# Sun Server X4-8 Installation Guide for Oracle® VM Server

**Part No: E40312-04**
December 2015

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**Référence: E40312-04**



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# Contents

# Using This Documentation

This section describes how to get the latest firmware, software, and documentation for Oracle's Sun Server X4-8. It also provides feedback links and a document change history.



## Sun Server X4-8 Model Naming Convention

The Sun Server X4-8 name identifies the following:

- X identifies an x86 product.
- The first number, 4, identifies the generation of the server.
- The second number, 8, identifies the number of processors.

## Getting the Latest Firmware and Software

Firmware, drivers, and other hardware-related software for your server are updated periodically.

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

- Oracle System Assistant – This is a new factory-installed option for Sun Oracle x86 servers. It has all the tools and drivers you need and resides on a USB drive installed in most servers.
- My Oracle Support – `https://support.oracle.com`

# Documentation and Feedback

| Documentation | Link |
|---|---|
| All Oracle products | https://docs.oracle.com |
| Sun Server X4-8 | http://www.oracle.com/goto/X4-8/docs |
| Oracle Integrated Lights Out Manager (ILOM). Refer to the documentation for your supported version of Oracle ILOM as listed in the *Product Notes*. | http://www.oracle.com/goto/ILOM/docs |
| Oracle Hardware Management Pack. Refer to the documentation for your supported version of Oracle HMP as listed in the *Product Notes*. | http://www.oracle.com/goto/ohmp/docs |

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

# About This Documentation

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.

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# Change History

The following lists the release history of this documentation set:

- April 2014. Initial publication.
- June 2014. Changes for product release.
- August 2015. Editorial improvements.
- December 2015. Technical updates.

# About Oracle VM Software Installation


This section describes the Oracle VM software and installation options.

| Description | Link |
|---|---|
| View a high-level overview of the Oracle VM installation tasks. | “Oracle VM Installation Task Table” on page 9 |
| Learn about the Oracle VM software. | “Oracle VM Overview” on page 10 |
| Decide which installation method to use. | “Oracle VM Installation Options” on page 11 |
| Learn about Oracle System Assistant. | “Oracle System Assistant” on page 12 |

## Oracle VM Installation Task Table

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

| Step | Description | Link |
|---|---|---|
| 1 | **Learn** about the Oracle VM server. | “Oracle VM Overview” on page 10 |
| 2 | Learn about the Oracle VM server **installation options**. | “Oracle VM Installation Options” on page 11 |
| 3 | **Prepare** the server for Oracle VM server installation. | “Preparing for Oracle VM Server Installation” on page 15 |
| 4 | **Install** Oracle VM software using one of the available options. | “Installing Oracle VM Server ” on page 21 |
| 5 | **Update** Oracle VM software and manage Oracle VM services. | “Completing the Oracle VM Installation” on page 29 |

# 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.

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`

# Supported Software Versions and Updates

| Description | Version |
|---|---|
| Supported Version at Initial Release | 3.2.7 |
| Additional Supported Versions | As new versions of software are added, details are published here: `http://linux.oracle.com/pls/apex/f?p=117:1:3991604960223967` |

**Note -** If you purchased a pre-installed version of Oracle VM, follow the instructions in the *Sun Server X4-8 Installation Guide* for configuring the preinstalled software.

The most up-to-date information about your server is maintained in the *Sun Server X4-8 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/X4-8/docs`

## See Also

- “Oracle VM Installation Options” on page 11
- “Installing Oracle VM Server ” on page 21

# 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.

**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`.

## 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 21.

| Media Delivery Method | Description | Additional Requirements |
|---|---|---|
| **Local assisted OS installation** | Uses Oracle System Assistant. | Monitor, USB keyboard and mouse, USB device, and Oracle VM installation media. For more information, see “Oracle System Assistant” on page 12. |
| **Remote assisted OS installation** | Uses Oracle System Assistant. | Network access to Oracle ILOM to launch OSA from a remote client, Oracle VM installation media (remote client accessible DVD or ISO image). For more information, see “Oracle System Assistant” on page 12. |
| **Local using a CD/DVD drive** | Uses a physical CD/DVD drive connected to the server. | Monitor, USB keyboard and mouse, a USB CD/DVD drive, and Oracle VM installation media. |
| **Remote using a CD/DVD drive or CD/DVD .ISO image** | Uses a redirected physical CD/DVD drive on a remote system running the Oracle ILOM Remote Console application. | Remote system with a browser, attached physical CD/DVD drive, Oracle VM installation media, and network access to the server's management port. |
| **PXE image** | Uses an image of the OS installed on a PXE server. | PXE server with the OS image installed. |

**See Also**

- “Oracle VM Overview” on page 10
- “Installing Oracle VM Server ” on page 21

# Oracle System Assistant



## 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

**See Also**

- “Oracle System Assistant OS Installation Task” on page 12
- “Obtaining Oracle System Assistant” on page 13

## 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, and host bus adapters).

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.

**See Also**

- "Oracle System Assistant Overview" on page 12
- "Obtaining Oracle System Assistant" on page 13

# 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 *Oracle x4 Series Servers Administration Guide* at `http://www.oracle.com/goto/x86AdminDiag/docs`.

**See Also**

- "Oracle System Assistant Overview" on page 12
- "Oracle System Assistant OS Installation Task" on page 12

# Preparing for Oracle VM Server Installation

**Note -** If you have a server with preinstalled Oracle VM, and you want to use the preinstalled version, refer to the *Sun Server X4-8 Installation Guide* for configuration instructions.

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. | "Preparing the Installation Environment" on page 15 |
| (Optional) Create a virtual disk. | "Creating a Virtual Disk" on page 17 |
| (Optional) Set the BIOS boot mode. | "Set the BIOS Boot Mode" on page 18 |

## Preparing the Installation Environment

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

- "Set Up the Local Console" on page 15
- "Set Up the Remote Console (PXE Installation)" on page 16

### ▼ Set Up the Local Console

1. **Review the product notes for the Sun Server X4-8 and Oracle VM software.**

   - The Sun Server X4-8 documentation is available at:

     `http://www.oracle.com/goto/X4-8/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 17
- "Set the BIOS Boot Mode" on page 18

# ▼ Set Up the Remote Console (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 X4-8 and Oracle VM software.**

   - The Sun Server X4-8 documentation is available at:

     `http://www.oracle.com/goto/X4-8/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. **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

**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.

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 X4-8 Installation Guide*.**

**Next Steps**

- "Creating a Virtual Disk" on page 17
- "Set the BIOS Boot Mode" on page 18

# Creating a Virtual Disk

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

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 Storage Drives for OS Installation" in *Sun Server X4-8 Installation Guide*.

**Next Steps**

- "Load BIOS Optimal Default Settings" on page 17
- "Set the BIOS Boot Mode" on page 18

# ▼ Load BIOS Optimal Default Settings

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

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

**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 18

# Set the BIOS Boot Mode

While the BIOS firmware supports both legacy and Unified Extensible Firmware Interface (UEFI) BIOS boot modes; the **default** setting is legacy boot mode. Oracle VM supports only legacy boot mode at this time.

If you have **not** changed the BIOS boot mode from the default, you can skip this procedure.

If the BIOS mode has been set to UEFI mode, use the following procedure to set it to legacy 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 21

# Installing Oracle VM Server

| Step | Description | Link |
|---|---|---|
| 1 | Install Oracle VM Server using Oracle System Assistant. | “Install Oracle VM Server (Oracle System Assistant) ” on page 21 |
| 2 | Install Oracle VM Server using manual local or remote installation methods. | “Installing Oracle VM Server (Manually)” on page 25 |
| 3 | Complete installation by optionally making adjustments for large-memory systems, installing Oracle Hardware Management Pack, updating drivers, and creating or managing Oracle VM resources. | “Completing the Oracle VM Installation” on page 29 |

## ▼ 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.

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

**Before You Begin**

- Perform the steps in “Preparing for Oracle VM Server Installation” on page 15.
- Server web access is required to update Oracle System Assistant. 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`) .
- For **local** installation, have the installation media available to insert into the attached physical CD/DVD-ROM drive when prompted.
- For **remote** installation, insert the installation media into the CD/DVD-ROM drive of 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.

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

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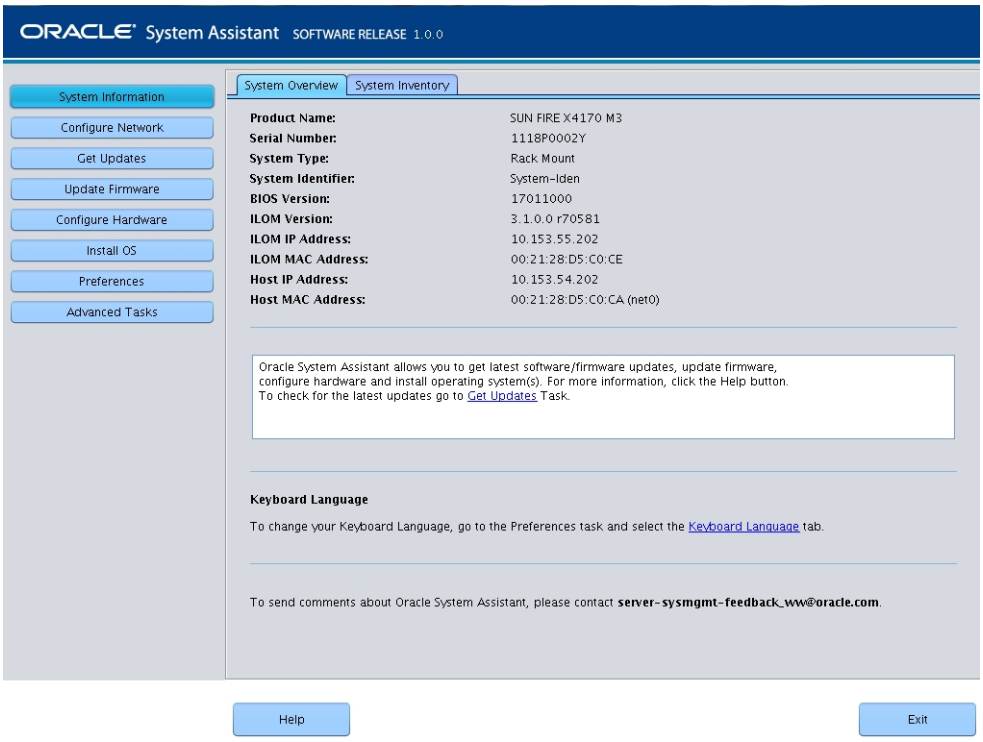
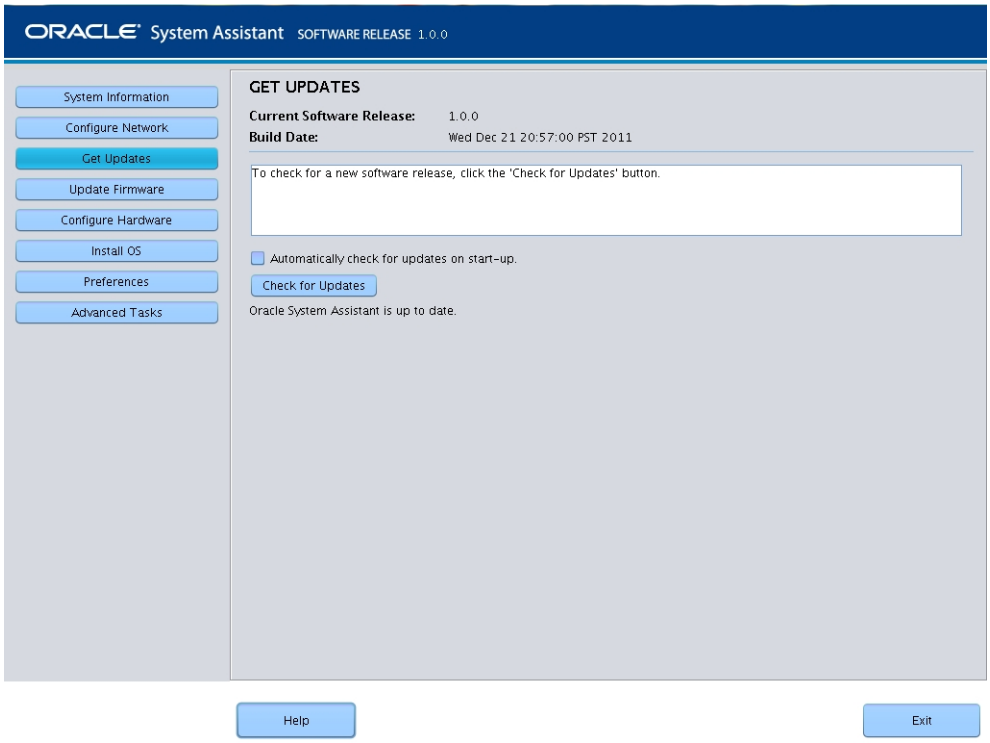


4. **To make sure that you have the lastest software pack, click the Get Updates button.**



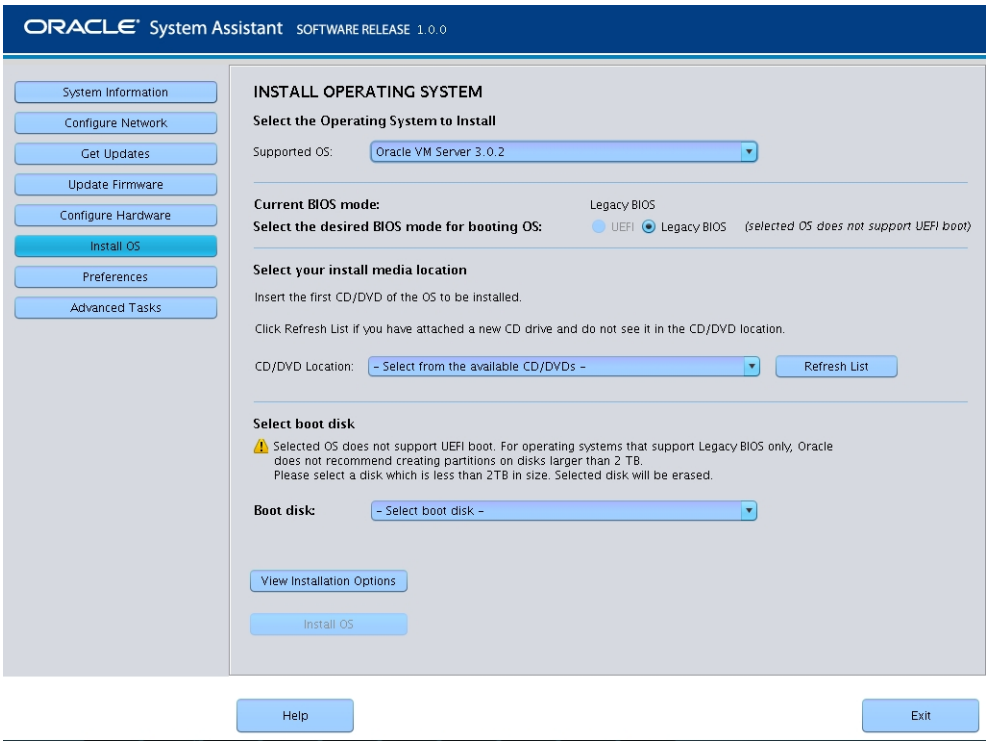

5. **Click the Check for Updates button to see if there are firmware and software updates available.**

   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 in the left navigation panel.**

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`
- "Completing the Oracle VM Installation" on page 29

# 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 25
- "Installing Oracle VM Server (PXE Server)" on page 27

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

**Before You Begin** Follow the instructions in "Preparing for Oracle VM Server Installation" on page 15.

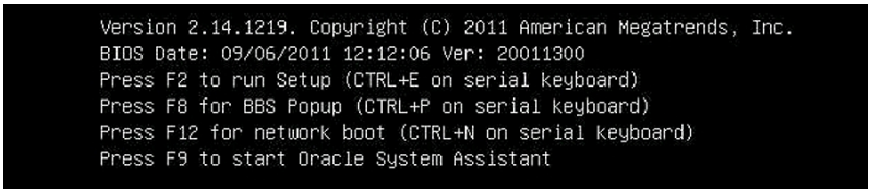
1. **If not done already, insert your Oracle VM Server installation CD/DVD, or access the `.ISO` image installation media for the method you chose in "Preparing the Installation Environment" on page 15.**

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.




3. **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 a 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`

7. **Complete the Oracle VM installation. See "Completing the Oracle VM Installation" on page 29 .**

**Next Steps**

- Install Oracle VM Manager, if needed. Refer to:

  `http://download.oracle.com/docs/cd/E20065_01/index.htm`
- "Completing the Oracle VM Installation" on page 29

# 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

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

- Oracle VM installation 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:

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**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.

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- 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 29.

## ▼ 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.

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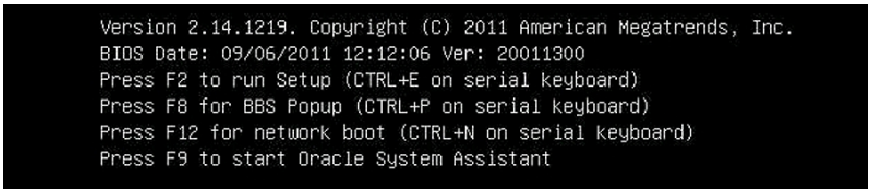
   BIOS messages appear on the console.




3. **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 30.**

**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 29

# Completing the Oracle VM Installation

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

| Task | Link |
|---|---|
| Increasing dom0_mem for Large-Memory Systems | "Increasing dom0_mem for Large-Memory Systems" on page 29 |
| Install server system tools. | "Access Oracle Hardware Management Pack" on page 30 |
| Update specific drivers manually. | "Install Specific Oracle VM Drivers" on page 30 |
| Learn about creating and managing Oracle VM resources. | "Creating and Managing Oracle VM Resources" on page 31 |

## Increasing dom0_mem for Large-Memory Systems

If you install OVM from the `.iso` image or by using Oracle System Assistant, `dom0_mem` should be set correctly. If you install the OVM 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:

```
dom0_mem = 502 + int(physical_mem_MB * 0.0205)
```

For example, if your system has 131072 MB (128 GB) 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 server system tools (supplemental software), such as Oracle Hardware Management Pack, on 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 X4-8 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 31

# 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.**

  See "Getting Server Firmware and Software" in *Sun Server X4-8 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 OVM 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 31

# 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.

**See Also**

- Oracle VM installation documentation at:

  http://www.oracle.com/technetwork/documentation/vm-096300.html
- “Installing Oracle VM Server ” on page 21

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