

# Sun Server X4-4 Installation Guide for Oracle® VM Server

ORACLE®

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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 Oracle VM Software Installation

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This section describes the Oracle VM software and installation options.

Description	Link
View a high-level overview of the Oracle VM installation tasks.	<a href="#">“Oracle VM Installation Task Table” on page 11</a>
Learn about the Oracle VM software.	<a href="#">“Oracle VM Overview” on page 12</a>
Decide which installation method to use.	<a href="#">“Oracle VM Installation Options” on page 13</a>
Learn about Oracle System Assistant.	<a href="#">“Oracle System Assistant” on page 14</a>

## Oracle VM Installation Task Table

The following table describes the high-level procedures for installing Oracle VM software.

Step	Task	Link
1	<b>Learn</b> about the Oracle VM server.	<a href="#">“Oracle VM Overview” on page 12</a>
2	Learn about the Oracle VM server <b>installation options</b> .	<a href="#">“Oracle VM Installation Options” on page 13</a>
3	<b>Prepare</b> the server for Oracle VM server installation.	<a href="#">“Preparing for Oracle VM Server Installation” on page 17</a>
4	<b>Install</b> Oracle VM software using one of the available options.	<a href="#">“Installing Oracle VM Server ” on page 23</a>
5	<b>Update</b> Oracle VM software and manage Oracle VM services.	<a href="#">“Completing the Oracle VM Installation” on page 33</a>

## Oracle VM Overview

Oracle VM is a virtualization environment platform that enables you to create and manage virtual machines (VMs). These virtual machines exist on the same physical server but behave like independent physical servers. Each virtual machine created with Oracle VM has its own virtual CPUs, operating system, network interfaces, and storage.

At initial release, your server is compatible with Oracle VM version 3.2.7.

For the latest list of supported operating systems, refer to:

<https://wikis.oracle.com/display/SystemsComm/Sun+Server+X4-4#tab:Operating-Systems>

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**Note** - If you purchased a pre-installed version of Oracle VM, follow the instructions [Sun Server X4-4 Installation Guide](#) for configuring the preinstalled software.

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Oracle VM includes the following components:

- **Oracle VM Server:** A lightweight, secure virtualization environment based on the Xen hypervisor used to run virtual machines and the Oracle VM Agent.
- **Oracle VM Agent:** Installed on Oracle VM Server, it communicates with Oracle VM Manager and includes a Web Services API for managing the Oracle VM Server, server pools, and resources.
- **Oracle VM Manager:** A web application that acts as the user interface for creating and managing your virtual machines. This includes virtual machine creation (including templates), life cycle management (deploying, migrating, and deleting), and resource management (.iso files, templates, and shared storage resources).

This document does not include instructions for installing Oracle VM Manager. For more information on Oracle VM Manager, refer to:

[http://download.oracle.com/docs/cd/E20065\\_01/index.htm](http://download.oracle.com/docs/cd/E20065_01/index.htm)

## Supported Software Versions and Updates

The most up-to-date information about your server is maintained in the [Sun Server X4-4 Product Notes](#). The product notes document contains detailed information about any hardware or software issues for the server. The most recent version of this document, other server-specific documents, and related documents are available online in the server documentation library at:

<http://www.oracle.com/goto/X4-4/docs>

### Related Information

- [“Oracle VM Installation Options” on page 13](#)
- [“Installing Oracle VM Server ” on page 23](#)

## Oracle VM Installation Options

You can install the Oracle VM software on a single server or on multiple servers. The scope of this document is for single-server software installations.

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**Note** - Oracle Enterprise Manager Ops Center can be used for multiple server software installations. For information about using Oracle Enterprise Manager Ops Center, refer to <http://www.oracle.com/technetwork/oem/ops-center/index.html>

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### Single-Server Installation Methods

The following table lists the available single-server installation methods. Instructions for each installation method are available in [“Installing Oracle VM Server ” on page 23](#).

Media Delivery Method	Description	Additional Requirements
<b>Local assisted OS installation</b>	Uses Oracle System Assistant.	Monitor, USB keyboard and mouse, USB device, and Oracle VM distribution media. For more information, see <a href="#">“Oracle System Assistant” on page 14</a> .
<b>Remote assisted OS installation</b>	Uses Oracle System Assistant.	Network access to Oracle ILOM to launch OSA from a remote client, Oracle VM distribution media (remote client accessible DVD or ISO image). For more information, see <a href="#">“Oracle System Assistant” on page 14</a> .
<b>Local using a CD/DVD drive</b>	Uses a physical CD/DVD drive connected to the server.	Monitor, USB keyboard and mouse, a USB CD/DVD drive, and Oracle VM distribution media.
<b>Remote 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 application.	Remote system with a browser, attached physical CD/DVD drive, Oracle VM distribution media, and network access to the server's management port.
<b>PXE image</b>	Uses an image of the OS installed on a PXE server.	PXE server with the OS image installed.

### **Related Information**

- [“Oracle VM Overview” on page 12](#)
- [“Installing Oracle VM Server ” on page 23](#)

## **Oracle System Assistant**

- [“Oracle System Assistant Overview” on page 14](#)
- [“Oracle System Assistant OS Installation Task” on page 14](#)
- [“Obtaining Oracle System Assistant” on page 15](#)

## **Oracle System Assistant Overview**

Oracle System Assistant is a startup and maintenance application, which you can use to install Oracle VM software. In addition to installing Oracle VM software and other operating systems, Oracle System Assistant enables you to set up and update your server. Oracle System Assistant also includes:

- Oracle Hardware Management Pack
- Oracle Linux command-line environment
- Operating system drivers and tools
- Server-specific firmware
- Server-related documentation

### **Related Information**

- [“Oracle System Assistant OS Installation Task” on page 14](#)
- [“Obtaining Oracle System Assistant” on page 15](#)

## **Oracle System Assistant OS Installation Task**

Use the Install OS task in Oracle System Assistant to install Oracle VM. You supply the OS installation media, and Oracle System Assistant guides you through the installation process. It then fetches the appropriate drivers based on the server hardware configuration.

You can use Oracle System Assistant to update the OS drivers as well as all the firmware components (BIOS, Oracle ILOM, HBAs, and expanders).

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

**Related Information**

- [“Oracle System Assistant Overview” on page 14](#)
- [“Obtaining Oracle System Assistant” on page 15](#)

## Obtaining Oracle System Assistant

Oracle System Assistant is a factory-installed option. For information about how to determine whether your server has Oracle System Assistant, refer to the *Getting Started Guide* that is shipped with your server or the *Oracle x4 Series Servers Administration Guide* at <http://www.oracle.com/goto/x86AdminDiag/docs>.

**Related Information**

- [“Oracle System Assistant Overview” on page 14](#)
- [“Oracle System Assistant OS Installation Task” on page 14](#)





# Preparing for Oracle VM Server Installation

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**Note** - If you have a server with preinstalled Oracle VM, and you want to use the preinstalled version, refer to the [Sun Server X4-4 Installation Guide](#) for configuration instructions.

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These topics describe the tasks needed to prepare the server for Oracle VM server installation.

Description	Links
Prepare the installation environment for local, remote, or PXE installation.	<a href="#">“Preparing the Installation Environment” on page 17</a>
(Optional) Create a virtual disk.	<a href="#">“Creating a Virtual Disk” on page 19</a>
(Optional) Load Optimal BIOS default settings.	<a href="#">“Load BIOS Optimal Default Settings” on page 19</a>
(Optional) Set the BIOS boot mode.	<a href="#">“Set the BIOS Boot Mode” on page 20</a>

## Preparing the Installation Environment

Choose the procedure that matches the installation method that you plan to use.

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

### ▼ Set Up the Local Console

1. Review the [Sun Server X4-4 Product Notes](#) for the Sun Server X4-4 and Oracle VM software.
  - The Sun Server X4-4 documentation is available at:  
<http://www.oracle.com/goto/X4-4/docs>

- The Oracle VM software documentation is available at:  
<http://www.oracle.com/technetwork/documentation/vm-096300.html>
- 2. **Download Oracle VM software from <https://edelivery.oracle.com/oraclevm>.**
- 3. **Create a CD/DVD using the downloaded .iso image.**
- 4. **Connect the following to the server:**
  - USB DVD-ROM drive (if the server does not have one built-in)
  - USB keyboard and mouse
  - Monitor

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**Note** - While you are configuring an operating system for a networked server, it might be necessary to provide the logical names (assigned by the OS) and the physical name (MAC address) of each network interface on the Oracle VM server.

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- Next Steps**
- [“Creating a Virtual Disk” on page 19](#)
  - [“Set the BIOS Boot Mode” on page 20](#)

## ▼ Set Up for Remote Console or PXE Installation

In this procedure, *local server* describes the server on which you plan to install Oracle VM Server or Oracle VM Manager, *remote console* describes a remote client connected to the local server through the Oracle ILOM Remote Console feature, and *PXE server* describes a server on which you will install a PXE image to install to the local server.

1. **Review the release notes for the Sun Server X4-4 and Oracle VM software.**
  - The Sun Server X4-4 documentation is available at:  
<http://www.oracle.com/goto/X4-4/docs>
  - The Oracle VM software documentation is available at:  
<http://www.oracle.com/technetwork/documentation/vm-096300.html>
2. **Download Oracle VM software from <http://www.oracle.com/virtualization>.**
3. **If using a remote console, connect the following to the remote client. If using a PXE server, connect the following to the local server:**

- 
- DVD-ROM drive (if installing from media)
  - USB keyboard and mouse
  - Monitor

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**Note** - While you are configuring an operating system for a networked server, you might need to provide the logical names (assigned by the OS) and the physical name (MAC address) of each network interface on the Oracle VM Server.

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4. **If using a remote console, launch an Oracle ILOM Remote Console session following the instructions in the “[Log In to Oracle ILOM Using a Remote Ethernet Connection](#)” in *Sun Server X4-4 Installation Guide* .**

- Next Steps**
- “[Creating a Virtual Disk](#)” on page 19
  - “[Set the BIOS Boot Mode](#)” on page 20

## Creating a Virtual Disk

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**Note** - If you have a Sun Storage 6 Gb SAS PCIe Internal HBA (SGX-SAS6-INT-Z), you do *not* need to do this.

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If you have a Sun Storage 6 Gb SAS PCIe **RAID** Internal HBA (SGX-SAS6-**R**-INT-Z), you must create a virtual disk before installing the Oracle VM software. Refer to “[Configure Server Drives for OS Installation](#)” in *Sun Server X4-4 Installation Guide* .

### Next Steps

- “[Load BIOS Optimal Default Settings](#)” on page 19
- “[Set the BIOS Boot Mode](#)” on page 20

## ▼ Load BIOS Optimal Default Settings



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

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

- Before You Begin**
- The server is equipped with a properly installed 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 optimal 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 20](#)

## ▼ Set the BIOS Boot Mode

The BIOS firmware supports both **legacy** and Unified Extensible Firmware Interface (UEFI) boot modes. The **default** setting is legacy boot mode.

Oracle VM supports **legacy** boot mode only at this time.

- If you have **not** changed the BIOS boot mode from the default, you can skip this procedure.
- If you have changed the BIOS boot mode to UEFI boot mode, use the following procedure to set it to legacy boot mode.

**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 screen.**

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

**Next Steps** ■ [“Installing Oracle VM Server ” on page 23](#)



# Installing Oracle VM Server

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Step	Description	Link
1	Install Oracle VM Server using Oracle System Assistant.	<a href="#">“Install Oracle VM Server (Oracle System Assistant)” on page 23</a>
2	Install Oracle VM Server using manual local or remote installation methods.	<a href="#">“Installing Oracle VM Server (Manually)” on page 27</a>

## ▼ Install Oracle VM Server (Oracle System Assistant)

The Oracle System Assistant Install OS task provides assisted OS installation of supported versions of Oracle VM Server.

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**Note** - Screen shots are examples only; your screens might differ slightly.

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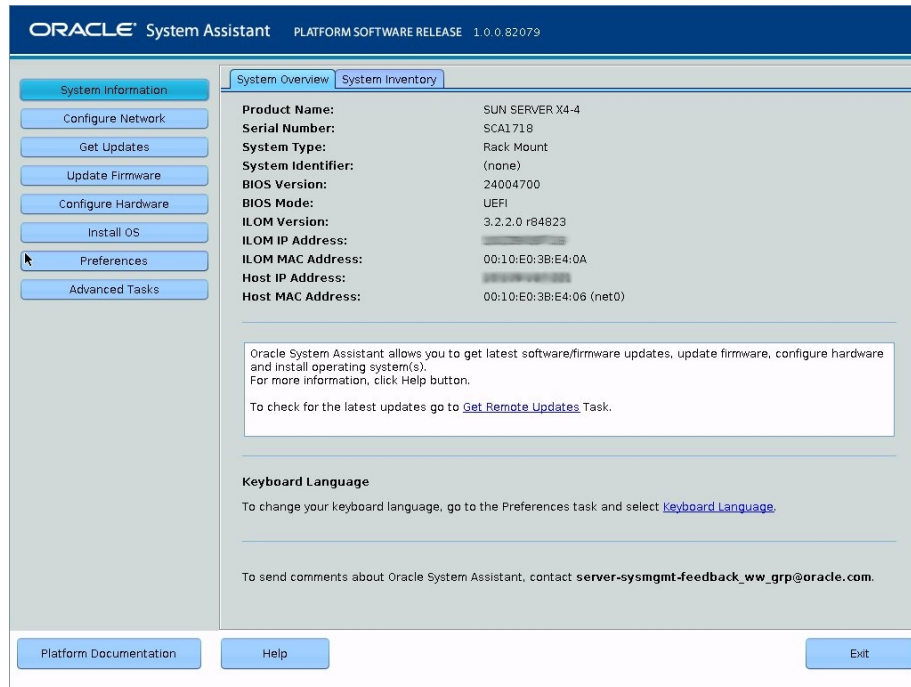
### Before You Begin

- Perform the steps in [“Preparing for Oracle VM Server Installation” on page 17](#).
  - If you are using Oracle System Assistant for the first time, you need to set up network access. Refer to the [Oracle X4 Series Servers Administration Guide \(http://www.oracle.com/goto/x86AdminDiag/docs\)](http://www.oracle.com/goto/x86AdminDiag/docs).
  - For **local** installation, have the installation media available to insert into the attached physical CD/DVD-ROM drive when prompted.
  - For **remote** installation, insert the installation media in the CD/DVD-ROM drive of the remote console system. Make sure you have selected CD-ROM from the Oracle ILOM Remote Console Device menu.
  - If you are using an **.iso image**, ensure that it is accessible from the remote console system. Make sure you have selected **CD-ROM Image** from the Oracle ILOM Remote Console Device menu.
1. **Ensure that the server is in standby power mode.**
  2. **Boot the server and watch the video monitor or Remote Console screen for the prompt to press the F9 key.**

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

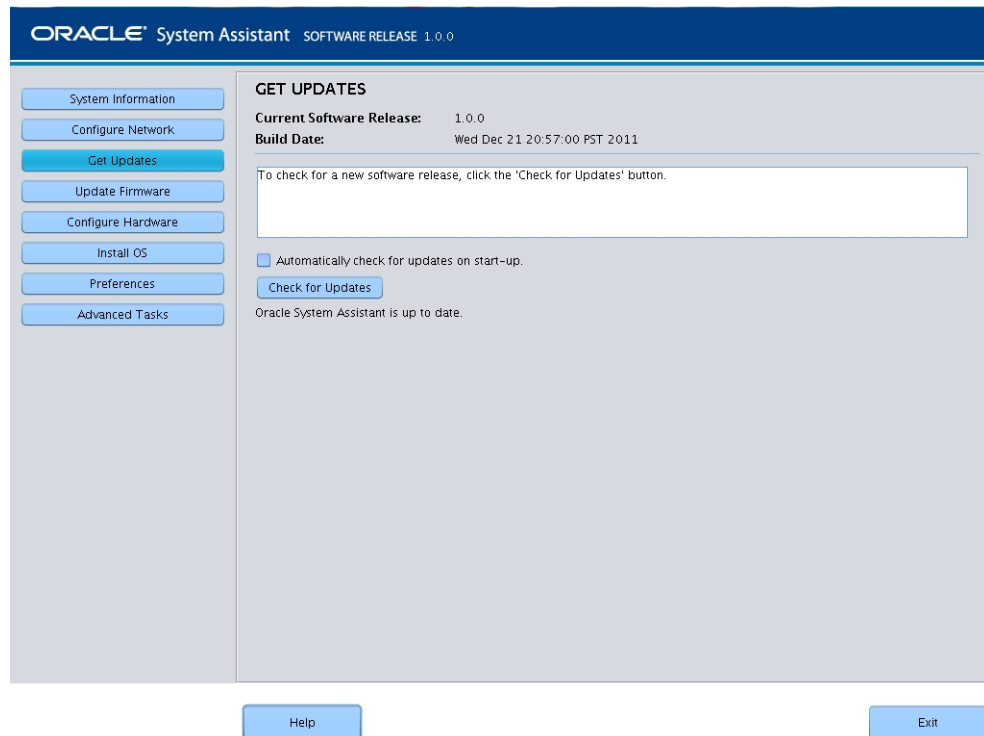
The Oracle System Assistant main screen appears.

**Note** - It might take a while for Oracle System Assistant to boot, especially, if you are accessing the server remotely.



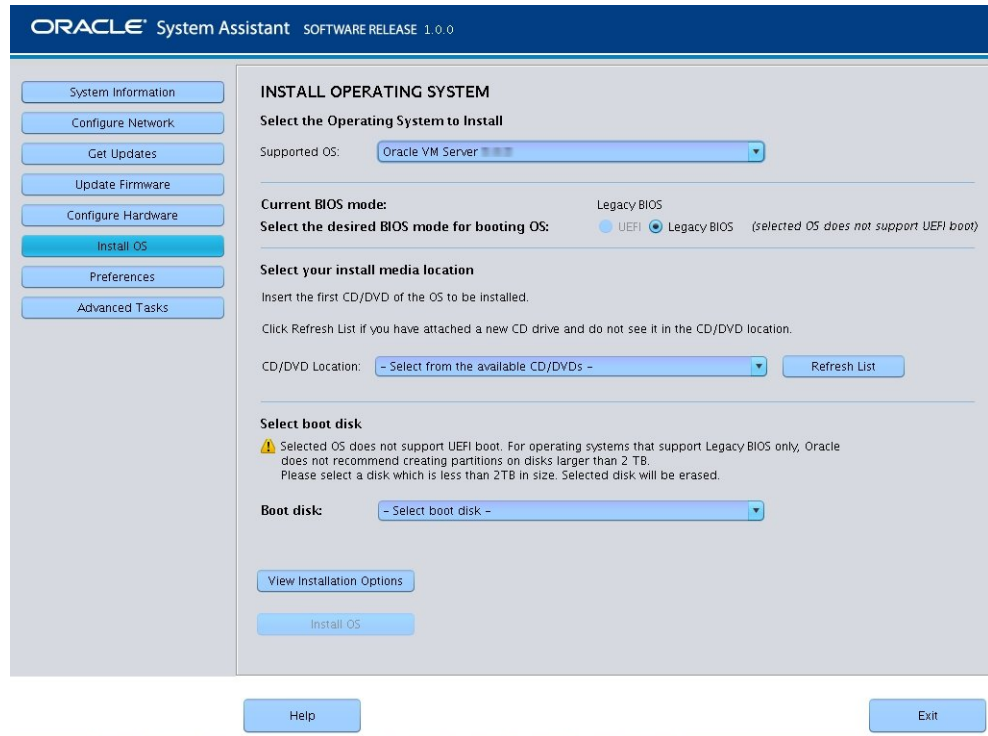


4. To make sure that you have the latest software pack, click the **Get Updates** button.



5. Click the **Check for Updates** button to see if there are firmware and software updates available.  
If the system has the latest software update, a message appears stating that Oracle System Assistant is up to date.
6. If there are updates, click **Update Firmware**.
7. To install the OS, click the **Install OS** button on the navigation bar on the left.

The Install OS screen appears.



8. **From the Supported OS drop-down list, select the correct version of the Oracle VM Server.**

9. **Indicate the location of the OS installation media in the Select the media location section.**

If you are using the Remote Console for the installation, select the location of the remote media in the Devices drop-down menu.

10. **In the Select boot disk section, select the boot device from the Boot disk list.**

This is the device on which you install the OS.



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

11. **Click the Install OS button at the bottom of the screen.**
12. **Follow the prompts until the installation is finished.**  
The server boots.

- Next Steps**
- Install Oracle VM Manager, if needed. Refer to:  
[http://download.oracle.com/docs/cd/E20065\\_01/index.htm](http://download.oracle.com/docs/cd/E20065_01/index.htm)
  - “Completing the Oracle VM Installation” on page 33

## Installing Oracle VM Server (Manually)

If you choose not to use Oracle System Assistant to install Oracle VM Server, see one of the following procedures for instructions on installing the software manually:

- “Install Oracle VM Server (Local or Remote Media)” on page 27
- “Installing Oracle VM Server (PXE Server)” on page 29

### ▼ Install Oracle VM Server (Local or Remote Media)

**Before You Begin** Follow the instructions in “Preparing for Oracle VM Server Installation” on page 17.

1. **If not done already, insert your Oracle VM Server distribution CD/DVD, or access the .iso image distribution media for the method you chose in “Preparing the Installation Environment” on page 17.**
2. **Power on or reset the server. The following are different examples of how to reset the server:**
  - **From the Oracle ILOM web interface**, click Host Management > Power Control, and then from the Action list, select Reset.
  - **From the Oracle local server**, press and release the Power button (approximately one 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 CLI on the server SP**, type: `reset /System`.

---

**Note** - The next events occur 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.

---

BIOS messages appear on the console.

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

**3. In the BIOS screen, press F8 to specify a temporary boot device.**

After a delay, a menu offers a selection of boot devices.

**4. Select a boot device from the list.**

You can boot from either a physical CD/DVD or from a virtual CD/DVD when using an .iso image.

Control passes to the OS installation program on the media.

**5. At the boot prompt, press Enter.**

**6. Follow the prompts to install the software.**

Oracle VM Server and Oracle VM Agent software are installed.

For additional information, refer to the Oracle VM Server installation documentation at:

[http://download.oracle.com/docs/cd/E20065\\_01/index.htm](http://download.oracle.com/docs/cd/E20065_01/index.htm)

**7. Complete the Oracle VM installation. See “[Completing the Oracle VM Installation](#)” on page 33.**

- Next Steps**
- Install Oracle VM Manager, if needed. Refer to:  
[http://download.oracle.com/docs/cd/E20065\\_01/index.htm](http://download.oracle.com/docs/cd/E20065_01/index.htm)
  - “[Completing the Oracle VM Installation](#)” on page 33

## Installing Oracle VM Server (PXE Server)

This section describes how to install Oracle VM Server from a PXE network environment. The following topics are covered in this section:

- [“PXE Server Installation Requirements” on page 29](#)
- [“Install Oracle VM Server \(PXE Server\)” on page 30](#)

### PXE Server Installation Requirements

The following procedures assume that you are booting the installation media from one of the following sources:

- Oracle VM distribution media in a connected internal or external CD/DVD drive
- Oracle VM .iso image or KickStart image (network repository)

The following requirements must be met before you perform the Oracle VM PXE installation:

---

**Note** - KickStart is an automated installation tool. It enables a system administrator to create a single image containing the settings for some or all installation and configuration parameters that are normally provided during a typical Oracle VM installation. Typically, a KickStart image is placed on a single network server and read by multiple systems for installation.

---

- If you are using a KickStart image to perform the installation, you must:
  - Create a KickStart file.
  - Create the boot media with the KickStart file or make the KickStart file available on the network.
- To use PXE to boot the installation media over the network, you must:
  - Configure the network (NFS, FTP, HTTP) server to export the installation tree.
  - Configure the files on the TFTP server necessary for PXE booting.
  - Configure the server MAC network port address to boot from the PXE configuration.
  - Configure the Dynamic Host Configuration Protocol (DHCP).
- If you have a large-memory system, you might need to set the `dom0_mem` parameter. See [“Increasing dom0\\_mem for Large-Memory Systems” on page 33](#).

## ▼ Install Oracle VM Server (PXE Server)

1. **Ensure that the PXE network environment is properly set up and the Oracle VM installation media is available for PXE boot.**
2. **Power on or reset the server. The following are different examples of how to reset the server:**
  - **From the Oracle ILOM web interface**, click Host Management > Power Control, and then from the Action list, select Reset.
  - **From the Oracle local server**, press and release the Power button (approximately one 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 CLI on the server SP**, type: `reset /System`.

---

**Note** - The next events occur 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.

---

BIOS messages appear on the console.

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

3. **In the BIOS screen, press F8 to specify a temporary boot device.**

The "Please select boot device" menu appears, listing the available boot devices.
4. **In the boot device menu, select the network port that is configured to communicate with your PXE network install server.**

The network bootloader starts, and a boot prompt appears to allow you to choose the PXE server to install from. After a few seconds, the installation kernel begins to load.
5. **Follow the prompts to install the software.**

Oracle VM server is installed.

**6. Update the Oracle VM drivers. See “Install Specific Oracle VM Drivers” on page 34.**

- Next Steps**
- Install Oracle VM Manager, if needed. Refer to:  
<http://www.oracle.com/technetwork/documentation/vm-096300.html>
  - “Completing the Oracle VM Installation” on page 33





# Completing the Oracle VM Installation

---

The following topics describe how to complete the Oracle VM software installation:

Task	Link
Increase dom0_mem Parameter for Large-Memory Systems.	<a href="#">“Increasing dom0_mem for Large-Memory Systems” on page 33</a>
Install server system tools.	<a href="#">“Access Oracle Hardware Management Pack” on page 34</a>
Update specific drivers manually.	<a href="#">“Install Specific Oracle VM Drivers” on page 34</a>
Learn about creating and managing Oracle VM resources.	<a href="#">“Creating and Managing Oracle VM Resources” on page 35</a>

## Increasing dom0\_mem for Large-Memory Systems

If you install Oracle VM from the .iso image or by using Oracle System Assistant, dom0\_mem should be set correctly. If you install the Oracle VM software from PXE boot or some other customized environment and you have a large-memory system, you might need to set dom0\_mem.

Use this formula:

$$\text{dom0\_mem} = 502 + \text{int}(\text{physical\_mem\_MB} * 0.0205)$$

For example, if your system has 128 GB (131072 MB) of memory, you need to increase dom0\_mem to 3188 MB.

To increase the memory, add the text dom0\_mem=3188m to the kernel line in grub.conf. For a first-time boot, you can interrupt the boot process at the grub menu and edit the grub.conf file.

## ▼ Access Oracle Hardware Management Pack

Use this procedure to access the Oracle Hardware Management Pack from the Oracle System Assistant USB device or from the Oracle support site.

**Before You Begin** If you have Oracle System Assistant installed on your system, perform the Oracle System Assistant Get Updates task to make sure that the latest tools are available.

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

- **If your system has Oracle System Assistant installed, navigate to the Oracle System Assistant USB device from the operating system.**

The USB device is named: ORACLE\_SSM.

- **If your system does not have Oracle System Assistant installed:**

- a. **Download or copy the latest system tools and drivers from the My Oracle Support site to the server.**

Refer to “[Getting Server Firmware and Software](#)” in *Sun Server X4-4 Installation Guide* for information on how to access the system tools and drivers.

- b. **Unzip the package to extract the files.**

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

OracleVM/*version*/Tools/hmp-tools

where *version* is the version of the installed Oracle VM.

**3. To install Hardware Management Pack, refer to the Oracle Hardware Management Pack documentation at:**

<http://www.oracle.com/goto/ohmp/docs>

**Next Steps** [“Creating and Managing Oracle VM Resources” on page 35](#)

## ▼ Install Specific Oracle VM Drivers

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

- **If your system has Oracle System Assistant installed, navigate to the Oracle System Assistant USB device from the server operating system.**

The USB device is named: ORACLE\_SSM.

- **If your system does not have Oracle System Assistant installed:**
  - a. **Download or copy the latest system tools and drivers from the My Oracle Support site to the server.**  
Refer to [“Getting Server Firmware and Software” in Sun Server X4-4 Installation Guide](#) for information on how to access the system tools and drivers.
  - b. **Unzip the package to extract the files.**
- 2. **Navigate to the Oracle VM Install Pack directory:**  
`OracleVM/version/Drivers`  
where *version* is the version of the installed Oracle VM.
- 3. **Access the directory that corresponds to the drivers that you want to install.**  
Each directory contains a ReadMe file that has instructions for installing the drivers.
- 4. **Install the drivers.**
- 5. **Reboot the server.**

**Next Steps** [“Creating and Managing Oracle VM Resources” on page 35](#)

## Creating and Managing Oracle VM Resources

After installing Oracle VM Server (with Oracle VM Agent) and Oracle VM Manager, you can:

- Create a shared storage repository. For fault tolerance, you can set up multiple virtual machines in a clustered configuration using this storage. Options for your shared storage include:
  - OCFS2 (Oracle Cluster File System) using the iSCSI (Internet SCSI) network protocol
  - OCFS2 using SAN (storage area network)
  - NFS (network file system)
  - Partition with multipath failover
- Create a server pool for your virtual machines.
- Create your virtual machines in the server pool.

For detailed information, refer to the Oracle VM installation documentation.

**Related Information**

- Oracle VM documentation at:  
<http://www.oracle.com/technetwork/documentation/vm-096300.html>
- “Installing Oracle VM Server ” on page 23

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