Sun Server X4-2

Installation Guide for VMware ESXi

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Contents

Using This Documentation

This installation guide contains procedures for installing the VMware ESXi software, and initial software configuration procedures for bringing the Sun Server X4-2 from Oracle to a configurable and usable state.

This document is written for technicians, system administrators, authorized service providers, and users who have experience with installing operating systems.

This section describes how to get the latest software and firmware, documentation and feedback, and support and accessibility information.

Getting the Latest Software and Firmware

Firmware, drivers and other hardware-related software for each Oracle x86 server, server module (blade), and blade chassis are updated periodically.

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

- Oracle System Assistant – This is a new factory-installed option for Oracle x86 servers. It has all the tools and drivers you need and is built into the server.
- My Oracle Support: `http://support.oracle.com`
- Physical media request

For more information, see *Sun Server X4-2 Installation Guide,* "Getting Server Firmware and Software Updates" on page 31.

About This Documentation

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

A PDF version that includes all information on a particular subject (such as hardware installation or product notes) can be generated by clicking the PDF button in the upper left corner of the HTML page.

Related Documentation

Documentation	Link
All Oracle documentation	http://www.oracle.com/documentation
Sun Server X4-2	http://www.oracle.com/goto/X4-2/docs
Oracle X4 Series Servers Administration Guide	http://www.oracle.com/goto/x86AdminDiag/docs
Oracle Integrated Lights Out Manager (ILOM) 3.1	http://www.oracle.com/goto/ILOM/docs
Oracle Hardware Management Pack 2.2	http://www.oracle.com/goto/OHMP/docs

Feedback

You can provide feedback on this documentation at:

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

Access to Oracle Support

Oracle customers 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.

About VMware ESXi Installs

This section contains an overview for installing VMware ESXi on your server.

Description	Links
Learn about VMware ESXi software installation steps.	"VMware ESXi Installation Task Map" on page 1
Learn which VMware ESXi software versions are supported.	"Supported VMware ESXi Software" on page 3
Learn about console display options and how to set them up.	"Selecting the Console Display Option" on page 3
Learn about boot media options and how to set them up.	"Selecting the Boot Media Option" on page 5
Learn about installation target options and how to set them up.	"Selecting the Installation Target Option" on page 7
Learn about VMware ESXi install options.	"VMware ESXi Installation Options" on page 9

Related Information

- "Installing VMware ESXi" on page 19

VMware ESXi Installation Task Map

The following table describes the steps for installing the VMware ESXi software.

Step	Description	Links
1.	Install your server hardware and configure the Oracle ILOM service processor.	• *Sun Server X4-2 Installation Guide,* "Installing the Server Into a Rack" on page 39 • *Sun Server X4-2 Installation Guide,* "Cabling the Server" on page 77 • *Sun Server X4-2 Installation Guide,* "Connecting to Oracle ILOM" on page 85
2.	Obtain the VMware ESXi installation media and documentation. The documentation should be used in conjunction with the install procedures and post install procedures referenced below in Steps 7 and 8.	• An ISO image of the VMware ESXi installation program is available as a download at: `http://www.vmware.com/download` • VMware ESXi release notes at: `http://www.vmware.com/support/pubs/vsphere-esxi-vcenter-server-pubs.html`
3.	Review the server product notes.	*Sun Server X4-2 Product Notes* at: `http://www.oracle.com/goto/X4-2/docs`
4.	Set up the console, the media, and the installation target that you will use to perform the installation.	• "Selecting the Console Display Option" on page 3 • "Selecting the Boot Media Option" on page 5 • "Selecting the Installation Target Option" on page 7
5.	Verify BIOS settings for new VMware ESXi installations.	"Verify the BIOS Factory Defaults" on page 12
6.	Configure the VMware ESXi software or the server hardware to support network connections.	"Configuring the VMware ESXi 5.0 Software or the Server Hardware to Support Network Connections" on page 16.
7.	Install the VMware ESXi software.	"Installing VMware ESXi on a Single System Using Media" on page 20
8.	Perform the post installation tasks, if applicable.	"Post Installation Tasks for VMware ESXi" on page 25

Related Information

- "Preparing to Install VMware ESXi" on page 11

Supported VMware ESXi Software

The server supports the following VMware ESXi software.

VMware Software	Edition
VMware ESXi 5.0	5.0 Updates 2 and 3
VMware ESXi 5.1	5.1 Update 1
VMware ESXi 5.5	5.5

Additionally, you can install any other supported operating system or virtual machine software on your server. For an updated list of operating systems supported by the server, see the latest version of the *Sun Server X4-2 Product Notes* at http://www.oracle.com/goto/X4-2/docs. You can also view the list of supported operating systems at http://wikis.oracle.com/display/SystemsComm/Sun+Server+X4-2+-+Operating+Systems.

Related Information

- "Installing VMware ESXi" on page 19

Selecting the Console Display Option

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

- "Console Display Options" on page 3
- "Set Up the Local Console" on page 4
- "Set Up the Remote Console" on page 4

Console Display Options

You can install the VMware ESXi software and administer the server by attaching a local console directly to the server 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 the two rear USB connectors

You can also install the software 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 Console 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.
   - 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.

   b. At the Oracle ILOM prompt, type:

   ```
   -> start /HOST/console
   ```

   The serial management port output is automatically routed to the Linux host serial local console.

Related Information

- Oracle Integrated Lights Out Manager (ILOM) 3.1 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 login to Oracle ILOM remotely using either the command-line interface or the web interface, you must know the IP address of the server service processor (SP). For instructions, see the *Sun Server X4-2 Installation Guide,* "Determining the IP Address of the Server SP" on page 89.

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.**

   c. **Redirect the video output from the server to the web client by launching the Oracle ILOM Remote Console.**

   d. **If necessary, enable device redirection (mouse, keyboard, etc.) in the Devices menu.**

3. **If you are using an SSH client connection, perform these steps.**

   a. **From a serial console, establish an SSH connection to the server SP (**`ssh root@`*hostname*, **where** *hostname* **can be the DNS name or the IP address for the server SP).**

   b. **Log in to Oracle ILOM.**

   c. **Redirect the serial output from the server to the SSH client by typing:**

      -> **`start /HOST/console`**

Related Information

- Oracle Integrated Lights Out Manager (ILOM) 3.1 Documentation Library at: `http://www.oracle.com/goto/ILOM/docs`

Selecting the Boot Media Option

You can start the software installation to a 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 5
- "Set Up the Local Boot Media Option" on page 6
- "Set Up the Remote Boot Media Option" on page 7

Boot Media Options Requirements

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

- "Local Boot Media Requirements" on page 6

■ "Remote Boot Media Requirements" on page 6

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:

- CD/DVD-ROM installation media
- If applicable, floppy device driver media

Remote Boot Media Requirements

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

Supported OS remote boot media sources can include:

- CD/DVD-ROM installation media
- CD/DVD-ROM ISO installation image media
- Automated installation image (requires PXE boot). For detailed instructions for automating the installation setup process, consult the ESXi 5 installation documentation available at: `http://www.vmware.com/support/pubs/vsphere-esxi-vcenter-server-pubs.html`

▼ Set Up the Local Boot Media Option

To set up the local boot media, you must insert a storage device that contains the ESXi software installation media into the server using one of the following options:

1. **If the server is equipped with an optional DVD drive, insert the ESXi software installation DVD into the DVD drive located on the front of the server; otherwise, proceed to the next step.**
2. **If your server does not contain a DVD drive, attach the appropriate storage device to the front and rear of the server.**

Note – For information about how to attach local devices to the server, see the *Sun Server X4-2 Installation Guide,* "Cabling the Server" on page 77.

▼ Set Up the Remote Boot Media Option

To redirect the boot media from a remote storage device, perform the following steps:

1. **Insert the boot media into the storage device, for example:**
   - **For CD/DVD-ROM**, insert media into the built-in or external CD/DVD-ROM drive on a remote workstation.
   - **For CD/DVD-ROM ISO image**, ensure that ISO image(s) are readily available on a network shared location.
   - **For device driver floppy IMG image**, ensure that IMG image, if applicable, is readily available on a network shared location or on a USB drive.
2. **Establish a web-based client connection to the server Oracle ILOM SP and launch the Oracle ILOM Remote Console application.**

   For more details, see the Setup Requirements for web-based client connection in "Selecting the Console Display Option" on page 3.
3. **In the Devices menu of the Oracle ILOM Remote Console application, specify the location of the boot media, for example:**
   - **For CD/DVD-ROM boot media**, select CD-ROM.
   - **For CD/DVD-ROM ISO image boot media**, select CD-ROM Image.
   - **For floppy device driver boot media**, if applicable, select Floppy.
   - **For floppy image device driver boot media**, if applicable, select Floppy Image.

Selecting the Installation Target Option

This section describes how to set up the installation target.

Installation Target Options

With the exception of the embedded Oracle System Assistant USB flash drive (which is reserved for Oracle System Assistant), you can install the software on any of the storage drives installed in the server. These include hard disk drives (HDDs) and solid state drives (SSDs).

Note – SSDs are only supported on Oracle Engineered Systems.

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

Important: Internal, Embedded Oracle System Assistant USB Flash Drive Should Not Be Used as a Boot or Storage Drive

The server ships with an embedded Oracle System Assistant USB flash drive. This drive contains the Oracle System Assistant, device drivers, and firmware for Oracle ILOM, BIOS, and supported IO devices. During the installation of all supported operating systems, this USB flash drive is detected as a SCSI disk with a single partition that is read/write capable and is displayed as `Oracle_SSM` in the list of drives. You should be careful not to overwrite this device when performing any of the following operations:

- Operating system installations
- Disk or partition formatting operations
- General disk, partition or filesystem maintenance

In the event that this USB flash drive is overwritten, the original contents can be restored. To restore the contents of the USB flash drive, obtain the Oracle System Assistant recovery and ISO update image and use it to perform a restore operation.

For instructions for downloading the Oracle System Assistant recovery and ISO update image and restoring the Oracle System Assistant flash drive, see the *Oracle X4 Series Servers Administration Guide* at:
http://www.oracle.com/goto/x86AdminDiag/docs.

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

- **Ensure that the hardware disk drive (HDD) or solid state drive (SSD) is properly installed and powered on.**

  For more information about installing and powering on a HDD or SSD, refer to the *Sun Server X4-2 Service Manual,* "Servicing Storage Drives (CRU)" on page 45.

Note – SSDs are only supported on Oracle Engineered Systems.

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

1. **Ensure that the PCIe host bus adapter is properly installed in the server.**

   For more information about installing a PCIe HBA option, refer to *Sun Server X4-2 Service Manual,* "Servicing PCIe Cards (CRU)" on page 84.

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 HBA.

VMware ESXi Installation Options

The table below provides some information about single server installation options.

Option	Description
Single server	Install ESXi software to a single server using one of the following methods: • Locally: ESXi installation is performed locally at the server. This option is recommended if you have just completed the physical installation of the server in the rack. • Remotely: ESXi installation is performed from a remote location. Uses the Oracle ILOM Remote Console application to perform a manual ESXi installation.

Single-Server Installation Methods

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

Media Delivery Method	Additional Requirements
Local using a CD/DVD drive – Uses a physical CD/DVD drive connected to the server.	A monitor, USB keyboard and mouse, a USB CD/DVD drive, and ESXi distribution media. For local installations, you deliver the installation media using a local CD/DVD drive attached directly to the server.
Remote using a CD/DVD ISO image – Uses a redirected physical CD/DVD drive or DVD ISO image on a remote system running the Oracle ILOM Remote Console application.	A remote system with a browser, an attached physical CD/DVD drive, ESXi distribution media, and network access to the server management port. For remote installations, you deliver the installation media by means of the remote USB CD/DVD device, or CD/DVD image.

Preparing to Install VMware ESXi

These topics describe how to prepare the server for installing VMware ESXi.

Description	Links
Setting up BIOS.	"Setting Up BIOS" on page 11
Configure VMware ESXi software or server hardware to support network connections.	"Configuring the VMware ESXi 5.0 Software or the Server Hardware to Support Network Connections" on page 16
Configure RAID on the server.	"Configuring RAID" on page 18

Setting Up BIOS

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

- "Verify the BIOS Factory Defaults" on page 12
- "Switch Between Legacy BIOS and UEFI BIOS" on page 14

Related Information

- "Installing VMware ESXi on a Single System Using Media" on page 20

▼ Verify the BIOS Factory Defaults

Note – If the server is newly installed and this is the first time that an operating system has been installed, then BIOS is probably configured to its default settings and you do not have to perform this task.

In the BIOS Setup Utility, you can set defaults, as well as view and edit BIOS settings as needed. Any changes you make in the BIOS Setup Utility (through F2) are permanent until the next time you change them.

In addition to using F2 to view or edit the system's BIOS settings, you can use F8 during the 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 through F2 will be in effect after booting from the temporary boot device.

Ensure that the following requirements are met:

- The server is equipped with a hard disk drive (HDD) or solid state drive (SDD).
- The HDD or SDD is properly installed in the server. For instructions, see the *Sun Server X4-2 Service Manual,* "Servicing Storage Drives (CRU)" on page 45.
- A console connection is established to the server. For details, see "Selecting the Console Display Option" on page 3.

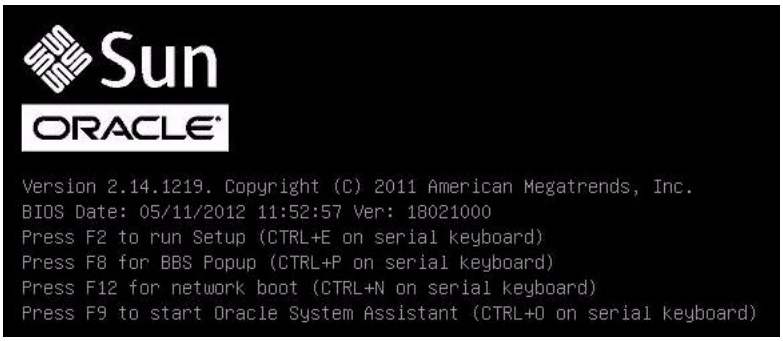
1. **Reset or power on the server.**

   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, then select Reset from the Select Action list box.
   - **From the Oracle ILOM CLI**, type the following command from the prompt:

     ```
     -> reset /System
     ```

   The BIOS screen appears.



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

   After a few moments, the BIOS Setup Utility appears.

3. **To ensure that the factory defaults are set, do the following:**

   a. **Press F9 to automatically load the factory default settings.**

      A message appears prompting you to continue this operation by selecting `OK` or to cancel this operation by selecting `CANCEL`.

   b. **In the message, highlight `OK` then press Enter.**

      The BIOS Setup Utility screen appears with the cursor highlighting the first value in the system time field.

4. **In the BIOS Setup Utility, do the following to edit the values associated with the system time or date.**

   a. **Highlight the values you want to change.**

      Use up or down arrow keys to change between the system time and date selection.

   b. **To change the values in the highlighted fields use these keys:**

      - PLUS (+) to increment the current value shown
      - MINUS (-) to decrement the current value shown
      - ENTER to move the cursor to the next value field

5. **To access the boot settings, select the Boot menu.**

   The Boot menu appears.

6. **In the Boot menu, verify that the UEFI/BIOS Boot Mode is set to the appropriate value for your installation.**

   To change the boot mode, use the up and down arrow keys to select the UEFI/BIOS Boot Mode field and use the + and - keys to toggle between UEFI and Legacy.

7. **In the Boot menu, use the down arrow key to select** `Boot Device Priority`, **then press Enter.**

   The Boot Device Priority menu appears listing the order of the known bootable devices. The first device in the list has the highest boot priority.

8. **In the Boot Device Priority Device Priority menu, do the following to edit the first boot device entry in the list:**

   a. **Use the up and down arrow keys to select the first entry in the list, then press Enter.**

   b. **In the Options menu, use the up and down arrow keys to select the default permanent boot device, then press Enter.**

Note – You can change the boot order for other devices in the list by repeating Steps 8a and 8b for each device entry you want to change.

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

   Alternatively, you can save the changes and exit the BIOS Setup Utility by selecting `Save and Reset` on the Save & Exit menu. A message appears prompting you to save changes and exit setup. In the message dialog, select `OK`, then press Enter.

Note – When using the Oracle ILOM Remote Console, F10 is trapped by the local OS. You must use the F10 option listed in the Keyboard drop-down menu that is available at the top of the Remote Console application.

▼ Switch Between Legacy BIOS and UEFI BIOS

The BIOS firmware supports both Legacy BIOS and Unified Extensible Firmware Interface (UEFI) BIOS. The default setting is Legacy BIOS. Because VMware ESXi 5.0, ESXi 5.1 and ESXi 5.5 support both Legacy BIOS and UEFI BIOS, you have the option of setting BIOS to either Legacy BIOS Boot Mode or UEFI BIOS Boot Mode before you perform the installation.

Note – After you have installed the VMWare ESXi virtual machine software, if you decide you want to switch from Legacy BIOS to UEFI BIOS, or vice versa, you must reinstall the software.

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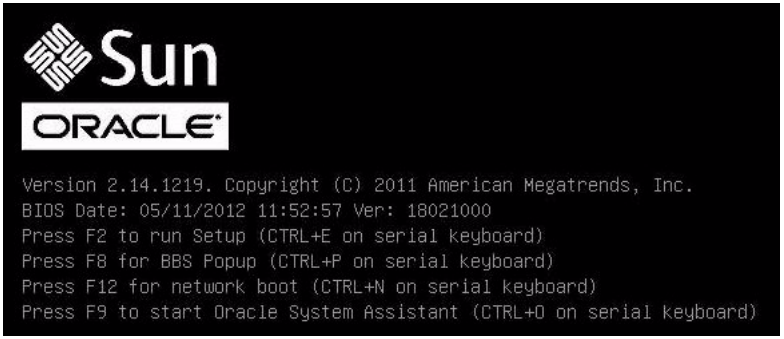
1. **Reset or power on the server.**

   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 and select Reset from the Select Action list box.
- **From the Oracle ILOM CLI**, type the following command from the prompt:

  -> **reset /System**

The BIOS screen appears.

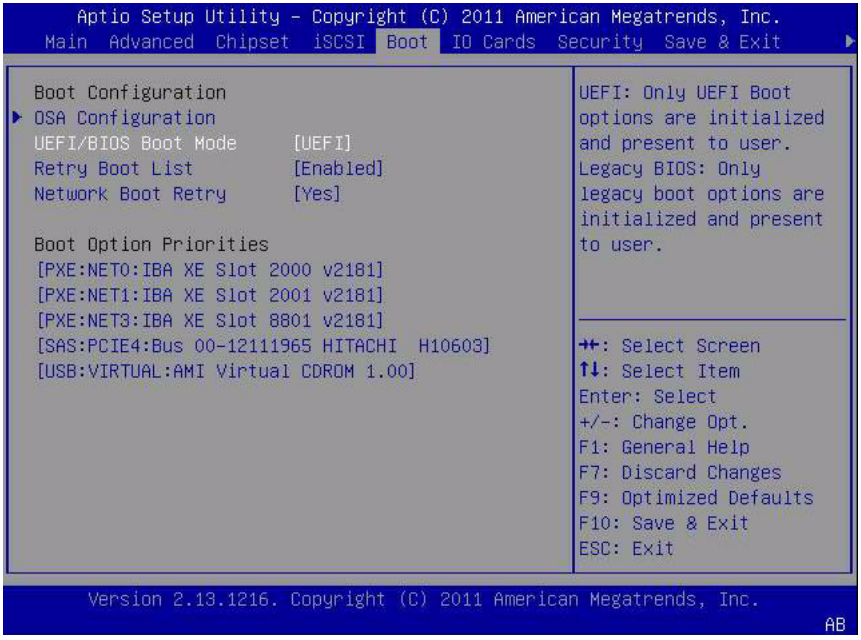


2. **When prompted in the BIOS screen, press F2 to access the BIOS Setup Utility.**

   After a few moments, the BIOS Setup Utility appears.

3. **In the BIOS Setup Utility, select Boot from the top menu bar.**

   The Boot Menu screen appears.



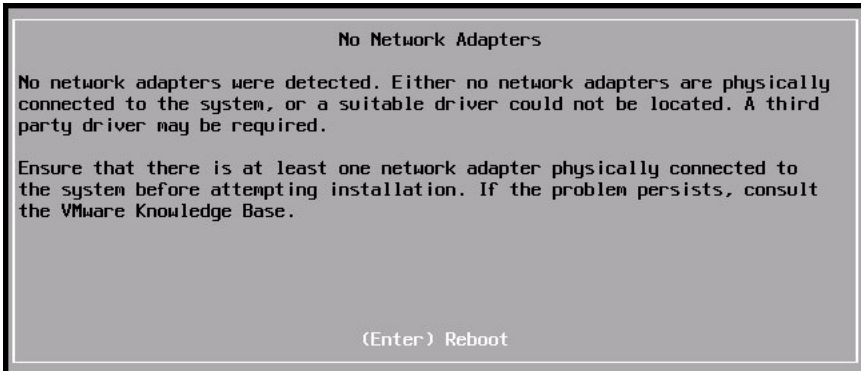
4. **Select the** `UEFI/BIOS Boot Mode` **field and use the +/- keys to switch the setting to the desired mode, Legacy BIOS or UEFI.**
5. **To save changes and exit BIOS, press the F10 key.**

Configuring the VMware ESXi 5.0 Software or the Server Hardware to Support Network Connections

The download ISO images for the VMware ESXi 5.0 Updates 2 and 3 virtual machine software will not install to the server because it does not include a driver for the server on-board network adapters.

Note – The information in this section does not apply to VMware ESXi 5.1 Update 1 or ESXi 5.5 installations. The driver for the server on-board network adapters is included with the VMware ESXi 5.1 Update 1 and ESXi 5.5 installation images.

Without the required driver, the ESXi 5.0 Updates 2 and 3 installation programs fail to find a working network connection and terminates with the following informational message.



Therefore, before you can install the ESXi 5.0 Updates 2 or 3 software, you must do one of the following:

- Add the required driver to the ESXi installation ISO image.

  For instructions for adding the required driver to the ESXi ISO image, see "Adding the Required Driver to the ESXi ISO Installation Image" on page 17.

- Install a network interface card (NIC) in the server that is compatible with the standard download ESXi 5.0 Update 2 or 3 ISO image.

  For instructions for identifying and installing a compatible NIC card, see "Installing a Compatible Network Interconnect Card in the Server" on page 18.

Adding the Required Driver to the ESXi ISO Installation Image

You use the offline depot ZIP file to add a driver to an ESXi 5.0 Update 2 or 3 installation ISO image. For instructions for incorporating the offline depot ZIP file into a customized ESXi installation ISO image, see the vSphere 5 documentation topic "Using vSphere ESXi Image Builder CLI" at: `http://pubs.vmware.com/vsphere-50/topic/com.vmware.vsphere.install.doc_50/GUID-78CC6C2E-E961-4A5E-B07D-0CE7083DE51E.html`.

You can download the required driver from My Oracle Support or the VMware downloads web site.

- For instructions for downloading the required driver from My Oracle Support, see *Sun Server X4-2 Installation Guide*, "Getting Server Firmware and Software Updates" on page 31.

- To download the required driver from the VMware web site, go to: http://downloads.vmware.com/d/details/dt_esxi50_intel_x540_t2ixgbe3_6_5/dCV0YnRod2pidGVkZA==.

Installing a Compatible Network Interconnect Card in the Server

You must obtain a NIC that is compatible with the unmodified ESXi 5.0 installation ISO image and install it into one of the available, external PCIe slots located in the rear of the server—PCIe card slot 1, 2, or 3.

To identify a compatible NIC card, see the VMware Hardware Compatibility List (HCL) at: http://www.vmware.com/resources/compatibility/search.php.

For instructions for installing a NIC card into the server, see the installation documentation included with the NIC card and the servicing procedures for PCIe risers and cards in the *Sun Server X4-2 Service Manual,* "Servicing PCIe Cards (CRU)" on page 84.

Configuring RAID

If you want to use redundant array of independent disks (RAID), you must configure RAID on your server before you install VMware ESXi. For instructions for configuring RAID, see *Sun Server X4-2 Installation Guide,* "Configuring Server Drives for OS Installation" on page 113.

Related Information

- *Oracle X4 Series Servers Administration Guide* at: http://www.oracle.com/goto/x86AdminDiag/docs

Installing VMware ESXi

This section provides instructions for installing VMware ESXi on the server.

Description	Links
Pre-installation requirements.	"Before You Begin" on page 19
Using media to install the VMware ESXi software on a single server.	"Installing VMware ESXi on a Single System Using Media" on page 20

Before You Begin

Ensure that the following requirements are met:

- If you want to configure RAID (Redundant Array of Independent Disks) on the server storage drives, you must do so before you install VMware ESXi. For instructions for configuring RAID, see the *Sun Server X4-2 Installation Guide,* "Configuring Server Drives for OS Installation" on page 113.

Note – If the server is equipped with the Sun Storage 6 Gb SAS PCIe RAID, Internal HBA (SGX-SAS6-R-INT-Z), you must create a RAID volume and make it bootable before installing VMware ESXi; otherwise, the HBA will not be able to identify the server storage drives.

- The console display options should have been 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 3.
- The boot media option should have been 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 5.
- The installation target option should have been 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 7.

- Verify that the BIOS settings are set to the defaults. For instructions on how to verify and, if necessary, set the BIOS settings, see "Verify the BIOS Factory Defaults" on page 12.
- Configure the VMware ESXi software or the server hardware to support network connections. For instructions, see "Configuring the VMware ESXi 5.0 Software or the Server Hardware to Support Network Connections" on page 16.
- For local installation, have the ESXi installation media available to insert into the attached physical CD/DVD-ROM drive when prompted.
- For remote installation, insert the ESXi installation media into the Oracle ILOM Remote Console system's CD/DVD-ROM drive. Ensure that you have selected CD-ROM from the Oracle ILOM Remote Console system's Devices menu.
- If you are using an ESXi image, ensure that the ESXi ISO image is accessible from the Oracle ILOM Remote Console system. Ensure that you have selected CD-ROM Image from the Oracle ILOM Remote Console system's Devices menu.
- For VMware ESXi installations, determine the network management interface you will use for the VM service console.

  The VM service console and management interface require a network interface. The service console does not automatically use the first interface with a live connection. Therefore, you will need to select a network interface for the service console during installation since the network interface defaults to vmnic0.
- Gather the VMware ESXi documentation so that you can use it in conjunction with the instructions provided in this section. VMware ESXi documentation is available at:
  `http://www.vmware.com/support/pubs/vsphere-esxi-vcenter-server-pubs.html`

Installing VMware ESXi on a Single System Using Media

This section provides information about installing VMware ESXi 5.0 Updates 2 and 3, 5.1 Update 1, and 5.5 for x86 (64-bit) software.

- "Install VMware ESXi Using Local or Remote Media" on page 21

▼ Install VMware ESXi Using Local or Remote Media

The following procedure describes how to install the VMware ESXi software from local or remote media. It assumes that you are booting the VMware installation media from one of the following sources:

- VMware ESXi 5.0 Update 2 or 3, 5.1 Update 1, or 5.5 CD or DVD (internal or external CD or DVD)
- VMware ESXi 5.0 Update 2 or 3, 5.1 Update 1, or 5.5 ISO image (network repository)

Note – The VMware ISO image can be used for remote installations or for creating an installation CD or DVD.

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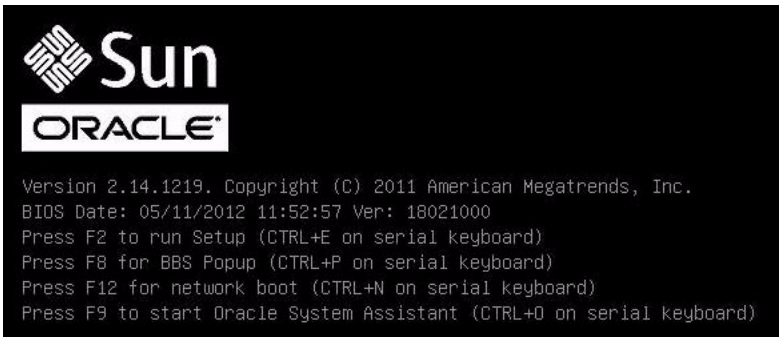
1. **Ensure that the install media is available to boot.**
   - **For Distribution CD/DVD**. Insert the VMware ESXi 5 Distribution media boot disc (CD labeled number 1 or the single DVD) into the local or external CD/DVD-ROM drive.
   - **For ISO images**. Ensure that the ISO images are available and that the boot disc image (CD labeled number 1 or DVD) has been selected in the Oracle ILOM Remote Console application (Devices menu > CD-ROM Image).

   For additional information about how to set up the installation media, see "Selecting the Boot Media Option" on page 5.

2. **Reset or power on 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**, select Host Management > Power Control, then select Reset from the Select Action list box.
   - **From the Oracle ILOM CLI**, type: **`reset /System`**

     The BIOS screen appears.



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.

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

   The Please Select Boot Device menu appears.

4. **In the Boot Device menu, select either the external or virtual CD/DVD device as the first boot device, then press Enter.**

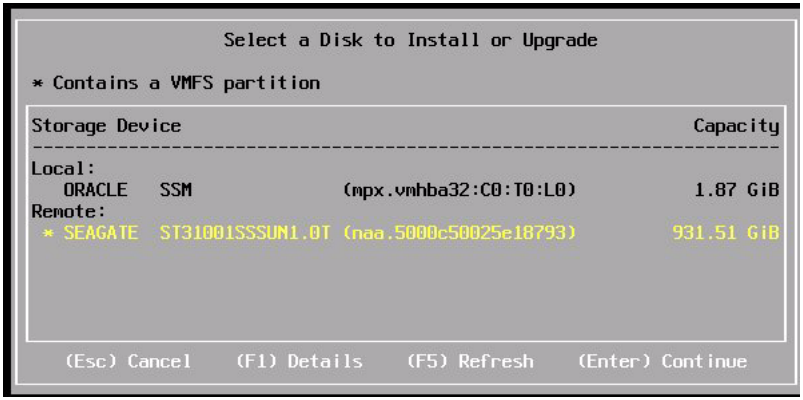
   The device strings listed in the Boot Device menu are in the following format: *device type*, *slot indicator*, and *product ID string*.

   After a few seconds, the splash screen for the VMware installation program appears.

5. **To complete the installation, refer to the VMware ESXi 5 installation documentation.**

   You can access the VMware ESXi 5.0 Update 2 or 3, 5.1 Update 1, and 5.5 installation documentation at:
   `http://www.vmware.com/support/pubs/vsphere-esxi-vcenter-server-pubs.html`

6. **When the following screen appears, select the storage drive on which to install the ESXi software.**



Note – The Oracle_SSM storage device listed in the above screen should not be used as a storage drive. This internal USB flash drive contains the Oracle System Assistant, device drivers, and firmware for Oracle ILOM, BIOS, and supported IO devices. This flash drive should not be overwritten. For more information, see "Important: Internal, Embedded Oracle System Assistant USB Flash Drive Should Not Be Used as a Boot or Storage Drive" on page 8.

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7. **After completing the VMware ESXi installation, proceed to** "Post Installation Tasks for VMware ESXi" on page 25**.**

Post Installation Tasks for VMware ESXi

After completing the installation of VMware ESXi, review the following post installation tasks and, if necessary, perform the tasks that are applicable to your system.

Description	Link
Configure the network adapters.	"Configure Network Adapter Settings" on page 25
Determine the MAC for a connected network port.	"Determine the MAC Address of a Connected Server Network Port" on page 27
Update the VMware ESXi software.	"Update the VMware ESXi Software" on page 28
Manage the VMware ESXi resources.	"Manage VMware ESXi Resources" on page 29

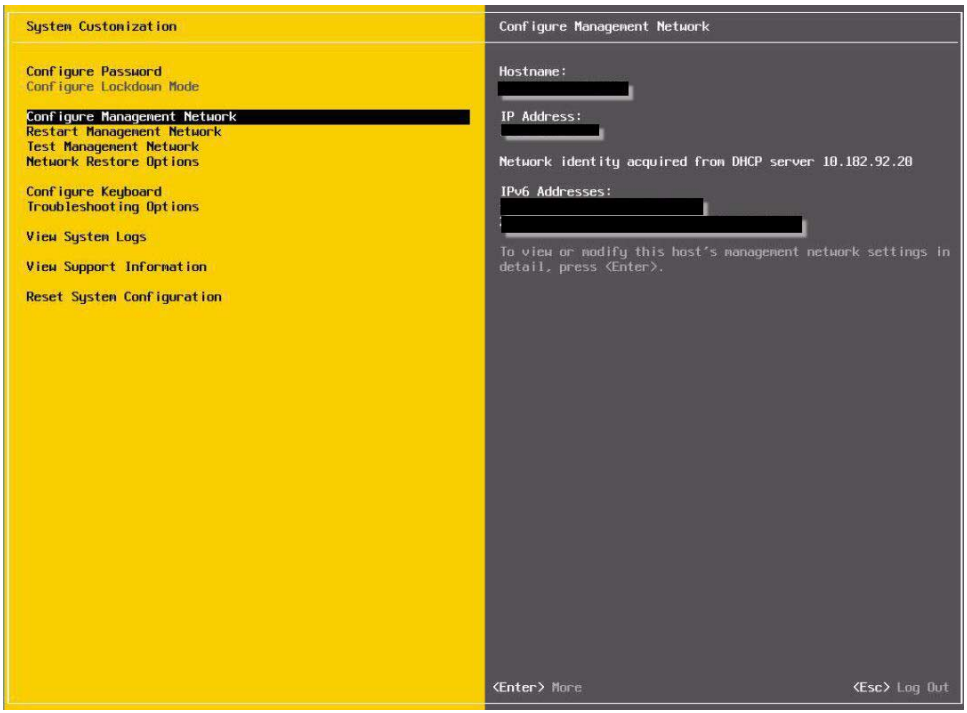
▼ Configure Network Adapter Settings

Note – This task is necessary only if you are using static IP addressing. If you are using Dynamic Host configuration Protocol (DHCP), this task is not necessary.

The following procedure describes how to configure the VMware ESXi settings for the network adapter(s) installed on your server. These instructions also include steps for discovering the physical port location of each network adapter installed on your server.

1. **After completing the VMware ESXi software installation and rebooting the server, a screen similar the following screen appears:**

2. **To select Customize System/View Logs, press F2.**
3. **Log in to the VMware ESXi Server.**
4. **Access the System Customization dialog and select** `Configure Management Network`**.**



5. **To complete this task, refer to the VMware documentation at:** http://www.vmware.com/support/pubs/vsphere-esxi-vcenter-server-pubs.html.

▼ Determine the MAC Address of a Connected Server Network Port

The server has four network ports, NET 0, NET 1, NET 2, and NET 3. When any of these ports is connected to the network, VMware ESXi assigns a MAC address to the port.

Note – NET 2 and NET 3 are non-functional in single processor systems.

- **To determine the MAC address for each server network port, enter the following command in the Oracle ILOM command-line interface (CLI) for each server network port:**

  -> **show /System/Networking/Ethernet_NICs/Ethernet_NIC_***n*

  Where *n* is 0, 1, 2, or 3

  For example, if server network port `NET0` is connected, then the above CLI command produces the following output, where the `mac_addresses` field lists the MAC address.

```
-> show /System/Networking/Ethernet_NICs/Ethernet_NIC_0
/System/Networking/Ethernet_NICs/Ethernet_NIC_0
  Targets:
  Properties:
    health = OK
    health_details = -
    location = NET0 (Ethernet NIC 0)
    manufacturer = INTEL
    part_number = X540
    serial_number = Not Available
    mac_addresses = 00:21:28:3D:B7:96
  Commands:
    cd
    show
->
```

Note – If you are unsure of which network adapter to select, contact your network administrator.

▼ Update the VMware ESXi Software

The VMware ESXi installation media might not contain the most up-to-date versions of the software. If necessary, update the VMware ESXi software with the latest updates and patches.

- **To obtain download instructions, see this web site:**

  http://support.vmware.com/selfsupport/download/

▼ Manage VMware ESXi Resources

VMware provides documentation about ESXi.

- **To learn more about configuring and managing VMware ESXi resources, refer to the VMware documentation at:**

  http://www.vmware.com/support/pubs/vsphere-esxi-vcenter-server-pubs.html

Configuring Network Interfaces

This section contains information about:

NIC Connectors

The network interface connectors are labeled physically on the server as follows.

TABLE: NIC Connector Label

NIC Connector Label	Interface Type
net0	First NIC interface (ixgbe0)
net1	Second NIC interface (ixgbe1)
net2	Third NIC interface (ixgbe2)
net3	Fourth NIC interface (ixgbe3)

Note – NET 2 and NET 3 are nonfunctional in single-processor systems.

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