, select the location of the installation media.**

This is the location of the OS distribution media. The options are DVD and Network.

Note - Oracle System Assistant does not support Preboot eXecution Environment (PXE) installs.

10. **Click Installation Details.**
The Installation Details dialog appears.
11. **In the Installation Details dialog, deselect any items that you do not want to install and click OK.**

Note - In the Installation Details dialog, the Install Microsoft Windows Server and Use Oracle recommended Drivers options are mandatory and cannot be deselected.

12. **At the bottom of the Operating System Installation screen, click the OS Install button.**
The server begins the boot process and the BIOS post screen appears.
13. **To start the installation, after the BIOS post screen appears, press F8.**
Select the location of the Windows installation media, and install the Windows operating system.

Installing Windows Server 2012 or 2012 R2 on a Single System Manually

This section provides instructions for installing the Windows Server 2012 and 2012 R2 operating systems.

- [“Install Windows Server 2012 or 2012 R2 Manually Using Local or Remote Media” on page 37](#)
- [“Install Windows Server 2012 or 2012 R2 Using PXE Network Boot” on page 57](#)

▼ Install Windows Server 2012 or 2012 R2 Manually Using Local or Remote Media

This procedure describes how to boot the Microsoft Windows Server 2012 or 2012 R2 operating system from local or remote media. It assumes that you are booting the Windows installation media from one of the following sources:

- Windows Server 2012 or 2012 R2 DVD
- Windows Server 2012 or 2012 R2 ISO image

Note - The Windows Server 2012 or 2012 R2 ISO image can be used for remote installation or for creating an installation DVD.

Note - If you are booting the installation media from a PXE environment, see [“Install Windows Server 2012 or 2012 R2 Using PXE Network Boot” on page 57](#) for instructions.

1. Ensure that the installation media is available to boot.

- **For Distribution DVD**, insert the Windows 2012 or 2012 R2 Distribution media (single DVD) into the local or remote DVD-ROM drive.
- **For ISO image**, ensure that the Windows 2012 or 2012 R2 ISO image is available and the ISO image has been mounted in the Oracle ILOM Remote System Console Plus application using the KVMS menu.

For additional information about how to set up the installation media, see [“Selecting the Boot Media Option” on page 14](#).

2. Reset or power on the server.

For example, do one of the following:

- **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to power off the server, and then press the Power button again to power on the server.
- **From the Oracle ILOM web interface**, click Host Management → Power Control, select Reset from the Select Action list box, and then click Save.
- **From the Oracle ILOM CLI**, type: `reset /System`

The server begins the boot process and the BIOS screen appears.

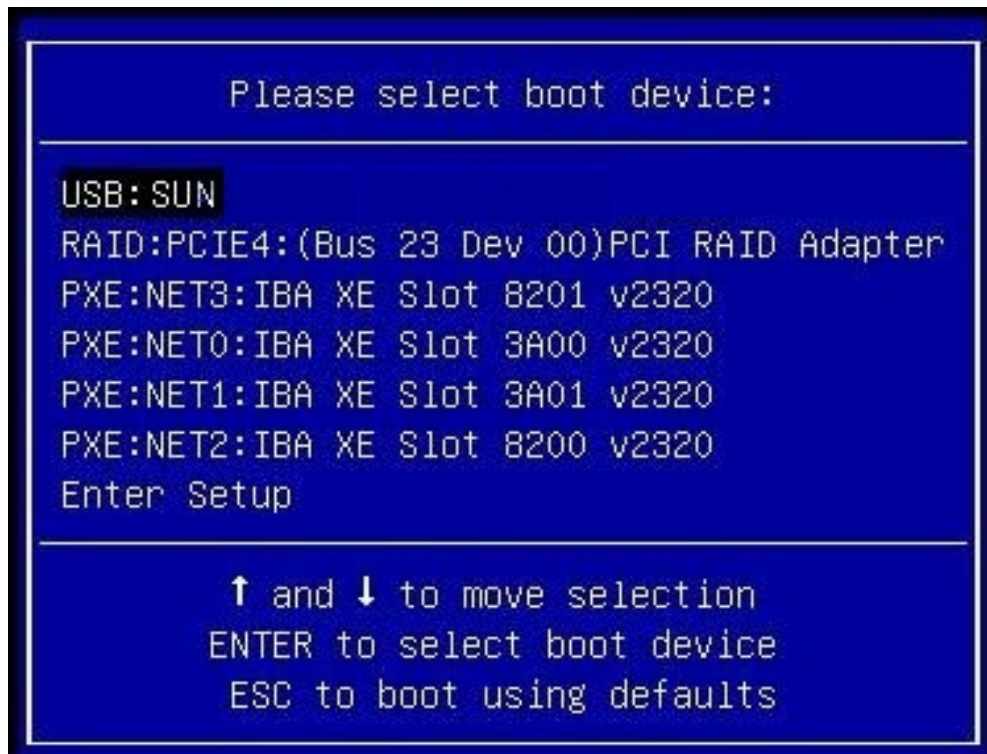


Note - The next event occurs very quickly; therefore, focused attention is needed for the following steps. Watch carefully for these messages as they appear on the screen for a brief time. You might want to enlarge the size of your screen to eliminate scroll bars.

3. In the BIOS screen, press the F8 key to specify a temporary boot device for the Windows OS installation.

[Boot Pop Up Menu Selected] appears at the bottom of the BIOS screen, and then the Please Select Boot Device menu appears. The screen that appears will be different depending on whether you have the UEFI/BIOS Boot Mode configured for Legacy BIOS Boot Mode or UEFI Boot Mode.

- For Legacy BIOS Boot Mode, a screen similar to the following appears:



- For UEFI Boot Mode, a screen similar to the following appears:



For UEFI boot mode, both IPv4 and IPv6 protocols are selectable for each network adapter interface, in addition to local and remote boot devices.

Note - The Please Select Boot Device menu that appears in your installation might differ depending on the type of disk controller and other hardware, such as PCIe network cards, installed in your server.

4. **In the Please Select Boot Device menu, select the menu item according to the Windows media installation method and UEFI/BIOS boot mode you elected to use, then press Enter.**

For example, if you elected to use the Oracle ILOM Remote System Console Plus application delivery method, select USB:VIRTUAL: Remote Iso CDR0M2.04 from the Legacy BIOS Boot Mode screen or [UEFI]USB:VIRTUAL: Remote Iso CDR0M2.04 from the UEFI Boot Mode screen.

5. **If prompted with Press any key to boot from CD, press any key.**

The Windows installation wizard starts and the Loading Files screen appears.



The Windows installation wizard continues until the Language Localization dialog appears.



6. **Select your language and other preferences, then click Next to continue.**

The Install Now screen appears.

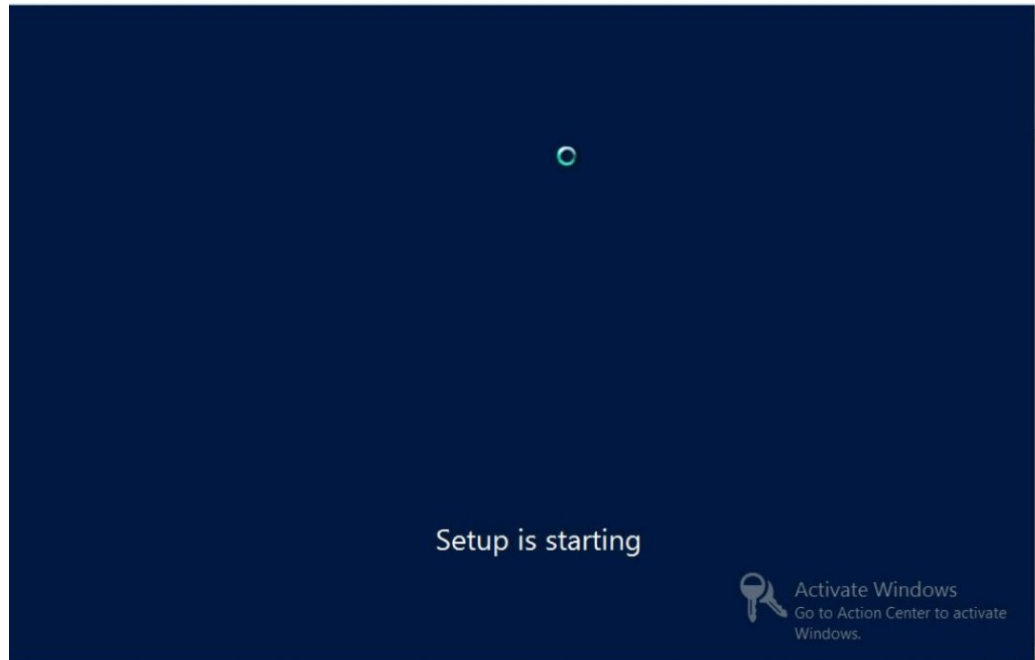
Note - The Install Now screen allows you to continue the installation or access an optional Repair menu (see lower left of the screen) for troubleshooting.

Depending on your Windows licensing agreement, you may be required to enter a Windows Server license key.

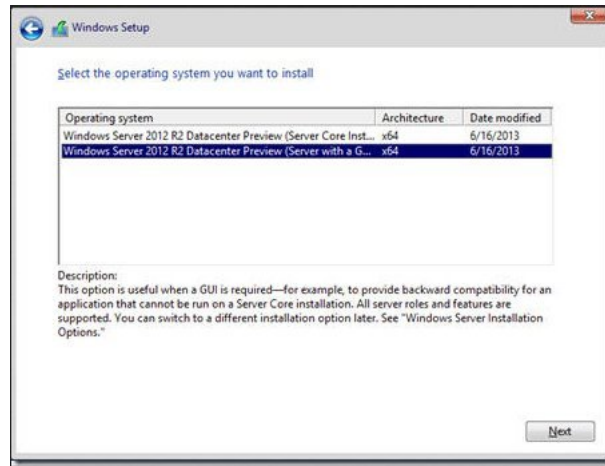


7. Click Install now.

The Setup Is Starting screen appears.



Then the Select the Operating System dialog appears.

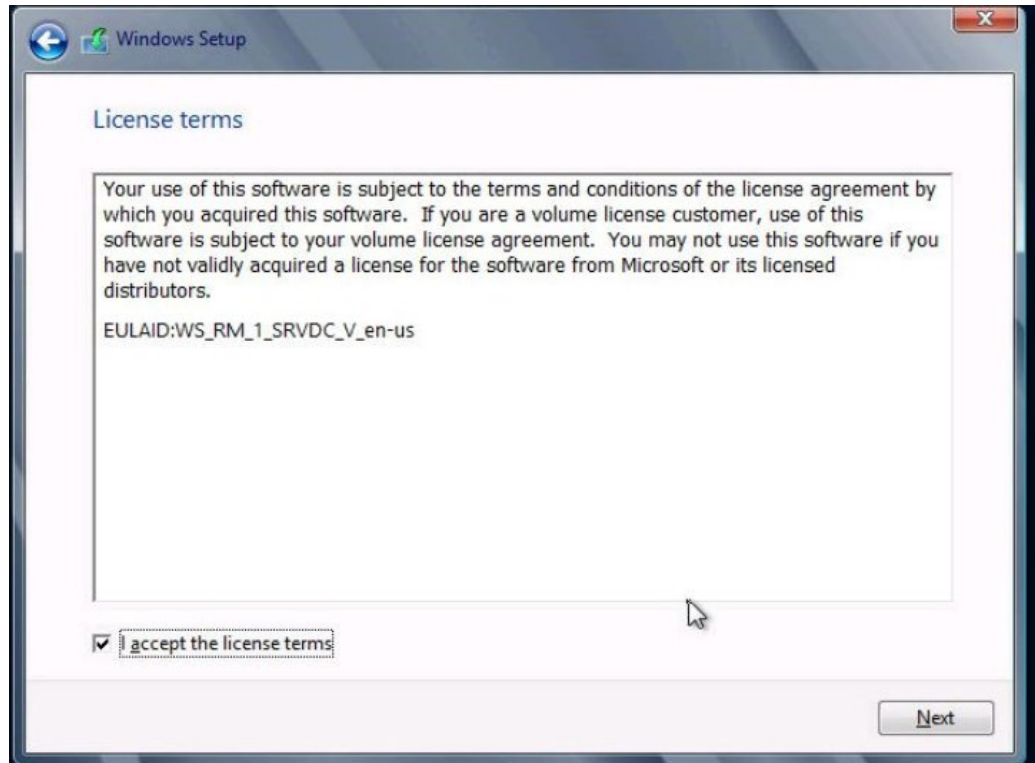


8. In the Select Operating System dialog, select the desired operating system, then click Next to continue.

For most installs, select Windows Server 2012 (or 2012 R2) Datacenter (Server with GUI) at the bottom of the list.

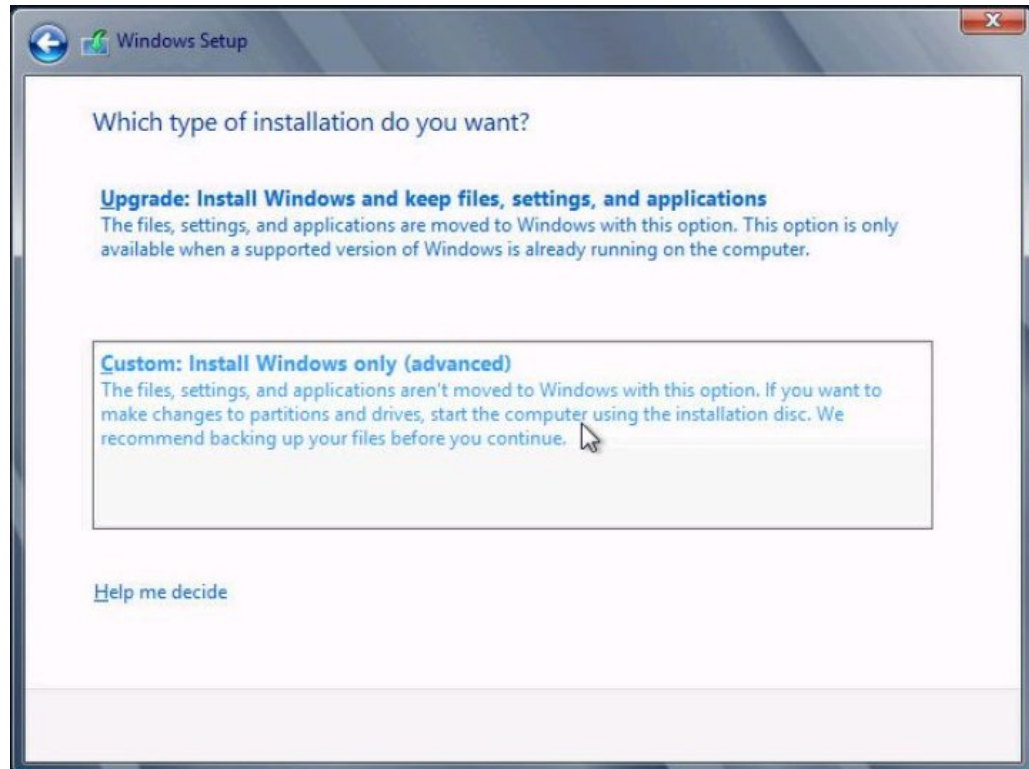
For more information on the different types of Windows operating systems, see the Windows Server 2012 or 2012 R2 documentation at <http://technet.microsoft.com/en-us/windowsserver/default.aspx>.

The License Terms screen appears.



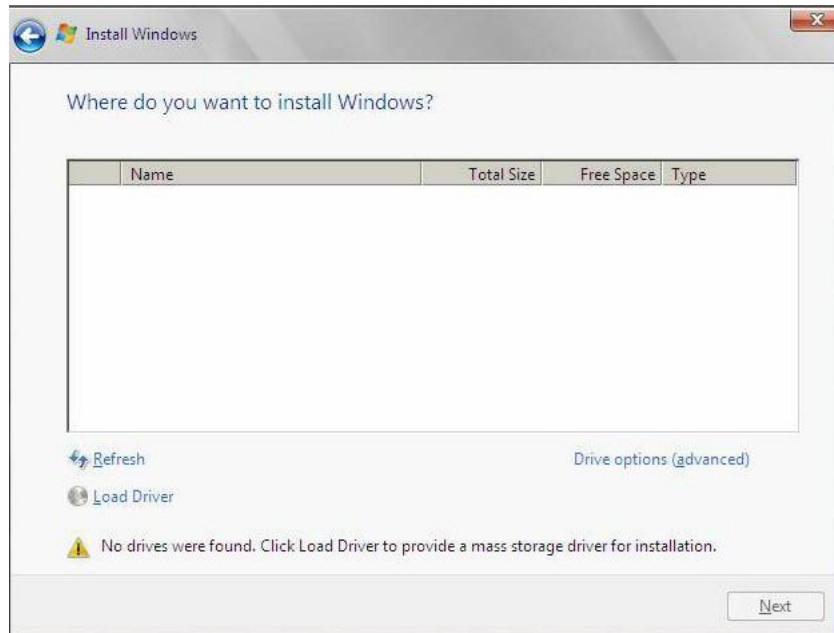
9. In the License Terms screen, check the **I accept the license terms** box, then click **Next** to continue.

The Which Type of Installation Do You Want dialog appears.



10. For all new installations, in the Which Type of Installation Do You Want dialog, click Custom: Install Windows only (advanced)

The Where Do You Want to Install Windows dialog appears.



11. **In the Where Do You Want to Install Windows dialog, perform one of the following tasks:**
 - If you do not see any storage targets listed and have a Oracle Storage 12 Gb/s SAS PCIe HBA External card configured on your server, click Load Driver to display the Load Driver dialog, then proceed to [Step 12](#).
 - If you see the storage target where you want to install the operating system but want to change the default partition settings associated with that target, select the target, click Drive Options (Advanced), then proceed to [Step 13](#).
 - If you see the storage target where you want to install the operating system and do not want to change the default partition settings for that target, select the target and click Next, then proceed to [Step 14](#).

12. In the Load Driver dialog, do the following:



- a. Ensure that the drivers are accessible according to the installation method chosen (described in [“Selecting the Boot Media Option” on page 14](#)).**

For example:

- Storage drivers are on a disk mounted as a device from the remote console.
- Storage drivers are on a local physical storage media, such as the Oracle System Assistant USB flash drive (if installed), which is mounted internally in the server’s chassis; a DVD; or virtual media mounted from the remote console.

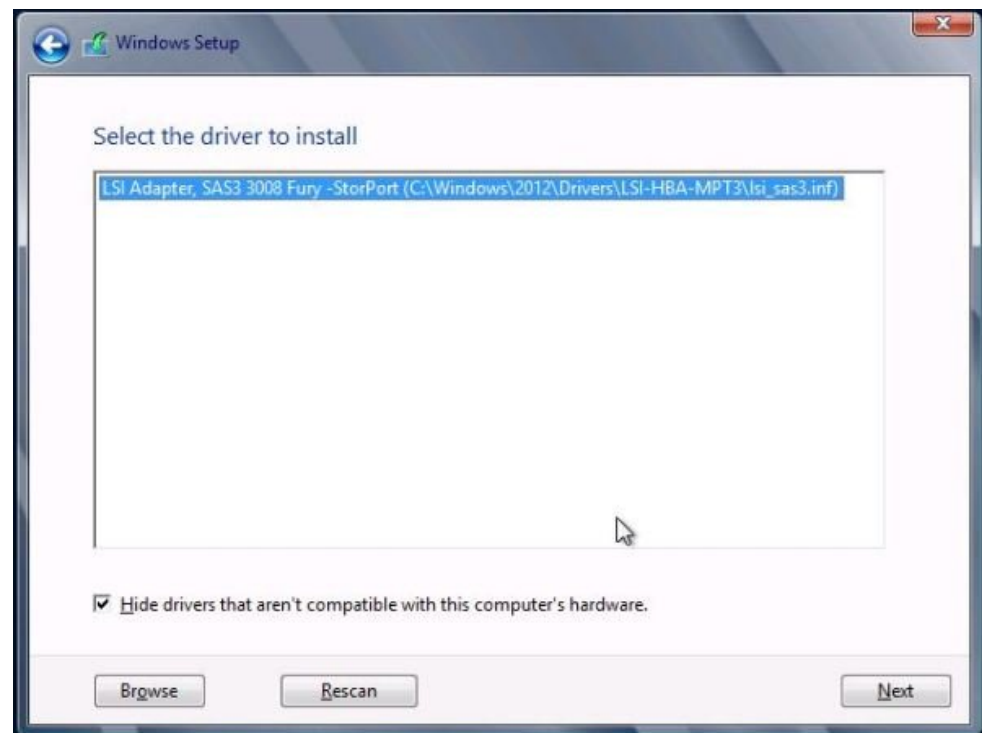
- b. In the Load Driver dialog, click Browse to navigate to the appropriate driver media folder as described below.**

- For a system configured with the Oracle Storage 12 Gb/s SAS PCIe HBA External option, navigate to the following directory on the internal Oracle System Assistant USB flash drive to load the appropriate driver: Windows/%Windows OS%/Drivers/LSI-HBA-MPT3.

- c. **In the Browse for Folder dialog, select the appropriate driver, then click OK to load the driver.**

The selected driver appears in the Select the Driver to Install dialog.

For example:



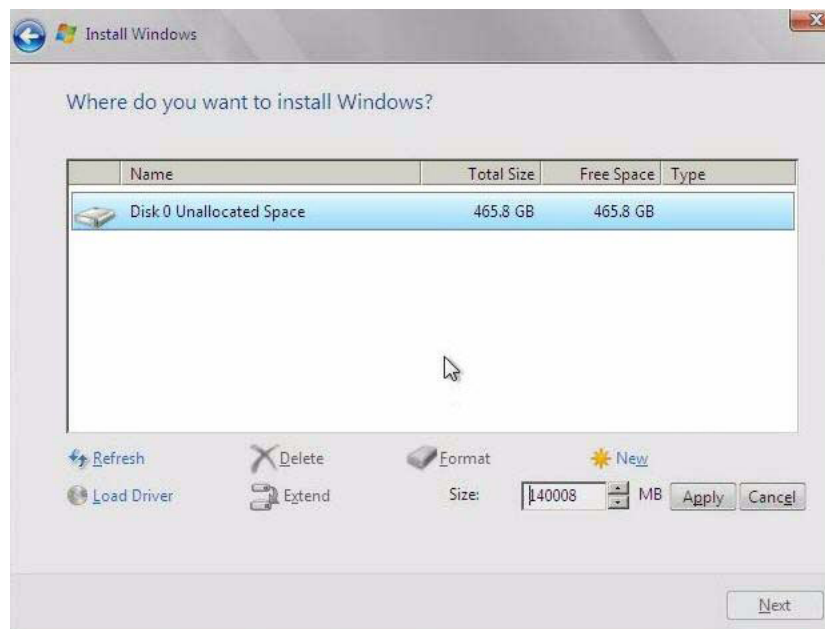
- d. **In the Select the Driver to Install dialog, click Next to install the driver.**

The Where Do You Want to Install Windows dialog appears.

Note - If you previously removed or unmounted the Windows Server install media to load the drivers from the internal Oracle System Assistant USB flash drive, you might see the following message: Windows Cannot be installed to this disk. If this message appears, insert or remount the Windows install media, then click Refresh.

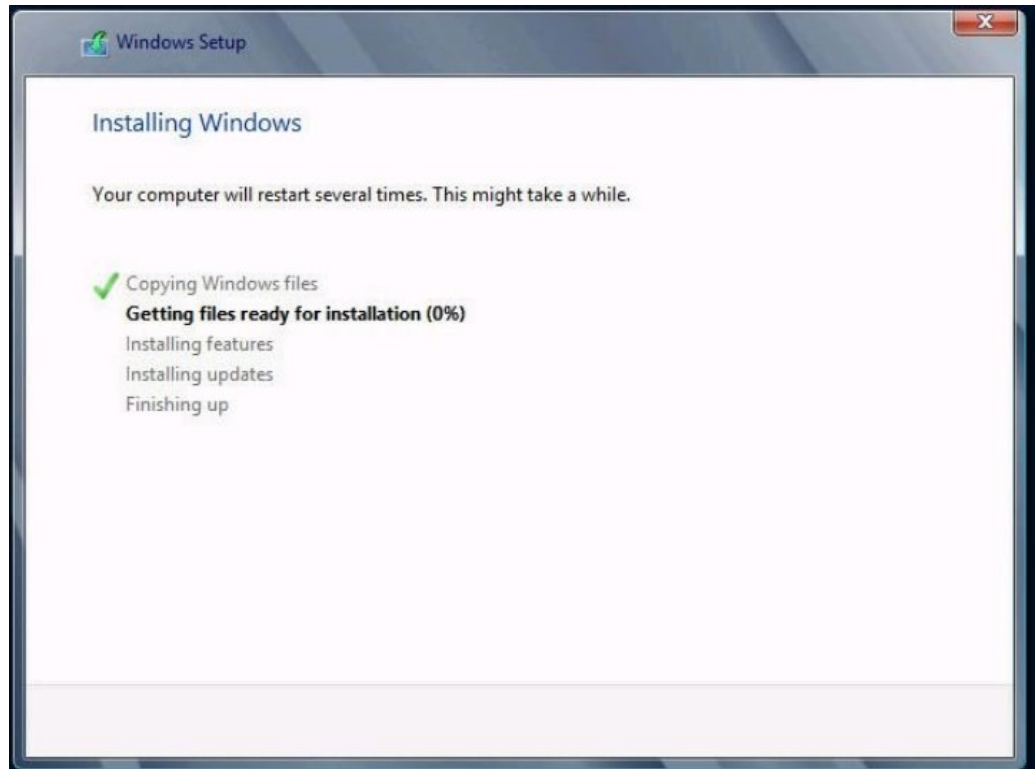
- e. **In the Where Do You Want to Install Windows dialog, do one of following:**

- Select the storage target listed and click Next to install the operating system, then proceed to [Step 14](#).
 - If any partitions exist on your target disk, it is recommended that you allow the setup process to create the appropriate partitions. To delete preexisting partitions, proceed to [Step 13](#).
13. **(Partition Drive, advanced) In the lower portion of the Where Do You Want to Install Windows dialog, do the following:**



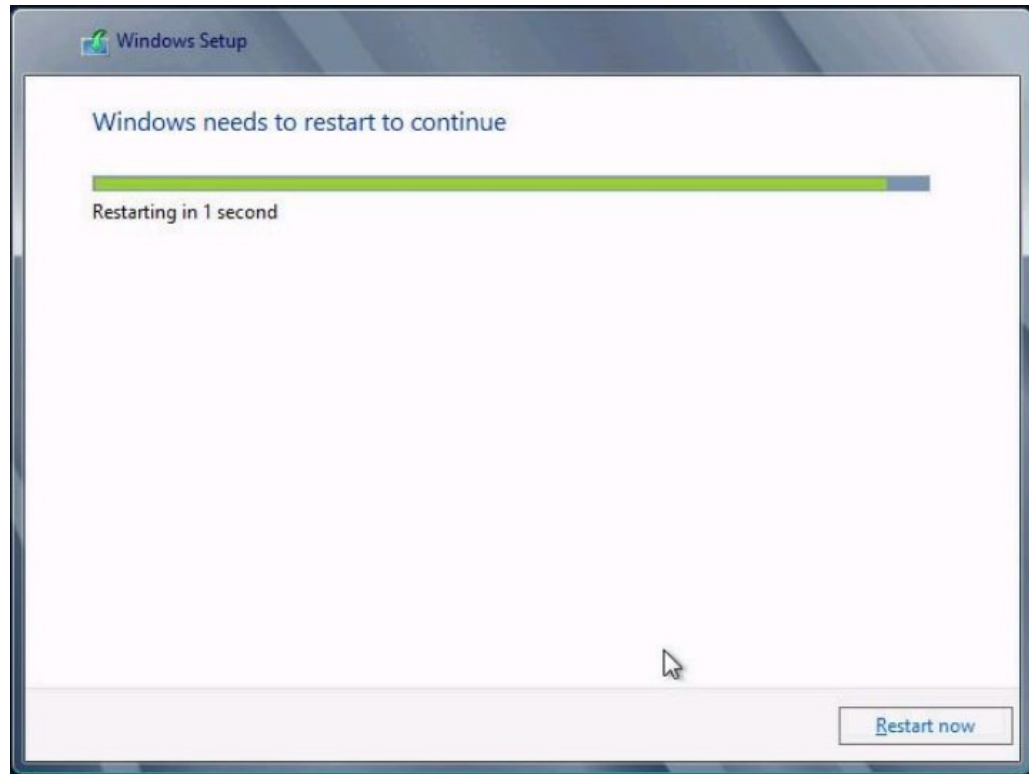
- a. **Select the disk, then click Delete to delete the selected storage target existing partition configuration.**
A confirmation window appears
 - b. **Click OK to confirm the partition deletion.**
 - c. **If any additional partitions exist on the target disk, repeat Step a and Step b.**
14. **Select (highlight) the disk to which you want to install Windows, then click Next.**

The Installing Windows screen appears.



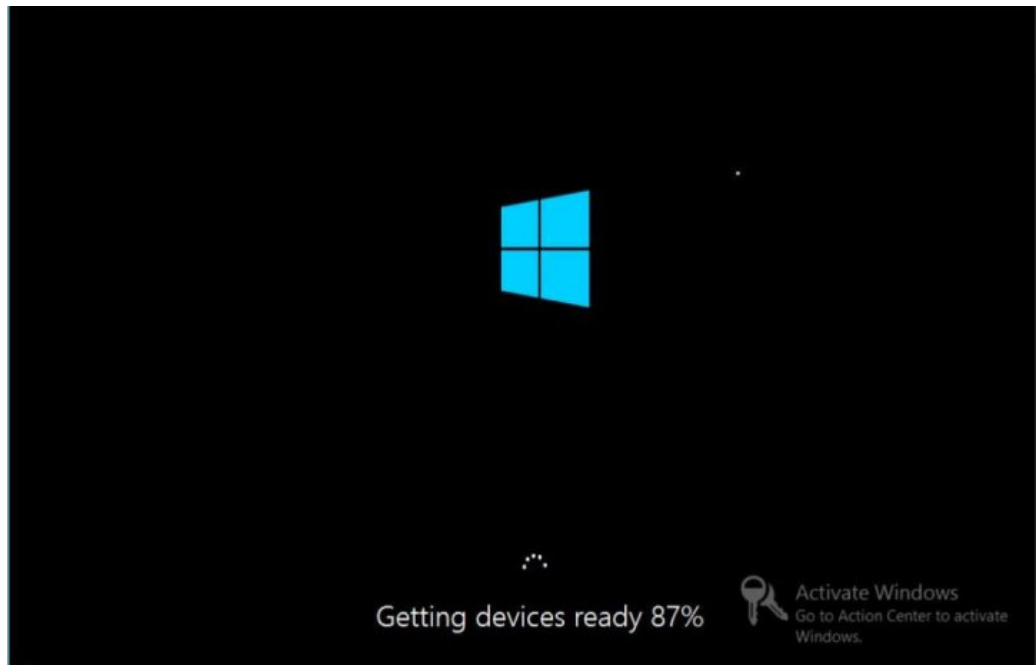
The setup and installation process begins and files are copied to the target.

The Windows Needs to Restart to Continue screen appears.

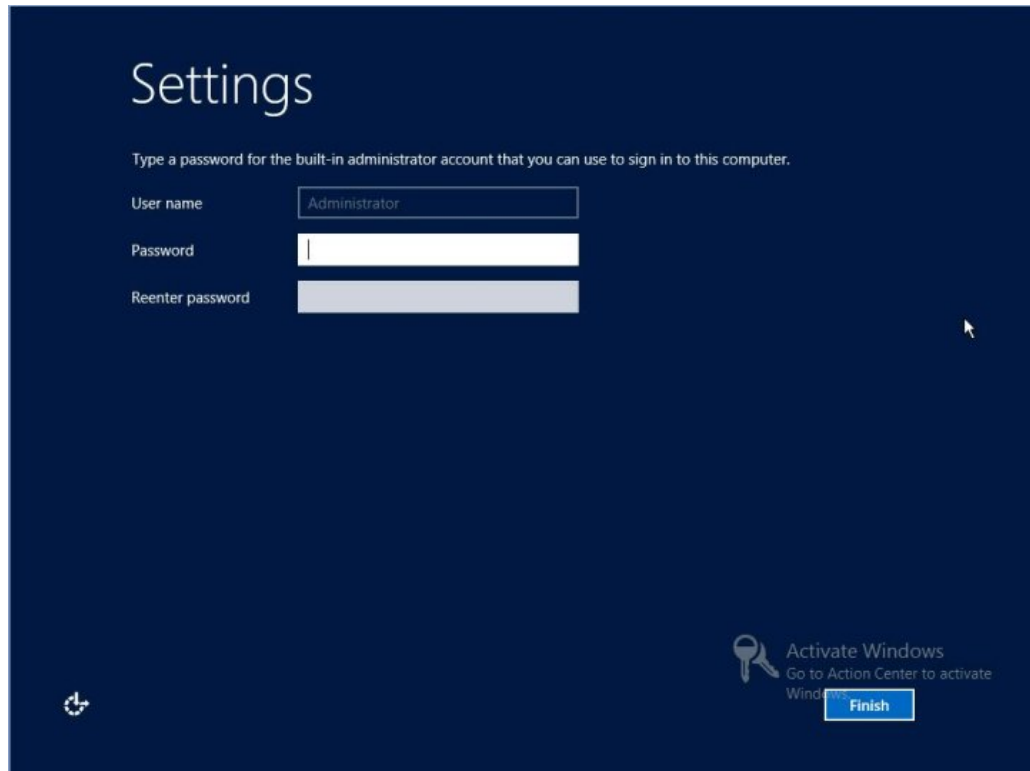


The system reboots.

15. After the system reboots, wait while the Getting Devices Ready screen appears and the Windows Installation Wizard configures the device settings.



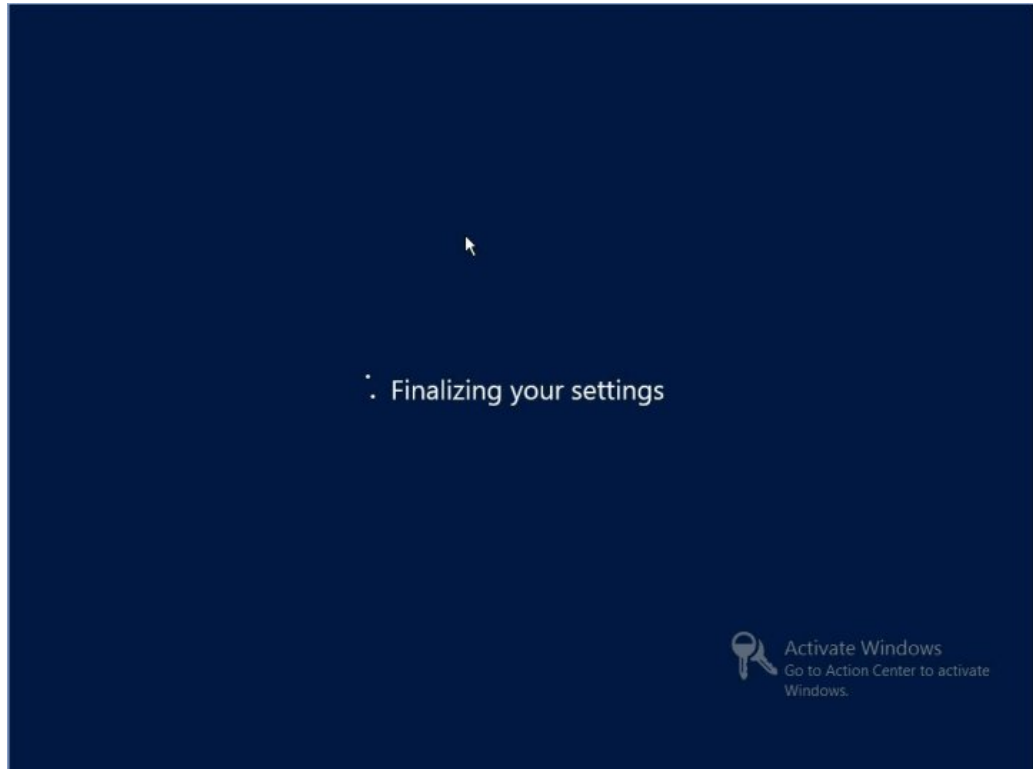
After the devices are configured, the system reboots again and the Settings screen appears.



16. **Enter the Administrator user name and password, then click Finish.**

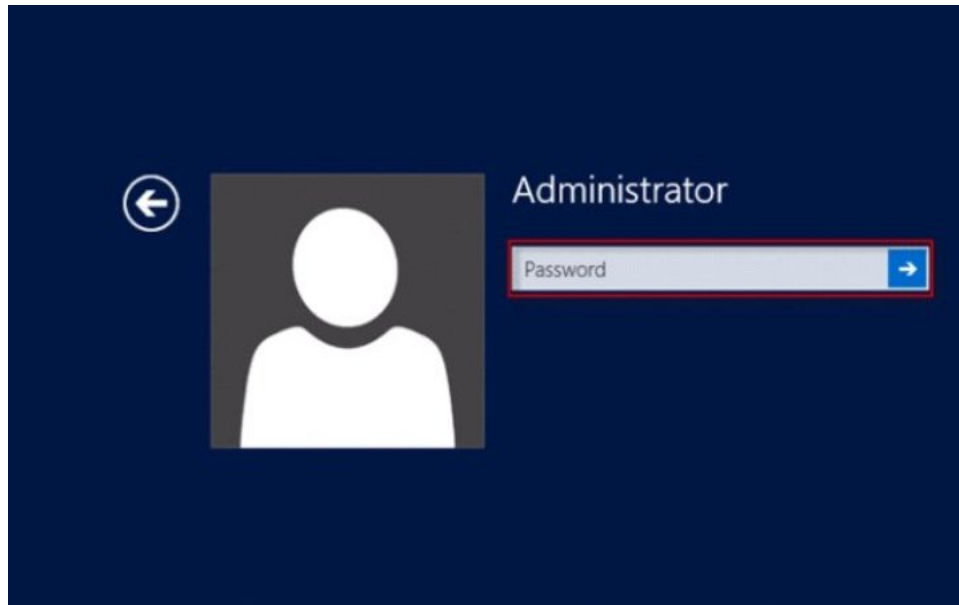
The Finalizing Your Settings screen appears.

This screen indicates that the Windows OS has been installed.



17. After the installation completes, type **Ctrl+Alt+Delete** to log in.

The Administrator login screen appears.



18. **Enter the Administrator password, then click the arrow to log in.**

The Windows Server desktop appears.

This completes the installation.

19. **Proceed to [“Post Installation Tasks for Windows Server” on page 63](#) and perform the post installation tasks.**

These post installation tasks add Oracle OEM software and upgrade operating system drivers (if needed).

▼ **Install Windows Server 2012 or 2012 R2 Using PXE Network Boot**

This section explains the initial information you will need and provides the instructions you need to follow to install the Windows Server 2012 or 2012 R2 operating system over an

established PXE-based network using a customer-provided Windows Imaging Format (WIM) image.

Note - This task documents the initial steps to install Windows Server over the network using Windows Deployment Services (WDS). Specifically, it explains the steps for selecting the PXE network adapter card that will communicate with your WDS installation server. For further information about using WDS to install Windows Server 2012 or 2012 R2, refer to Microsoft's Windows Deployment Services documentation.

Before You Begin To use WDS to perform the installation, you must:

- Add the required system device drivers to the `install.wim` image and, if necessary, the `boot.wim` image.

For instructions for adding drivers to the WIM installation image(s), see the Microsoft Windows Deployment Services, and Windows Assessment and Deployment Kit documentation.

- Obtain a WDS user account and password to authenticate to the PXE service.

1. Ensure Windows WDS is properly configured and the Windows Server 2012 and 2012 R2 WIM images are ready for PXE installations.

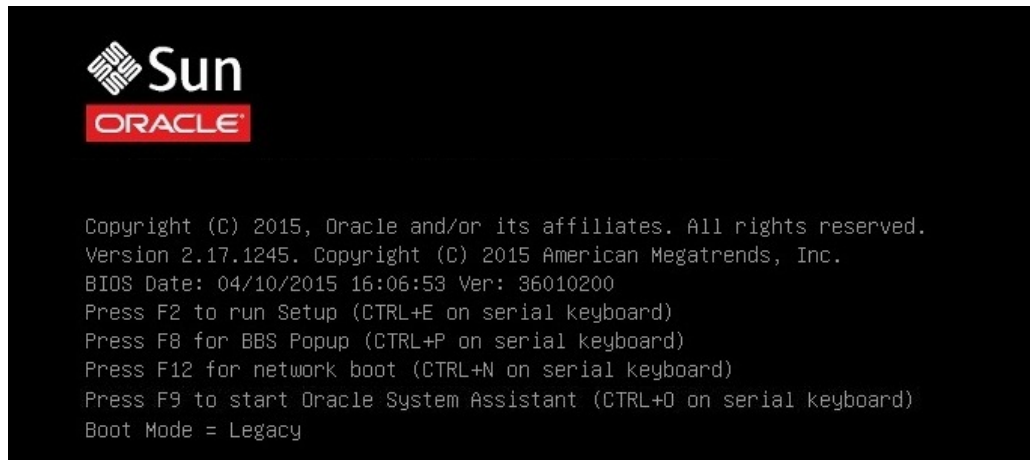
Ensure that the PXE network environment is properly set up and the Windows installation media is available for PXE boot.

2. Reset the server.

For example, to reset the server:

- **From the local server**, press the Power button (approximately 1 second) on the front panel of the server to power off the server, then press the Power button again to power on the server.
- **From the Oracle ILOM web interface**, click Host Management → Power Control, select Reset from the Select Action list box, then click Save.
- **From the Oracle ILOM CLI**, type: `reset /System`

The server begins the boot process and the BIOS screen appears in the Oracle ILOM Remote System Console Plus application.



Note - The next event occurs very quickly; therefore, focused attention is needed for the following steps. Watch carefully for these messages as they appear on the screen for a brief time. You might want to enlarge the size of your screen to eliminate scroll bars.

3. To verify PXE boot support is enabled, perform the following steps:

Note - PXE boot support is enabled by default; however, this step directs you to verify that PXE boot is enabled in the event that it was disabled. Once you have verified that PXE boot support is enabled, you can omit this step on subsequent PXE boots.

a. Press the F2 key to access the BIOS Setup Utility.

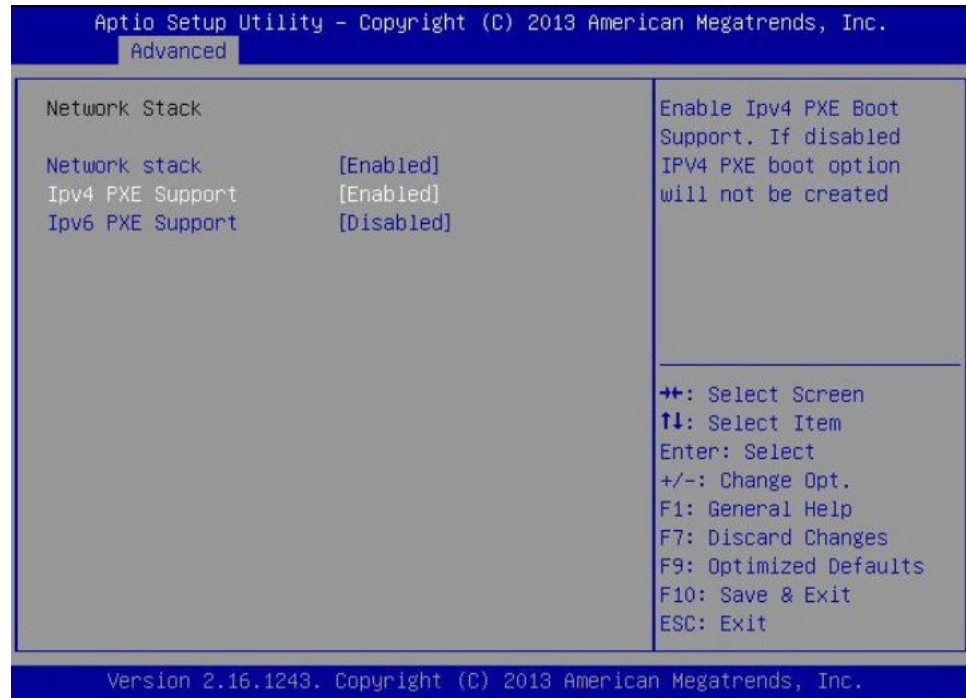
The BIOS Setup Utility appears.

b. Select Advanced in the top menu bar.

The BIOS Setup Utility Advanced screen appears.

c. Select Network Stack from the list of available options.

The BIOS Setup Utility Network Stack screen appears.



d. If necessary, set the appropriate PXE Support setting (either IPv4 or IPv6) to Enabled.

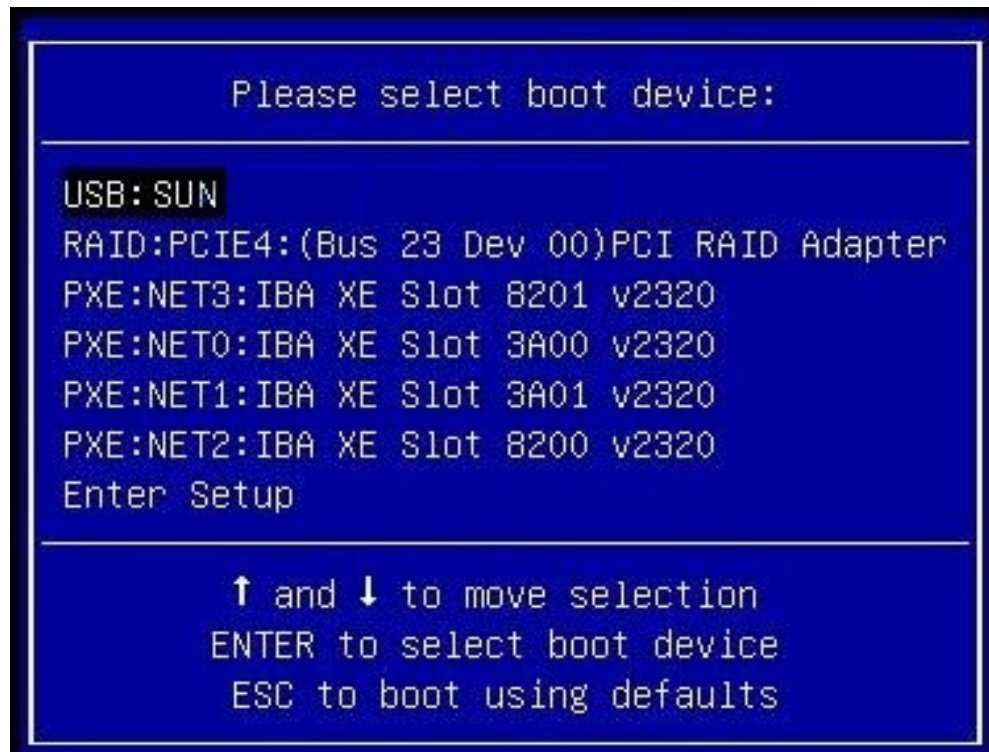
e. To save the changes and exit the BIOS Setup Utility, press the F10 key.

The server resets. After resetting, the BIOS screen appears again.

4. In the BIOS screen, press the F8 key to specify a temporary boot device or press F12 to network boot (PXE).

The Please Select Boot Device menu appears listing the available boot devices. The screen that appears will differ depending on whether you have BIOS configured for Legacy BIOS Boot Mode or UEFI Boot Mode.

- For Legacy BIOS Boot Mode, a screen similar to the following appears:



- For UEFI Boot Mode, a screen similar to the following appears:



Note - The boot device menu that appears in your installation might differ depending on the type of disk controller installed in your server.

For UEFI boot mode, both IPv4 and IPv6 protocols are selectable for each network adapter interface, in addition to local and remote boot devices.

5. **In the Please Select Boot Device menu, select the server network adapter that is configured to communicate with your PXE network install server.**

The network bootloader loads and a boot prompt appears. After a few seconds the installation kernel will begin to load.

6. **To complete the installation, refer to [Step 5 of “Install Windows Server 2012 or 2012 R2 Manually Using Local or Remote Media” on page 37.](#)**

Post Installation Tasks for Windows Server

Note - The procedures in this section assume that you have installed the Microsoft Windows Server operating system using the manual procedure, that is, you did not use Oracle System Assistant. If you used Oracle System Assistant to install your operating system, you can skip this section because Oracle System Assistant automatically performs these post installation tasks for you.

After completing a manual installation of Windows Server 2012 or 2012 R2 and rebooting the server, you should review the following post installation tasks and, if necessary, perform the tasks that are applicable to your server.

Description	Link
About Supplemental Software.	“Supplemental Software Component Options” on page 63
Install device drivers and supplemental software.	“Manually Installing Device Drivers and Supplemental Software” on page 64
Configure NIC teaming.	“Configuring Intel NIC Teaming” on page 66

Supplemental Software Component Options

Oracle System Assistant provides an application, called `InstallPack` to install platform Supplemental Software components. `InstallPack` has two options to install Supplemental software:

- **Typical** – Installs all Supplemental Software applicable for your server.
- **Custom** – Installs only the Supplement Software selected for installation.

The following table identifies the optional Supplemental Software components.

TABLE 2 Optional Supplemental Software

Available Supplemental Software Components	Integrated RAID Controller
Qlogic Drivers Installs Qlogic drivers (FC, FCoE, NIC, iSCSI) using a wizard.	Typical
Emulex Drivers Installs Emulex drivers (FC, FCoE, NIC, iSCSI) using a wizard.	Typical
Oracle Hardware Management Pack Oracle Hardware Management Pack provides tools to help you manage and configure your server. It enables you to: ■ Use a management agent at the operating system level to enable in-band monitoring of your server hardware over Simple Network Management Protocol (SNMP). You can use this information to integrate your server into your data center management infrastructure. ■ Use a management agent to enable in-band monitoring of your server's storage devices, including RAID arrays. You can view this information from the Oracle Integrated Lights Out Manager (ILOM) web interface or command-line interface (CLI). ■ Use a BIOS configuration tool, which runs on the host operating system and configures the host BIOS CMOS settings, host boot order, and some service processor (SP) settings. ■ Use IPMITool to access the server's service processor via the IPMI protocol and perform management tasks.	Custom
Intel Network Connections PROSet for Windows Enables additional network features, including NIC Teaming.	Typical
LSI MegaRAID StorCLI Enables you to configure, monitor, and maintain RAID on the SAS 3 internal RAID host bus adapter (HBA).	Typical
LSI MegaRAID Storage Manager for Windows Enables you to configure, monitor, and maintain RAID on the SAS 3 internal RAID host bus adapter (HBA).	Typical
Intel Chipset Software Installation Utility Automatically tells you if you need to update your chipset INF files and prompts you to install the files.	Typical

Manually Installing Device Drivers and Supplemental Software

The InstallPack application provides an installation wizard for manually installing platform-specific device drivers and supplemental software. This application is included in Oracle System Assistant and is also available for download from My Oracle Support. For download instructions, refer to [“Getting Server Firmware and Software” in Oracle Server X5-8 Installation Guide](#).

If your server is equipped with Oracle System Assistant and you used it to install the operating system, then the required platform-specific device drivers and supplemental software are installed for you. Otherwise, use `InstallPack`, which is included in the OS (operating system) Pack, to install the platform-specific device drivers and supplemental software. For instructions on obtaining the OS Pack, refer to [“Getting Server Firmware and Software” in Oracle Server X5-8 Installation Guide](#).

If you installed Windows without Oracle System Assistant, browse to the Oracle System Assistant USB device and select the Windows operating system/installer directory. Double-click the `InstallPack` installation wizard to manually install the platform supplemental software and drivers. See [“Install Server-Specific Device Drivers and Supplemental Software” on page 65](#).

The following procedure describes how to use `InstallPack` to install the device drivers and supplemental software.

- [“Install Server-Specific Device Drivers and Supplemental Software” on page 65](#)

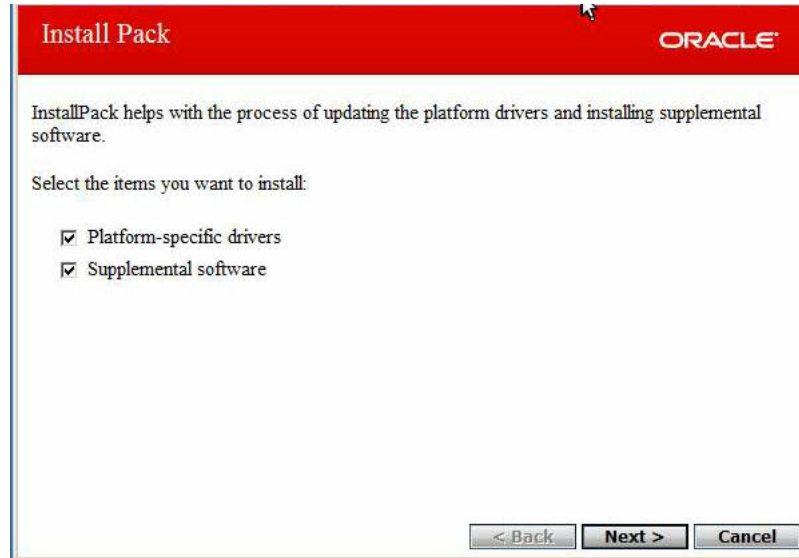
Related Information

- [“Supplemental Software Component Options” on page 63](#)

▼ Install Server-Specific Device Drivers and Supplemental Software

1. Click on the Install Pack wizard executable: `InstallPack.hta`.

The Install Pack dialog appears.



2. **In the Install Pack dialog, click Next to accept the default installable items.**

Note - You should always accept the “default installable items” to ensure that the most recent versions of the drivers are installed.

The Install Pack notice dialog appears.

3. **Follow the on-screen prompts to complete the installation of the device drivers and supplemental software.**

Configuring Intel NIC Teaming

For more information on setting up Intel NIC teaming for your environment, refer to the Intel Connectivity web page on Advanced Networking Services Teaming at:

<http://www.intel.com/support/network/sb/CS-009747.htm>

Additionally, you can download the complete set of Intel Network Connections User Guides for your server's network adapters at:

<http://www.intel.com/support/network/sb/cs-009715.htm>

Index

B

BIOS

- setting the boot mode
 - Windows OS, 26
- verification of optimized defaults settings
 - Windows OS, 26

boot media

- requirements
 - Windows OS, 14

boot media option

- selecting
 - Windows OS, 14

C

configuration

- Intel NIC teaming
 - Windows OS, 66
- RAID
 - Windows OS, 29

console display options

- selecting
 - Windows OS, 12

D

device drivers

- loading instructions
 - Windows OS, 11
- SAS PCIe HBAs requiring drivers, 11

H

Hardware Management Pack, 64

I

install boot media, 14

installation

manual

- Windows OS, 23

options

- Windows OS, 21

Oracle Enterprise Manager Ops Center

- Windows OS, 21

Oracle System Assistant

- Windows OS, 23

selecting installation type

- Windows OS, 45

selecting language

- Windows OS, 42

selecting specific operating system

- Windows OS, 42

single server

- Windows OS, 21, 22

task map

- Windows OS, 9

using local or remote media , 37

using media

- Windows OS, 36

using Oracle System Assistant

- Windows OS, 32

using PXE network boot

- Windows OS, 57

installation methods

- boot media options, 14

- installation target
 - options, 20
 - setting up Fibre Channel storage area network (SAN) device
 - Windows OS, 21
 - setting up local storage drive
 - Windows OS, 21
- installation target option selecting
 - Windows OS, 20
- installing operating system
 - overview, 9
 - supported operating systems, 10
- InstallPack
 - installing supplemental software
 - Windows OS, 64
- Intel NIC teaming configuration
 - post installation , 66
- ISO images
 - Windows OS, 37

L

- local boot media
 - requirements
 - Windows OS, 15
 - setting up, 15
- local console
 - setting up
 - Windows OS, 12
- LSI MegaRAID Storage Manager
 - Windows OS, 64

O

- overview of operating system installation, 9

P

- post installation
 - configuring Intel NIC teaming
 - Windows OS, 66

- installing device drivers
 - Windows OS, 64
- installing supplemental software
 - Windows OS, 63, 64
- tasks overview
 - Windows OS, 63
- PXE installation
 - Windows OS, 58

R

- RAID
 - configuring
 - Windows OS, 29
- remote boot media
 - requirements
 - windows OS, 15
 - setting up
 - Windows OS, 16
- remote console
 - setting up
 - Windows OS, 13

S

- server, resetting power, 58
- software
 - installation options, 21
- supplemental software
 - Hardware Management Pack
 - Windows OS, 64
 - installing
 - Windows OS, 64
 - LSI MegaRAID Storage Manager
 - Windows OS, 64
- supplemental software options
 - Windows OS, 63
- supported operating systems, 10
 - Windows OS, 10

T

- task map

installation
 Windows OS, 9

U

UEFI
 setting up
 Windows OS, 25

W

windows deployment services
 Windows OS, 23
Windows OS
 ISO images, 37
 supported operating systems, 10
Windows Server 2012
 media installation, 33, 37

