

# **Oracle® Server X5-2L Installation Guide for VMware ESXi**



**Part No: E48332-04**  
November 2015



**Part No: E48332-04**

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

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

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

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

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

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

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

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

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

**Access to Oracle Support**

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

**Référence: E48332-04**

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

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

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

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

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

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

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

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

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

**Accès aux services de support Oracle**

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

# Contents

---

<b>Using This Documentation .....</b>	<b>7</b>
 <b>About VMware ESXi Installations .....</b>	 <b>9</b>
VMware ESXi Installation Task Map .....	9
Supported VMware ESXi Software .....	10
VMware ESXi Installation Options .....	11
Single-Server Installation Methods .....	11
 <b>Preparing to Install VMware ESXi .....</b>	 <b>13</b>
Preparing the Boot Environment .....	13
▼ Verify the BIOS Optimal Defaults .....	14
▼ Set the Boot Mode .....	15
Accessing the Host Console .....	18
▼ Access the Host Console Through a Local Graphics Monitor .....	18
▼ Access the Host Console Through the Oracle ILOM Remote System Console Plus .....	18
Preparing the Boot Media .....	19
▼ Set Up the Boot Media for a Local Installation .....	19
▼ Set Up the Boot Media for a Remote Installation .....	20
Preparing the Installation Target .....	21
Installation Target Options .....	21
▼ Set Up a Local Storage Drive (HDD, SSD, or RAID Volume) as the Installation Target .....	22
▼ Set Up a Fibre Channel Storage Area Network Device as the Installation Target .....	22
Configuring the HBA Cache Settings to Support ESXi Installation .....	23
▼ Configure the HBA Cache Settings in Legacy BIOS Boot Mode .....	23
▼ Configure the HBA Cache Settings in UEFI Boot Mode .....	28
Configuring the Input/Output Settings to Support the VMware ESXi Installation .....	33

▼ Disable the PCI 64 Bit Resources Allocation Property .....	33
Gathering the Required Information .....	36
<b>Installing VMware ESXi .....</b>	<b>39</b>
Before You Begin .....	39
Installing VMware ESXi on a Single System Using Media .....	40
▼ Install VMware ESXi Using Local or Remote Media .....	40
<b>Post-Installation Tasks for VMware ESXi .....</b>	<b>43</b>
▼ Determine the MAC Address of a Connected Server Network Port .....	43
▼ Configure Network Adapter Settings .....	44
▼ Enable the megaraid_sas Driver .....	50
▼ Return the HBA Cache Settings to Default Values in Legacy BIOS Boot Mode .....	53
▼ Return the HBA Cache Settings to Default Values in UEFI Boot Mode .....	58
▼ Update the VMware ESXi Software .....	63
Manage VMware ESXi Resources .....	63
<b>Configuring Network Interfaces .....</b>	<b>65</b>
NIC Connectors .....	65
<b>Index .....</b>	<b>67</b>

## Using This Documentation

---

- **Overview** – This installation guide contains procedures for installing the VMware ESXi software, and initial software configuration procedures for bringing the Oracle Server X5-2L to a configurable and usable state.
- **Audience** – The guide is intended for technicians, system administrators, and authorized service providers.
- **Required knowledge** – Users should have experience installing virtual machine software.

## Product Documentation Library

Documentation and resources for this product and related products are available at <http://www.oracle.com/goto/X5-2L/docs>.

## Feedback

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





# About VMware ESXi Installations

---

Before you prepare your server for a VMware ESXi installation, review the topics in this section.

Description	Links
Review the VMware ESXi installation steps.	<a href="#">“VMware ESXi Installation Task Map” on page 9</a>
Determine which VMware ESXi versions are supported on the Oracle Server X5-2L.	<a href="#">“Supported VMware ESXi Software” on page 10</a>
Review VMware ESXi installation options.	<a href="#">“VMware ESXi Installation Options” on page 11</a>

## Related Information

- [“Installing VMware ESXi” on page 39](#)

## VMware ESXi Installation Task Map

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

Step	Description	Links
1.	Install your server hardware and configure the service processor.	<ul style="list-style-type: none"><li>■ <a href="#">“Installing the Server Into a Rack” in Oracle Server X5-2L Installation Guide</a></li><li>■ <a href="#">“Cabling the Server and Applying Power” in Oracle Server X5-2L Installation Guide</a></li><li>■ <a href="#">“Connecting to Oracle ILOM ” in Oracle Server X5-2L Installation Guide</a></li></ul>
2.	Review the VMware ESXi versions supported on the server.	<a href="#">“Supported VMware ESXi Software” on page 10</a>
3.	Choose an installation method.	<a href="#">“VMware ESXi Installation Options” on page 11</a>
4.	Obtain the VMware ESXi installation media and documentation. The VMware documentation should be used in conjunction with the installation and post installation procedures in this guide.	<ul style="list-style-type: none"><li>■ An ISO image of the VMware ESXi installation program is available as a download at:</li></ul>

Step	Description	Links
		<a href="http://www.vmware.com/download">http://www.vmware.com/download</a>
		■ VMware ESXi documentation is available at: <a href="http://pubs.vmware.com/vsphere-55/index.jsp">http://pubs.vmware.com/vsphere-55/index.jsp</a>
5.	Review the server product notes.	Oracle Server X5-2L Product Notes at: <a href="http://www.oracle.com/goto/X5-2/docs">http://www.oracle.com/goto/X5-2/docs</a>
6.	Set up the console, boot media, installation target, and boot mode that you will use to perform the installation.	“Preparing to Install VMware ESXi” on page 13
7.	Install the VMware ESXi software.	“Installing VMware ESXi” on page 39
8.	Perform the post installation tasks, if applicable.	“Post-Installation Tasks for VMware ESXi” on page 43

## Supported VMware ESXi Software

The server supports the following VMware ESXi software.

VMware Software	Edition
VMware ESXi 5.5 Update 2	5.5 U2
VMware ESXi 6.0	6.0

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, refer to the latest version of the *Oracle Server X5-2L Product Notes* at <http://www.oracle.com/goto/X5-2L/docs>.

The Oracle Solaris Hardware Compatibility List (HCL) identifies the latest operating system version supported on Oracle hardware. To find the latest VMware ESXi version supported for the Oracle Server X5-2L, go to the following site and search using your server model number: <http://www.vmware.com/resources/compatibility/search.php>

### Related Information

- [“Installing VMware ESXi” on page 39](#)

## VMware ESXi Installation Options

This document describes how to install VMware ESXi on a single server locally or remotely. However, there are other options for installing the software, which are detailed in the VMware documentation at <http://pubs.vmware.com/vsphere-55/index.jsp>. For more information about single-server installation methods, see the following section:

- “Single-Server Installation Methods” on page 11

### Single-Server Installation Methods

Select a method for installing VMware ESXi on the server. Use the following table to determine the installation method that best serves your needs.

Media Delivery Method	Additional Requirements
<p><b>Local</b> – Uses the (optional) DVD drive on the server front panel, or a CD/DVD drive connected to one of the server USB ports. The VMware ESXi installer ISO image must be available on a CD/DVD.</p> <p>This option is recommended if you have just completed the physical installation of the server in the rack.</p> <p><b>Remote</b> – Uses a remote system running the Oracle ILOM Remote System Console Plus application. The VMware ESXi installer ISO image must be downloaded to the remote system or available on a CD/DVD in the remote system CD/DVD drive, or mounted on the server service processor (SP).</p> <p>Alternatively, you can redirect the ISO image from another location on the network. For more information, refer to the Oracle ILOM Remote Device section in the <i>Oracle ILOM Administrator's Guide for Configuration and Maintenance</i>, or to the More Details link in the Oracle ILOM Remote Control → Host Storage Device web interface page.</p> <p><b>PXE Image</b> – Uses the server Preboot eXecution Environment (PXE) to launch the ESXi installer from a network interface.</p>	<p>A monitor, USB keyboard, USB mouse, CD/DVD drive, and the VMware ESXi installer ISO image on a CD/DVD. For local installations, you deliver the installation media using a CD/DVD drive attached directly to the server.</p> <p>A remote system with a web browser, access to the VMware ESXi installer ISO image, and network access to the server management port (NET MGT). For remote installations, you deliver the installation media using the Oracle ILOM Remote System Console Plus device redirection features.</p> <p>A PXE server with the ESXi installation image.</p> <p><b>Note</b> - PXE booting the ESXi installation image is not included in the scope of this document. For instructions on PXE booting the ESXi installer, refer to the VMware vSphere ESXi and vCenter Server Documentation.</p>



# Preparing to Install VMware ESXi

---

This section describes how to prepare your environment for a VMware ESXi installation.

Description	Links
Set the BIOS to optimal defaults, and set the boot mode.	<a href="#">“Preparing the Boot Environment” on page 13</a>
Access the host console locally or remotely.	<a href="#">“Accessing the Host Console” on page 18</a>
Prepare the boot media.	<a href="#">“Preparing the Boot Media” on page 19</a>
Prepare the installation target.	<a href="#">“Preparing the Installation Target” on page 21</a>
Configure the Oracle Storage 12 Gb/s SAS PCIe RAID HBA Internal cache settings to support the ESXi 5.5 or 6.0 installation.	<a href="#">“Configuring the HBA Cache Settings to Support ESXi Installation” on page 23</a>
Gather required information for the installation.	<a href="#">“Gathering the Required Information” on page 36</a>

## Preparing the Boot Environment

Before you install VMware ESXi, ensure that the BIOS settings are configured to support the type of installation you plan to perform. You can change BIOS settings, such as the boot order and boot mode in the BIOS Setup Utility.

The following topics provide specific instructions on how to configure BIOS to support the installation:

- [“Verify the BIOS Optimal Defaults” on page 14](#)
- [“Set the Boot Mode” on page 15](#)

For more information about changing boot properties, refer to the *Oracle X5 Series Servers Administration Guide* at <http://www.oracle.com/goto/x86AdminDiag/docs>.

## ▼ Verify the BIOS Optimal 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 optimal defaults, as well as view and edit BIOS settings, as needed. By setting optimal defaults, you ensure that the server is operating efficiently with a known-good configuration. You can review the optimal defaults in the *Oracle Server X5-2L Service Manual*.

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

In addition to using the F2 key to view or edit the BIOS settings, you can use the F8 key during the boot process 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.

Before you begin, 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, refer to [“Servicing Storage Drives and Rear Drives \(CRU\)”](#) in *Oracle Server X5-2L Service Manual*.

### 1. Access the host console.

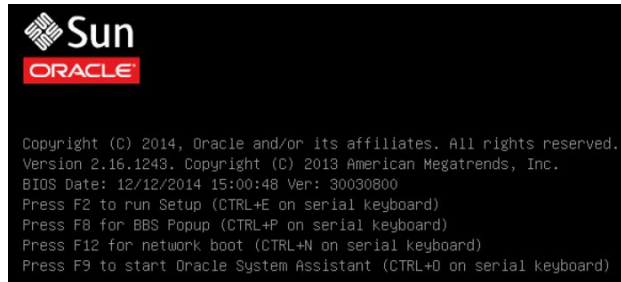
For instructions, see [“Accessing the Host Console”](#) on page 18.

### 2. Power on or reset the server.

For example, to reset the server, do one of the following:

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

The server begins the boot process, and 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.

---

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

After a few moments, the BIOS Setup Utility appears.

**4. Press the F9 key to automatically load the optimal default settings.**

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

**5. In the message, highlight OK, and then press Enter.**

**6. Press the F10 key to save your changes and exit the BIOS Setup Utility.**

Alternatively, you can select Save and Reset from the Exit menu.

## ▼ Set the Boot Mode

The server is equipped with Unified Extensible Firmware Interface (UEFI), which supports both Legacy BIOS and UEFI boot modes. Legacy BIOS boot mode is enabled by default.

VMware ESXi supports both Legacy BIOS and UEFI boot modes. However, you must run the software in the boot mode in which it was installed. That is, after you have installed VMWare

ESXi, if you decide you want to switch boot modes, you must reinstall the software. Before you install VMware ESXi, determine which boot mode is appropriate for your environment.

**1. Access the host console.**

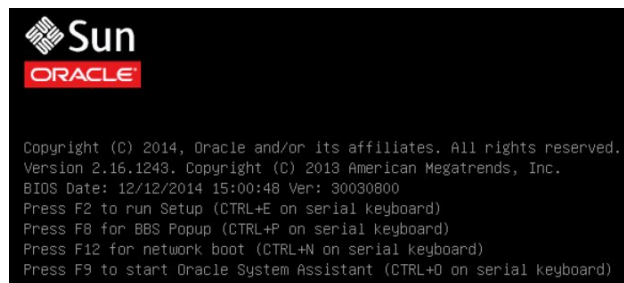
For instructions, see [“Accessing the Host Console” on page 18](#).

**2. Power on or reset the server.**

For example, to reset the server, do one of the following:

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

The server begins the boot process, and 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.

---

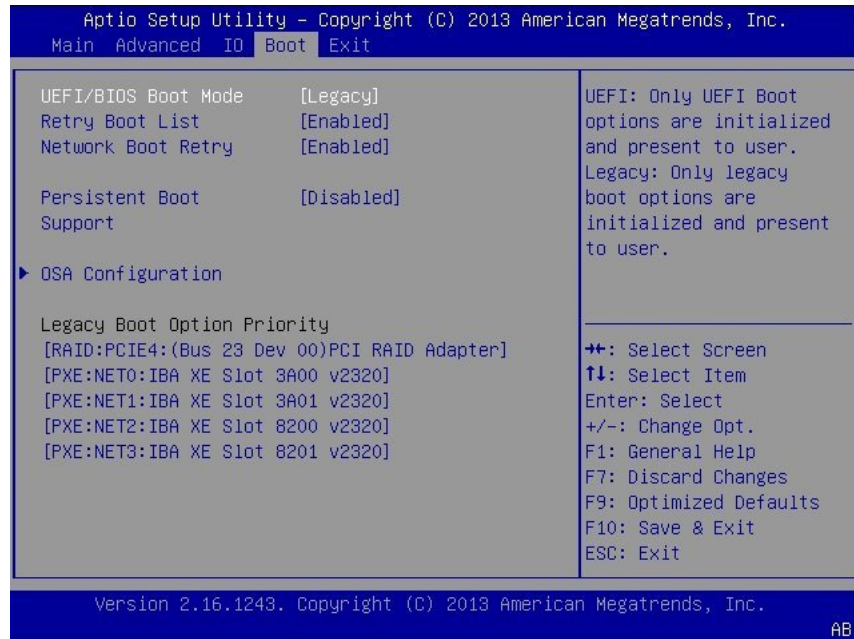
**3. When prompted in the BIOS screen, press the F2 key to access the BIOS Setup Utility.**

After a few moments, the BIOS Setup Utility appears.

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



The Boot menu appears.



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

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

## Accessing the Host Console

To view the VMware ESXi installation wizard, you must have access to the host console, either locally or remotely. This section provides instructions for viewing graphical output from the host.

- [“Access the Host Console Through a Local Graphics Monitor” on page 18](#)
- [“Access the Host Console Through the Oracle ILOM Remote System Console Plus” on page 18](#)

### ▼ Access the Host Console Through a Local Graphics Monitor

1. **Connect a VGA monitor to the VGA port on the server.**
2. **Connect a USB keyboard and mouse to the USB connectors on the server.**

#### **Related Information**

- [“Cabling the Server and Applying Power” in \*Oracle Server X5-2L Installation Guide\*](#)

### ▼ Access the Host Console Through the Oracle ILOM Remote System Console Plus

The following procedure describes how to access the host console from a remote system through the Oracle ILOM remote console application. To log in to Oracle ILOM remotely, you must know the IP address of the server service processor (SP). For instructions, refer to [“Log In to Oracle ILOM Using a Remote Ethernet Connection” in \*Oracle Server X5-2L Installation Guide\*](#)

1. **On a remote system with network access to the server network management port (NET MGT), open a web browser.**
2. **In the address bar, type the IP address of the server SP, and then press Enter.**

**3. Log in to the Oracle ILOM web interface.**

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

The Oracle ILOM Summary Information page appears.

**4. In the Actions panel, click the Remote Console Launch button.**

The Oracle ILOM Remote System Console Plus screen appears.

**Related Information**

- Oracle ILOM 3.2 Documentation Library at: <http://www.oracle.com/goto/ILOM/docs>

## Preparing the Boot Media

The VMware ESXi installer image must be accessible to the server, either locally or remotely. The following sections describe how to prepare the VMware ESXi installer boot media:

- “Set Up the Boot Media for a Local Installation” on page 19
- “Set Up the Boot Media for a Remote Installation” on page 20

### ▼ Set Up the Boot Media for a Local Installation

1. On a system with a CD/DVD burner, download the VMware ESXi 5.5 or 6.0 installer ISO image from the VMware web site at <https://my.vmware.com/web/vmware/downloads>.
2. Burn the ISO image to a CD or DVD.
3. Insert the VMware ESXi installation CD or DVD into a DVD drive attached to the server:
  - If the server is equipped with an optional DVD drive, insert the installation media into the DVD drive on the server front panel.
  - If the server is not equipped with a DVD drive, attach a DVD drive to one of the server USB ports, and then insert the installation media into the drive.

For information about how to attach local devices to the server, refer to “[Cabling the Server and Applying Power](#)” in *Oracle Server X5-2L Installation Guide* .

## ▼ Set Up the Boot Media for a Remote Installation

1. **On a remote system with network access to the server network management port (NET MGT), download the VMware ESXi installer ISO image from the VMware web site at <https://my.vmware.com/web/vmware/downloads>.**

Alternatively, you can do either of the following:

- **Burn the installation image to a CD or DVD, and then insert the installation media into a DVD drive attached to the remote system.**
- **Download the installation image to another location on the network, and then redirect the image to the server service processor using NFS or Samba protocol.**

For instructions on redirecting the ISO image from another location on the network, refer to the Oracle ILOM Remote Device section in the *Oracle ILOM Administrator's Guide for Configuration and Maintenance*, or to the More Details link in the Oracle ILOM Remote Control → Host Storage Device web interface page.

2. **Launch the Oracle ILOM Remote System Console Plus on the remote system.**

For instructions, see “[Access the Host Console Through the Oracle ILOM Remote System Console Plus](#)” on page 18.

3. **In the KVMS menu of the Oracle ILOM Remote System Console Plus application, select Storage.**

The Storage Devices dialog box appears.

4. **In the Storage Devices dialog box, perform the following steps:**

- a. **Deselect SSL Enabled, and then click Add.**

The Add Storage Devices dialog box appears.

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

The image file appears in the Storage Devices dialog box.

- c. **Select the ISO image, and then click Connect.**

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

## Preparing the Installation Target

Before you boot the VMware ESXi installer, select and prepare an installation target:

- “Installation Target Options” on page 21
- “Set Up a Local Storage Drive (HDD, SSD, or RAID Volume) as the Installation Target” on page 22
- “Set Up a Fibre Channel Storage Area Network Device as the Installation Target” on page 22

## Installation Target Options

With the exception of the embedded Oracle System Assistant USB flash drive (which is reserved for Oracle System Assistant) and the optional NVM Express (NVMe) drives on the server front panel, you can install the software on any of the storage drives installed in the server. Hard disk drives (HDDs), solid state drives (SSDs), virtual drives, and iSCSI software disks are valid installation targets for VMware ESXi 5.5 and 6.0. However, installing to an iSCSI target is not described in this guide. For more information about installing to an iSCSI target, refer to the VMware ESXi documentation at <http://pubs.vmware.com/vsphere-55/index.jsp>.

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

---

**Note** - NVMe drives are not supported on servers running the VMware ESXi software. If your server is equipped with NVMe drives, you have to install either the Oracle Solaris or Oracle Linux operating system to use them.

---

## 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 file system 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, refer to the *Oracle X5 Series Servers Administration Guide* at <http://www.oracle.com/goto/x86AdminDiag/docs>.

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

1. **Ensure that the target hard 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 “[Servicing Storage Drives and Rear Drives \(CRU\)](#)” in *Oracle Server X5-2L Service Manual*

2. **Ensure that the target drives are configured to suit your environment.**

By default, each physical drive on the server is configured as a logical RAID 0 volume. To implement an alternative configuration, refer to the following resources:

- “[Configuring Storage Drives for Operating System Installation](#)” in *Oracle Server X5-2L Installation Guide*
- *Oracle X5 Series Servers Administration Guide* at <http://www.oracle.com/goto/x86AdminDiag/docs>

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

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

For more information about installing a PCIe HBA option, refer to [“Servicing PCIe Cards \(CRU\)” in Oracle Server X5-2L Service Manual](#)

2. **Ensure that the storage area network (SAN) is installed and configured to make the storage device visible to the host on the server.**

For instructions, refer to the documentation supplied with the Fibre Channel HBA.

## Configuring the HBA Cache Settings to Support ESXi Installation

The default cache settings for the Oracle Storage 12 Gb/s SAS PCIe RAID HBA (host bus adapter) Internal cause the ESXi 5.5 or 6.0 installation to fail. To enable the installation to complete successfully, you must change the cache settings as described in the following procedures:

- [“Configure the HBA Cache Settings in Legacy BIOS Boot Mode” on page 23](#)
- [“Configure the HBA Cache Settings in UEFI Boot Mode” on page 28](#)

### ▼ Configure the HBA Cache Settings in Legacy BIOS Boot Mode

1. **Access the host console.**

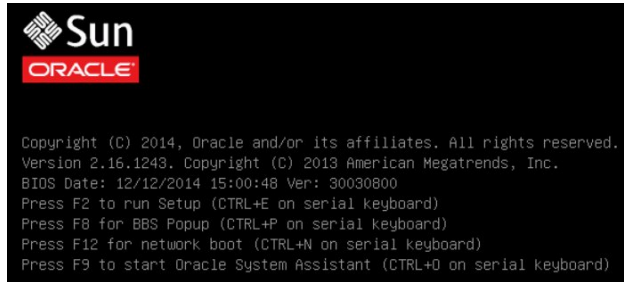
For instructions, see [“Accessing the Host Console” on page 18](#).

2. **Power on or reset the server.**

For example, to reset the server, do one of the following:

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

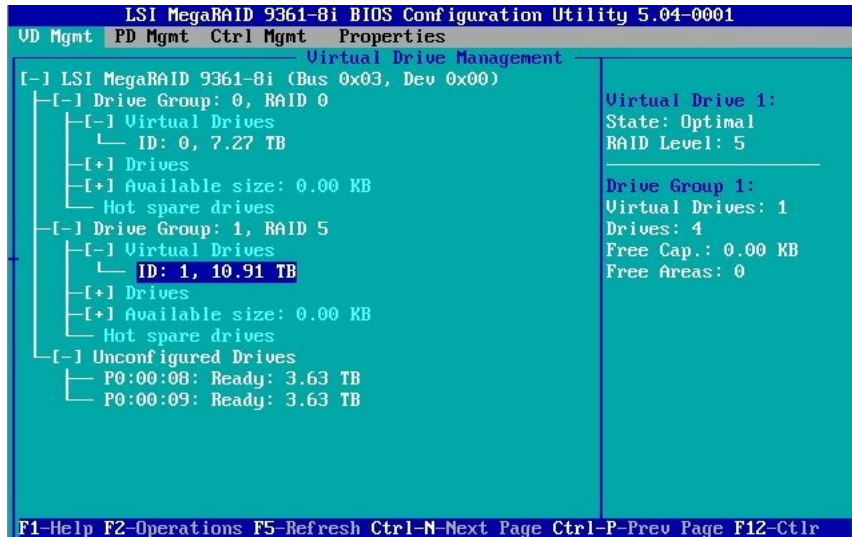
The server begins the boot process, and the BIOS screen appears.



**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.

3. **When prompted in the BIOS screen, press Ctrl+R to enter the MegaRAID Configuration Utility.**

The Virtual Drive Management screen appears.





4. In the Virtual Drive Management screen, navigate to the ID field for the Drive Group that contains the software installation target.
5. Press the F2 key.

The Operations menu appears.



6. In the Operations menu, navigate to the Properties option, and then press Enter.

The Virtual Drive Properties screen appears.



7. In the Virtual Drive Properties screen, select Advanced, and then press Enter.

The Advanced Properties dialog box appears.



8. In the Advanced Properties dialog box, perform the following steps:
  - a. Set the Read Policy property to Normal.
  - b. Set the I/O Policy property to Cached.
  - c. Navigate to the OK button, and then press Enter to exit the Advanced Properties dialog box.

The Virtual Drive Properties screen reappears.

9. Navigate to the OK button, and then press Enter to exit the Virtual Drive Properties screen.

The Virtual Drive Management screen reappears.

10. Press Esc to save your changes and exit the MegaRAID Configuration Utility.

A message appears asking you to confirm that you want to exit.

11. Navigate to the OK button, and then press Enter to confirm that you want to exit the utility.

## ▼ Configure the HBA Cache Settings in UEFI Boot Mode

1. **Access the host console.**

For instructions, see [“Accessing the Host Console” on page 18](#).

2. **Power on or reset the server.**

For example, to reset the server, do one of the following:

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

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



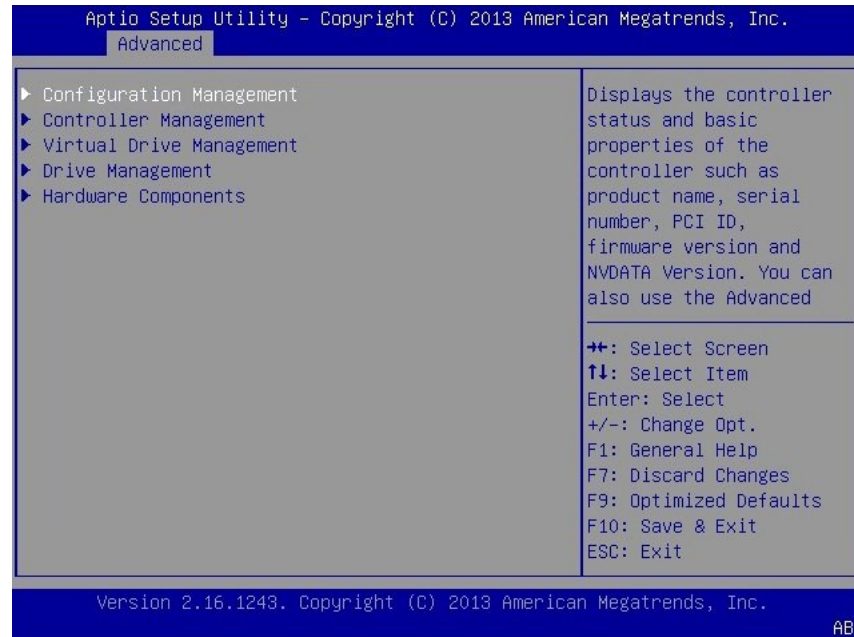
---

**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.

---

3. **When prompted in the BIOS screen, press the F2 key to access the BIOS Setup Utility.**
4. **Navigate to the Advanced menu.**
5. **In the Advanced menu, select LSI MegaRAID Configuration Utility.**

The LSI Human Interface Interaction (HII) Configuration Utility menu appears.

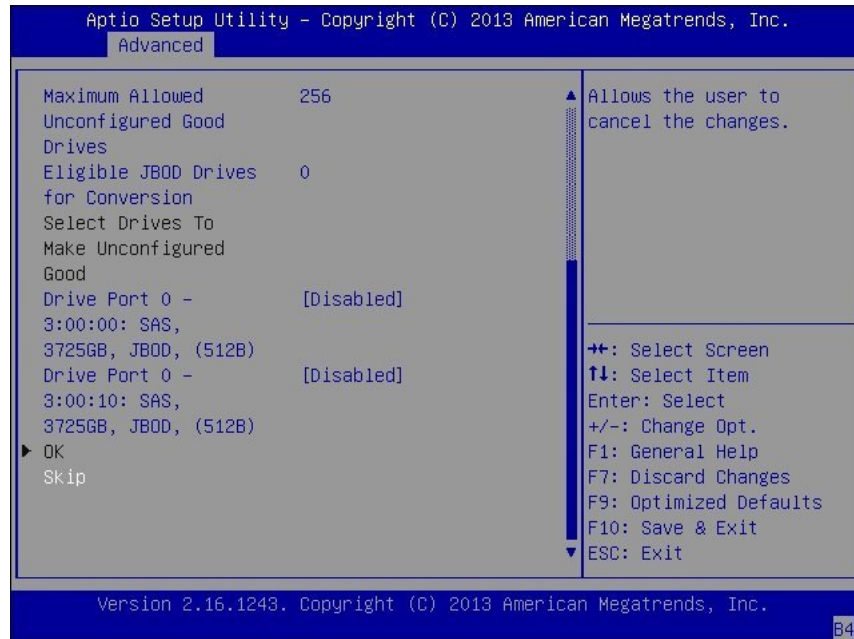


## 6. Select Configuration Management.



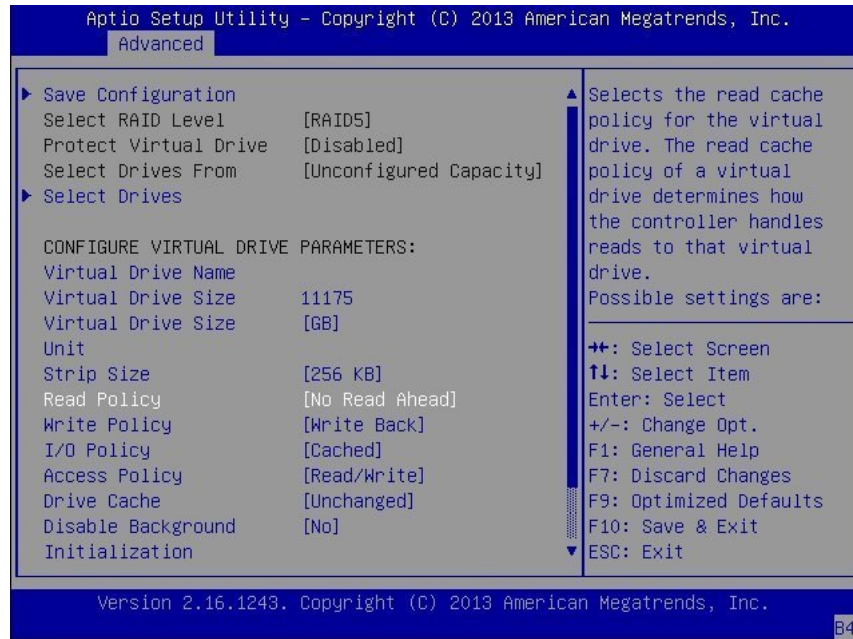
## 7. Select Create Virtual Drive.

The JBOD Conversion screen appears.



8. **Scroll to the bottom of the JBOD Conversion screen, and then select Skip to exit the screen.**

The Create Virtual Drive screen appears.



9. In the Configure Virtual Drive Parameters portion of the screen, perform the following steps:

- Set the Read Policy to No Read Ahead.
- Set the I/O Policy to Cached.
- Select Save Configuration.  
A confirmation screen appears.
- Set the Confirm field to Enabled.
- Select Yes.

10. Press the F10 key to save your changes and exit the BIOS Setup Utility.



## Configuring the Input/Output Settings to Support the VMware ESXi Installation

The server defaults to 64-bit MMIO (Memory Mapped I/O). This allows additional PCIe memory address space to be mapped above the standard 32-bit 4 GB of space for PCIe cards that include option ROMs. However, VMware ESXi is incompatible with MMIO space above the standard 4 GB. Therefore, before you install VMware ESXi, you must set the 64 Bit Resources Allocation property to Disabled in the BIOS Setup Utility.

Attempting to install VMware ESXi without disabling the 64 Bit Resources Allocation property might cause the installation to fail or the PCIe cards in the system to function improperly.

To disable this property, see the following procedure:

- [“Disable the PCI 64 Bit Resources Allocation Property” on page 33](#)

### ▼ Disable the PCI 64 Bit Resources Allocation Property

1. **Access the host console.**

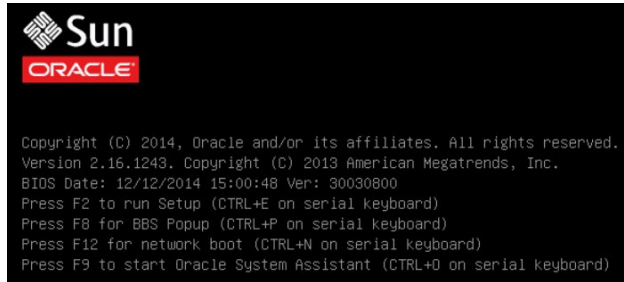
For instructions, see [“Accessing the Host Console” on page 18](#).

2. **Power on or reset the server.**

For example, to reset the server, do one of the following:

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

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



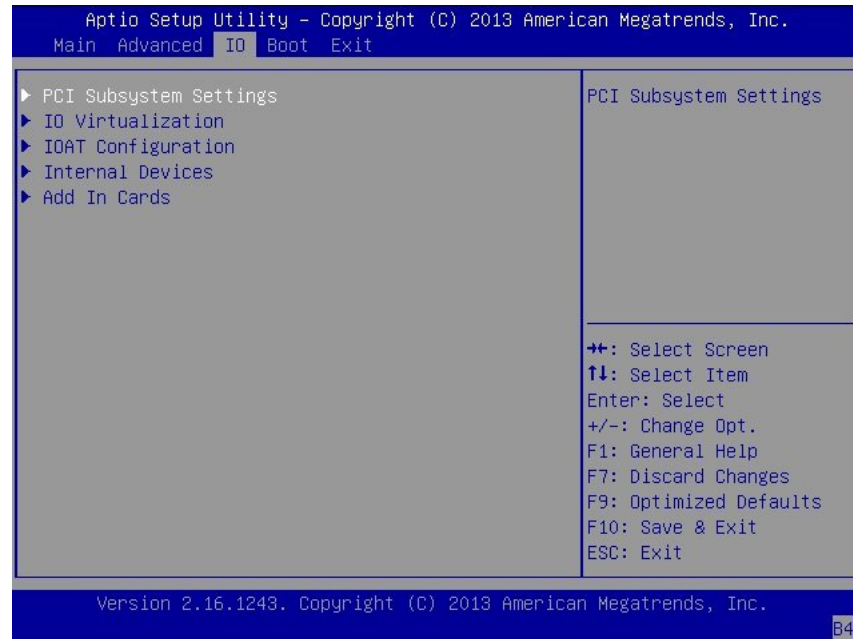
---

**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.

---

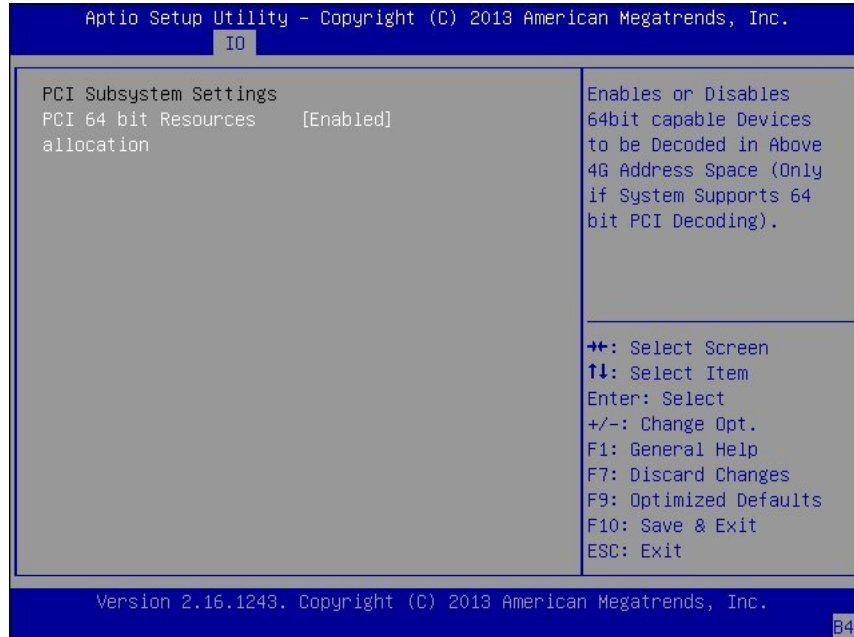
3. **When prompted in the BIOS screen, press the F2 key to access the BIOS Setup Utility.**

4. Navigate to the IO menu.



5. In the IO menu, select PCI Subsystem Settings.

The PCI Subsystem Settings screen appears.



6. **Set the PCI 64 Bit Resources Allocation property to Disabled.**
7. **Press the F10 key to save your changes and exit the BIOS Setup Utility.**

## Gathering the Required Information

During an VMware ESXi installation, the installer prompts you for information about the system. Use the table that follows to gather the information you will need.

For future use, note the values that you use during the installation.

Information	Required or Optional	Default	Comments
Keyboard Layout	Required	U.S. English	
VLAN ID	Optional	None	VMware ESXi accepts a VLAN ID between 0 and

Information	Required or Optional	Default	Comments
			4094. For more information about VLAN IDs, refer to <a href="#">“Modifying the Service Processor Network Settings Using Oracle ILOM” in Oracle Server X5-2L Installation Guide</a>
IP address	Optional	DHCP	You can allow DHCP to configure the network during installation. After installation, you can change the network settings.
Subnet mask	Optional	Calculated based on the IP address	
Gateway	Optional	Based on the configured IP address and subnet mask	
Primary DNS	Optional	Based on the configured IP address and subnet mask	
Secondary DNS	Optional	None	
Host name	Required for static IP settings	None	The vSphere Web Client can use either the host name or the IP address to access the ESXi host.
Install location	Required	None	Must be at least 5 GB if you install the components on a single disk.
Migrate existing ESX or ESXi settings. Preserve existing VMFS datastore.	Required if you are installing ESXi on a drive with an existing ESXi or ESX installation.	None	If you have an existing ESX/ESXi 4.x or ESXi 5.0 installation, the ESXi installer offers a choice between preserving or overwriting the VMFS datastore during installation.
Root password	Optional	None	The root password must contain between 7 and 64 characters.



# Installing VMware ESXi

---

This section provides instructions for performing an installation of VMware ESXi on the server.

Description	Links
Review the preinstallation requirements.	<a href="#">“Before You Begin” on page 39</a>
Install VMware ESXi on the server.	<a href="#">“Installing VMware ESXi on a Single System Using Media” on page 40</a>

## Before You Begin

Ensure that the following requirements are met:

- You have prepared the boot environment. For more information, see [“Preparing the Boot Environment” on page 13](#).
- You have access to the host console. For more information, see [“Accessing the Host Console” on page 18](#).
- You have prepared the boot media. For more information, see [“Preparing the Boot Media” on page 19](#).
- You have selected the installation target and ensured that it is properly installed. For more information, see [“Preparing the Installation Target” on page 21](#).
- You have configured the Oracle Storage 12 Gb/s SAS PCIe RAID HBA (host bus adapter) Internal to support the installation. For more information, see [“Configuring the HBA Cache Settings to Support ESXi Installation” on page 23](#).
- You have disabled the 64 Bit Resources Allocation property in the BIOS Setup Utility. For more information, see [“Configuring the Input/Output Settings to Support the VMware ESXi Installation” on page 33](#).
- You have determined 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. For more information, see [“Configuring Network Interfaces” on page 65](#).

- You have access to the VMware ESXi 5.5 and 6.0 installation documentation. VMware ESXi documentation is available at <http://pubs.vmware.com/vsphere-55/index.jsp>.

## Installing VMware ESXi on a Single System Using Media

The following procedure describes how to boot the VMware ESXi installer from a local or remote source:

- [“Installing VMware ESXi on a Single System Using Media” on page 40](#)

For information about alternative installation options, see [“VMware ESXi Installation Options” on page 11](#).

### ▼ Install VMware ESXi Using Local or Remote Media

Before you begin, review the installation prerequisites in [“Before You Begin” on page 39](#).

- 1. Access the host console.**

For instructions, see [“Accessing the Host Console” on page 18](#).

- 2. Ensure that the installation media is available to boot.**

For instructions, see [“Preparing the Boot Media” on page 19](#).

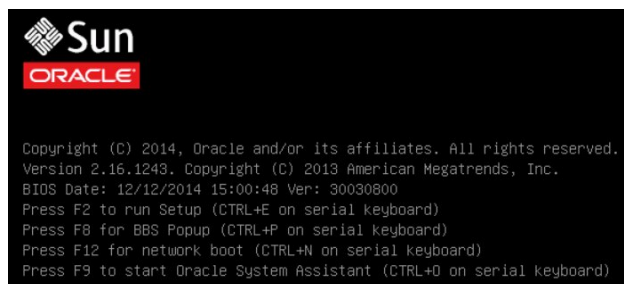
- 3. Power on or reset the server.**

For example, to reset the server, do one of the following:

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



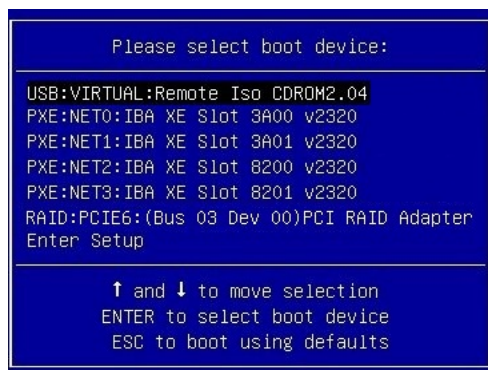
The server begins the boot process, and the BIOS screen appears.



**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.

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

The Please Select Boot Device menu appears.



5. **In the Please Select Boot Device menu, select either the external or virtual CD/DVD device as the boot device, and then press Enter.**

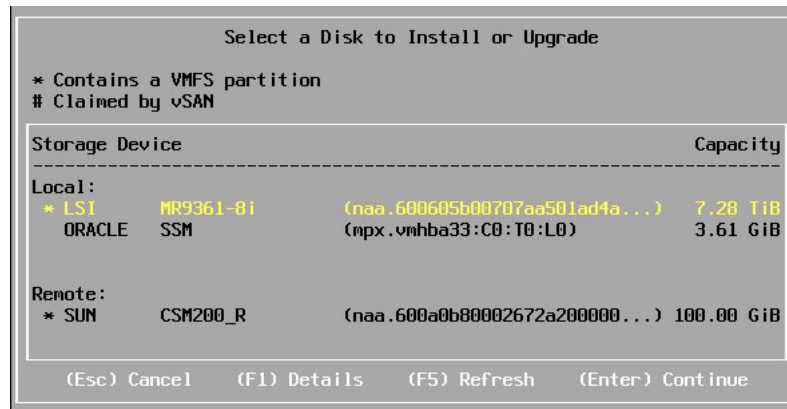
The device strings listed in the Boot Device menu are in the following format: *device type, slot indicator, and product ID string*.

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

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

You can access the VMware ESXi installation documentation at <http://pubs.vmware.com/vsphere-55/index.jsp>.

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



**Caution** - In the screen shown above, the Oracle SSM drive is the Oracle System Assistant USB flash drive. You might have to scroll to the bottom of the screen to see this drive. You should *never* select the Oracle SSM drive as the software installation drive. Installing VMware ESXi to the Oracle SSM drive will overwrite the Oracle System Assistant software and Oracle System Assistant will have to be restored. For instructions for restoring Oracle System Assistant, refer to the *Oracle X5 Series Servers Administration Guide* at <http://www.oracle.com/goto/x86AdminDiag/docs>.

8. **After completing the VMware ESXi installation, proceed to “Post-Installation Tasks for VMware ESXi” on page 43.**

## Post-Installation Tasks for VMware ESXi

---

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

Description	Link
Determine the MAC address for a connected port.	<a href="#">“Determine the MAC Address of a Connected Server Network Port” on page 43</a>
Configure the network adapters.	<a href="#">“Configure Network Adapter Settings” on page 44</a>
Enable the megaraid_sas driver.	<a href="#">“Enable the megaraid_sas Driver” on page 50</a>
Set the Oracle Storage 12 Gb/s SAS PCIe RAID HBA (host bus adapter) Internal cache settings to default values in Legacy BIOS Boot Mode.	<a href="#">“Return the HBA Cache Settings to Default Values in Legacy BIOS Boot Mode” on page 53</a>
Set the Oracle Storage 12 Gb/s SAS PCIe RAID HBA (host bus adapter) Internal cache settings to default values in UEFI Boot Mode.	<a href="#">“Return the HBA Cache Settings to Default Values in UEFI Boot Mode” on page 58</a>
Update the VMware ESXi software.	<a href="#">“Update the VMware ESXi Software” on page 63</a>
Manage the VMware ESXi resources.	<a href="#">“Manage VMware ESXi Resources” on page 63</a>

### ▼ 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 polls the system for the port MAC address.

To change the network interface for the VMware ESXi service console you should know the MAC address for your preferred management port. Perform the following procedure to determine the MAC address for a server network port.

---

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

---

1. **Log in to the Oracle ILOM command-line interface.**

For instructions, refer to “[Connecting to Oracle ILOM](#)” in *Oracle Server X5-2L Installation Guide*.

**2. Issue the following command:**

```
-> show /System/Networking/Ethernet_NICs/Ethernet_NIC_n
```

Where *n* is 0, 1, 2, or 3, corresponding to the server Ethernet ports.

For example, if Ethernet port NET0 is connected to the network, then the command produces the following output:

```
-> 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.

---

## ▼ Configure Network Adapter Settings

VMware ESXi assigns a device name to each port, for example *vmnicn*, where *n* might not correspond to the port number on the server.

By default, *vmnic0* is the network interface for the VMware ESXi service console. If *vmnic0* is not connected to the network, you need to change the network adapter settings in the service console. To change these settings, perform the following procedure.

---

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

---

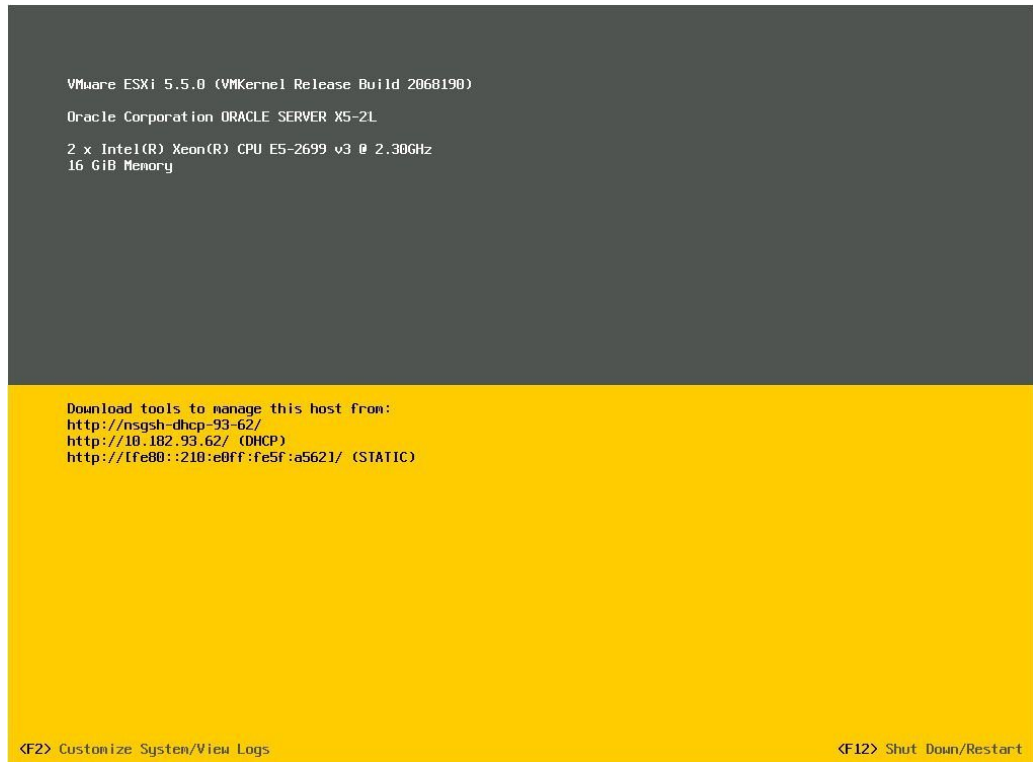
Before you begin, determine the MAC address of your preferred management port. For instructions, see [“Determine the MAC Address of a Connected Server Network Port” on page 43](#).

**1. After you complete the VMware ESXi installation, reset or power on the server.**

For example, to reset the server, do one of the following:

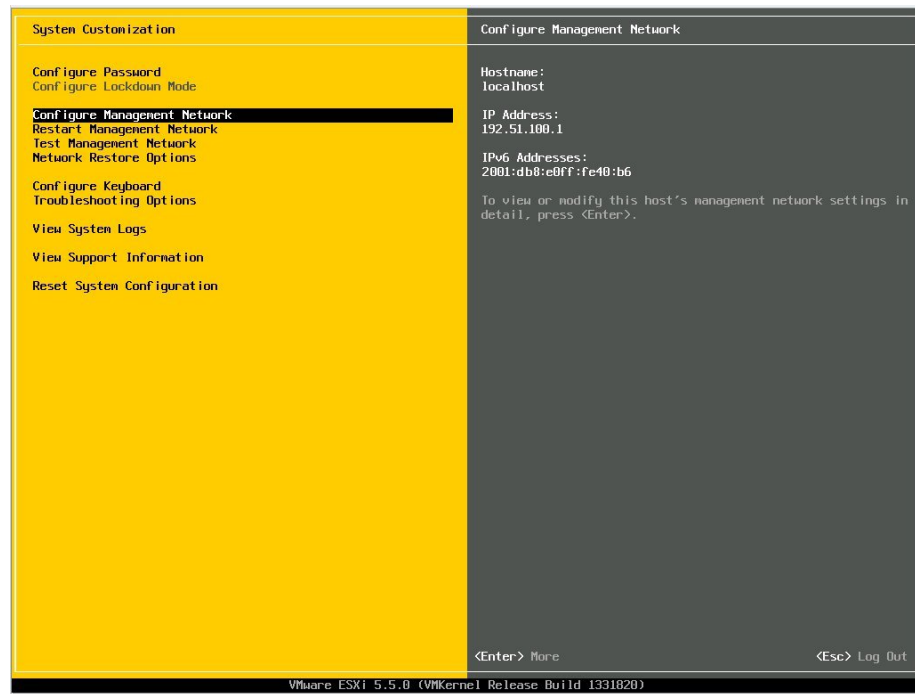
- **From the local server,** press the Power button on the front panel of the server (for approximately 1 second) to power off the server, and then press the Power button again to power on the server.
- **From the Oracle ILOM web interface,** select Host Management → Power Control, and then select Reset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

When you power on the server for the first time after installing VMware ESXi, the host enters an autoconfiguration phase. After the host is autoconfigured, the VMware ESXi direct console appears on the screen.



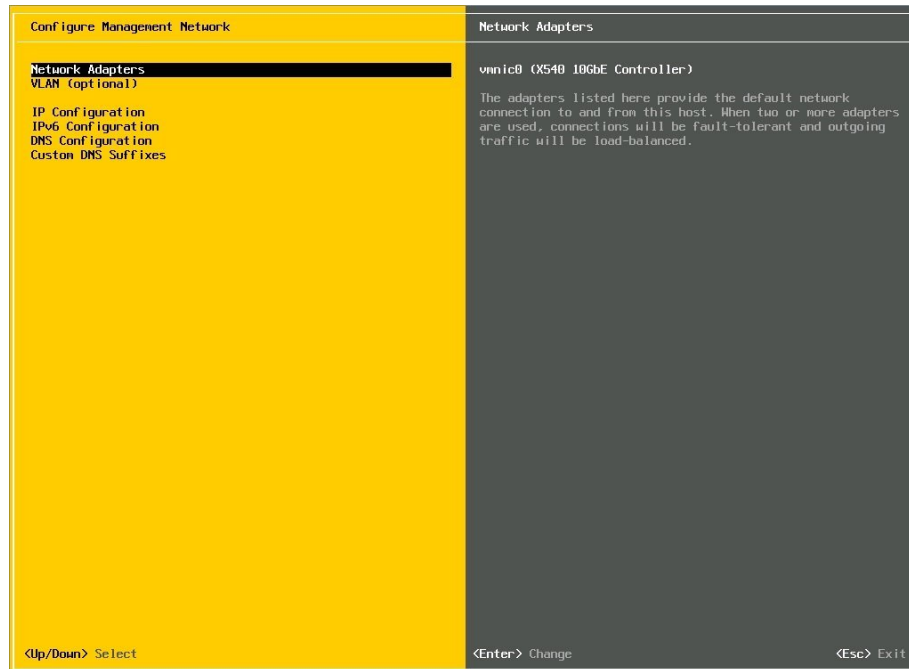
2. In the direct console screen, press the F2 key to select **Customize System/View Logs**.
3. Log in to the VMware ESXi server.

The System Customization screen appears.



4. In the System Customization screen, select **Configure Management Network**.

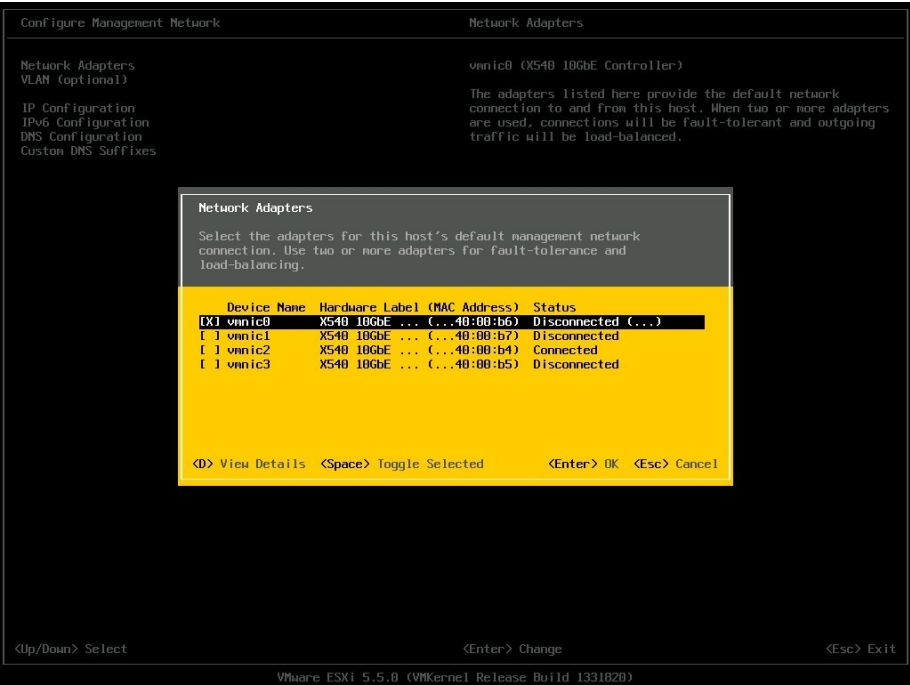
The Configure Management Network screen appears.



5. In the Configure Management Network screen, select Network Adapters.



The Network Adapters screen appears.



6. To change the default management port for VMware ESXi, perform the following steps:
  - a. **Deselect the current management port.**
  - b. **Select your preferred management port.**

Review the MAC address field to determine the correct port. A confirmation dialog box appears.
  - c. **Select Yes to apply your changes.**

Changing the management port might cause a brief network outage or server reset.
7. **Refer to the VMware ESXi documentation to complete the configuration.**

The VMware ESXi documentation is available at <http://pubs.vmware.com/vsphere-55/index.jsp>.

## ▼ Enable the megaraid\_sas Driver

To ensure the proper operation of VMware ESXi, you must install the megaraid\_sas driver for the Oracle Storage 12 Gb/s SAS PCIe RAID Internal HBA (host bus adapter). Then, you must disable the default driver. To change the HBA driver, see the following procedure.

1. **Reset or power on the server to access the VMware ESXi direct console.**

For example, to reset the server, do one of the following:

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

2. **In the direct console screen, press the F2 key to select Customize System/View Logs.**

3. **Log in to the VMware ESXi server.**

The System Customization screen appears.

4. **In the System Customization screen, select Troubleshooting Options.**

The Troubleshooting Mode Options screen appears.

5. **In the Troubleshooting Mode Options screen, enable the following:**

- ESXi Shell
- SSH

6. **On a system with network access to the VMware ESXi management port, use an SSH client to connect to the server.**

Directions will vary depending on the SSH client. In general, you will need to provide the IP address or hostname of the server as well as user credentials.

The VMware ESXi prompt appears.

7. **Download the VMware ESXi Driver for LSI MegaRAID SAS Adapters zip file from the VMware web site at:**

[https://my.vmware.com/web/vmware/details?downloadGroup=DT-ESXI55-LSI-SAS-MEGARAID\\_SAS-660355001VMW&productId=353](https://my.vmware.com/web/vmware/details?downloadGroup=DT-ESXI55-LSI-SAS-MEGARAID_SAS-660355001VMW&productId=353).

**8. Extract the megaraid\_sas-6.603.55.00-1712343.zip file.**

**9. Copy the megaraid\_sas-6.603.55.00-offline\_bundle-1712343.zip file to the /tmp directory on the ESXi server:**

```
[johnsmith@hostname ESXi55]$ ~ # cd vmfs/volumes/cert_datastore_UEFI/
/vmfs/volumes/53dfb90c-df6f16cf-7366-0010e057792c # scp root@192.168.1.30:/root/
megaraid_sas-6.603.55.00-offline_bundle-1712343.zip
.root@192.168.1.30's password scp megaraid_sas-6.603.55.00-offline_bundle-1712343.zip
root@10.182.93.62:/tmp/
megaraid_sas-6.603.55.00-offline_bundle-1712343.zip 100% 57KB 56.9KB/s
00:00: password
megaraid_sas-6.603.55.00-offline_bundle-1712343.zip 100% 57KB 56.9KB/s 00:00
/vmfs/volumes/53dfb90c-df6f16cf-7366-0010e057792c #
```

**10. Issue the following command to verify that the Oracle Storage 12 Gb/s SAS PCIe RAID Internal HBA is using the lsi\_mr3 native mode driver:**

```
[johnsmith@hostname ESXi55]$ ~ # esxcfg-scsidevs -a
vmhba38 ahci link-n/a sata.vmhba38 (0:0:31.2) Intel Corporation Wellsburg AHCI
Controller
vmhba39 ahci link-n/a sata.vmhba39 (0:0:31.2) Intel Corporation Wellsburg AHCI
Controller
vmhba0 ahci link-n/a sata.vmhba0 (0:0:31.2) Intel Corporation Wellsburg AHCI Controller
vmhba1 lsi_mr3 link-n/a pscsi.vmhba1 (0:3:0.0) LSI MegaRAID SAS Invader Controller
vmhba40 ahci link-n/a sata.vmhba40 (0:0:31.2) Intel Corporation Wellsburg AHCI
Controller
.
.
.
```

**11. Put the host into maintenance mode:**

```
[johnsmith@hostname ESXi55]$ vim-cmd /hostsvc/maintenance_mode_enter
```

**12. Install the megaraid\_sas-6.603.55.00-offline\_bundle-1712343.zip file from the /tmp/ directory:**

```
[johnsmith@hostname ESXi55]$ ~ # esxcli software vib install -d "/tmp/megaraid_sas-
6.603.55.00-offline_bundle-1712343.zip"
Installation Result
Message: The update completed successfully, but the system needs to be rebooted for the
changes to be effective.
Reboot Required: true
VIBs Installed: LSI_bootbank_scsi-megaraid-sas_6.603.53.00-10EM.550.0.0.1331820
VIBs Removed: VMware_bootbank_scsi-megaraid-sas_5.34-9vmw.550.2.33.2068190
VIBs Skipped:
```

**13. Reboot the host, and then reconnect to it using an SSH client.**

To reboot the host, you can issue the **reboot** command.

**14. Issue the following command to verify that the LSI scsi-megaraid-sas installation bundle is present:**

```
[johnsmith@hostname ESXi55]$ ~ # esxcli software vib list
Name                               Version                               Vendor  Acceptance Level
Install Date
-----
scsi-megaraid-sas                 6.603.53.00-10EM.550.0.0.1331820    LSI     VMwareCertified
2014-04-23
ata-pata-amd                      0.3.10-3vmw.550.0.0.1331820         VMware  VMwareCertified
2014-04-21
ata-pata-atiixp                   0.4.6-4vmw.550.0.0.1331820         VMware  VMwareCertified
2014-04-21
.
.
.
```

**15. Disable the `lsi_mr3` native mode driver:**

```
[johnsmith@hostname ESXi55]$ ~ # esxcli system module set --enabled=false --
module=lsi_mr3
```

**16. Return the server to normal operating mode:**

```
[johnsmith@hostname ESXi55]$ ~ # vim-cmd hostsvc/maintenance_mode_exit
```

**17. Reboot the host, and then reconnect to it using an SSH client.**

To reboot the host, you can issue the **reboot** command.

**18. Issue the following command to verify that the Oracle Storage 12 Gb/s SAS PCIe RAID Internal HBA is using the megaraid-sas driver:**

```
[johnsmith@hostname ESXi55]$ ~ # esxcfg-scsidevs -a
vmhba38 ahci link-n/a sata.vmhba38 (0:0:31.2) Intel Corporation Wellsburg AHCI
Controller
vmhba39 ahci link-n/a sata.vmhba39 (0:0:31.2) Intel Corporation Wellsburg AHCI
Controller
vmhba0 ahci link-n/a sata.vmhba0 (0:0:31.2) Intel Corporation Wellsburg AHCI Controller
vmhba1 megaraid_sas link-n/a unknown.vmhba1 (0:3:0.0) LSI / Symbios Logic MegaRAID SAS
Invader Controller
vmhba40 ahci link-n/a sata.vmhba40 (0:0:31.2) Intel Corporation Wellsburg AHCI
Controller
.
```

## ▼ Return the HBA Cache Settings to Default Values in Legacy BIOS Boot Mode

After you have installed VMware ESXi, you must return the Oracle Storage 12 Gb/s SAS PCIe RAID HBA (host bus adapter) Internal cache settings to their default values. Reverting to the default values ensures that the server is operating efficiently.

1. **Access the host console.**

For instructions, see [“Accessing the Host Console” on page 18](#).

2. **Power on or reset the server.**

For example, to reset the server, do one of the following:

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

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



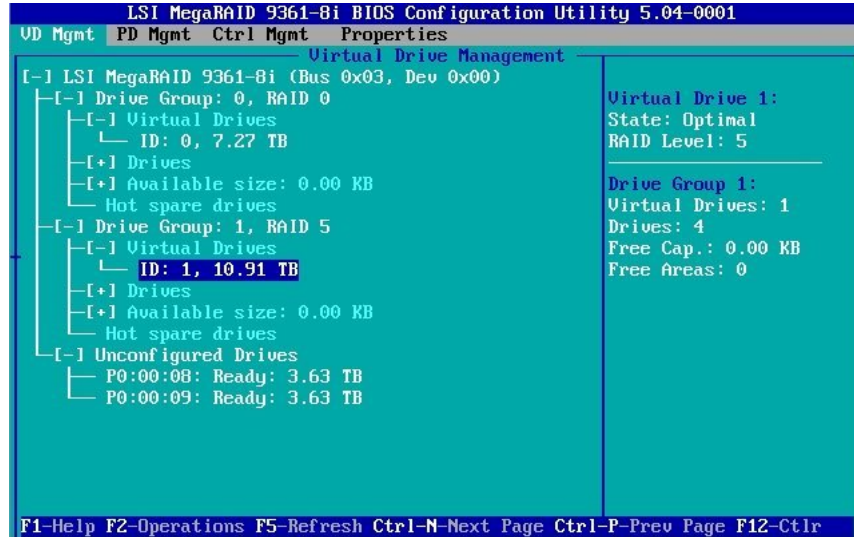
---

**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.

---

3. When prompted in the BIOS screen, press Ctrl+R to enter the MegaRAID Configuration Utility.

The Virtual Drive Management screen appears.



4. In the Virtual Drive Management screen, navigate to the ID field for the Drive Group that contains the drive on which you installed the software.
5. Press the F2 key.

The Operations menu appears.



- In the Operations menu, navigate to the Properties option, and then press Enter.

The Virtual Drive Properties screen appears.



7. In the Virtual Drive Properties screen, select Advanced, and then press Enter.



The Advanced Properties dialog box appears.



8. In the Advanced Properties dialog box, perform the following steps:
  - a. Set the Read Policy property to Ahead.
  - b. Set the I/O Policy property to Direct.
  - c. Navigate to the OK button, and then press Enter to exit the Advanced Properties dialog box.

The Virtual Drive Properties screen reappears.

9. Navigate to the OK button, and then press Enter to exit the Virtual Drive Properties screen.

The Virtual Drive Management screen reappears.

10. Press Esc to save your changes and exit the MegaRAID Configuration Utility.  
A message appears asking you to confirm that you want to exit.
11. Navigate to the OK button, and then press Enter to confirm that you want to exit the utility.

## ▼ Return the HBA Cache Settings to Default Values in UEFI Boot Mode

After you have installed VMware ESXi, you must return the Oracle Storage 12 Gb/s SAS PCIe RAID HBA (host bus adapter) Internal cache settings to their default values. Reverting to the default values ensures that the server is operating efficiently.

1. **Access the host console.**

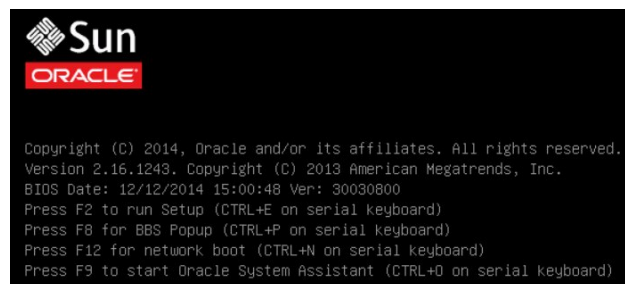
For instructions, see [“Accessing the Host Console” on page 18](#).

2. **Power on or reset the server.**

For example, to reset the server, do one of the following:

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

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



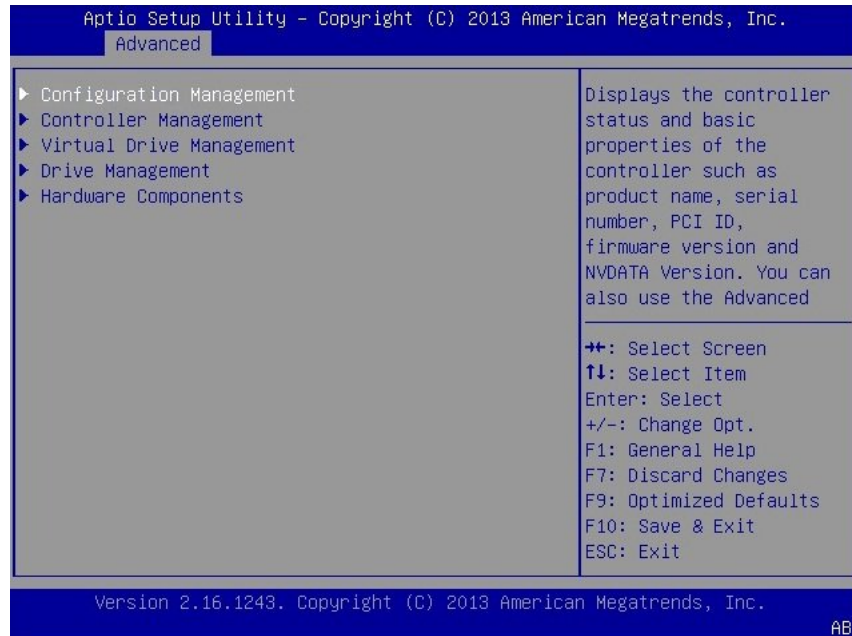
---

**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.

---

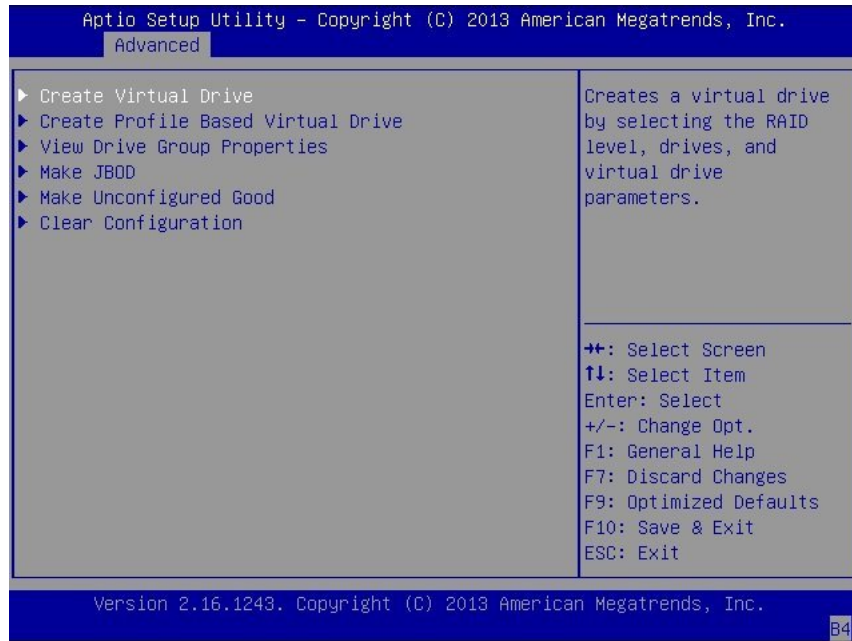
3. **When prompted in the BIOS screen, press the F2 key to access the BIOS Setup Utility.**

4. **Navigate to the Advanced menu.**
5. **In the Advanced menu, select LSI MegaRAID Configuration Utility.**  
The LSI Human Interface Interaction (HII) Configuration Utility menu appears.



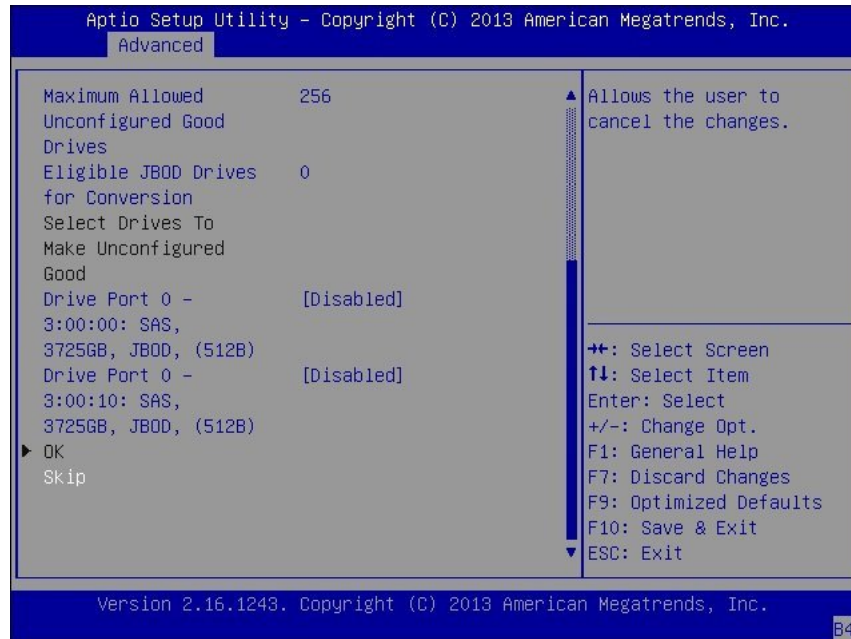
6. **Select Configuration Management.**

The Configuration Management screen appears.



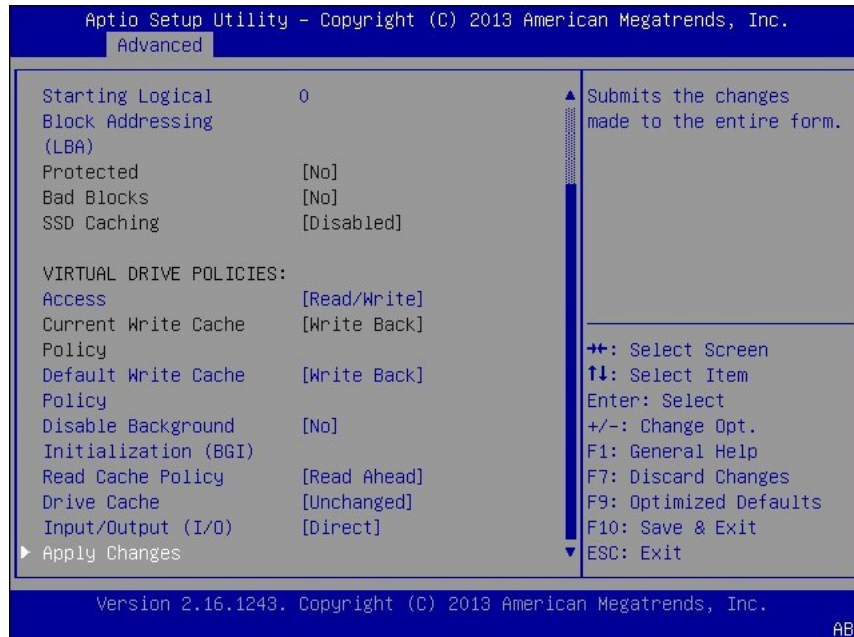
**7. Select Create Virtual Drive.**

The JBOD Conversion screen appears.



8. Scroll to the bottom of the JBOD Conversion screen, and then select Skip to exit the screen.

The Create Virtual Drive screen appears.



9. In the Virtual Drive Policies portion of the screen, perform the following steps:

- Set Read Cache Policy to Read Ahead.
- Set Input/Output (I/O) property to Direct.
- Select Apply Changes.  
A confirmation screen appears.
- Set the Confirm field to Enabled.
- Select Yes.

10. Press the F10 key to save your changes and exit the BIOS Setup Utility.

## ▼ 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.

1. **Determine whether updates for your installation are available from the VMware ESXi download web site at <http://support.vmware.com/selfsupport/download/>.**
2. **Refer to the VMware ESXi documentation at <http://pubs.vmware.com/vsphere-55/index.jsp> to complete the update installation.**

## Manage VMware ESXi Resources

VMware provides documentation about ESXi.

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

<http://pubs.vmware.com/vsphere-55/index.jsp>





# Configuring Network Interfaces

---

This section contains information about the network connectors on the server:

- [“NIC Connectors” on page 65](#)

## NIC Connectors

If there are no add-in network interface card (NIC) cards installed on the server, VMware ESXi rennumbers the network ports as follows.

---

**Note** - These mappings might change if add-in NIC cards are installed on the server.

---

**TABLE 1**      NIC Connector Label

NIC Connector Label	Interface Type
NET0	First NIC interface (vmnic0)
NET1	Second NIC interface (vmnic1)
NET2	Third NIC interface (vmnic2)
NET3	Fourth NIC interface (vmnic3)

---

**Note** - Ethernet ports NET 2 and NET 3 are non-functional in single-processor systems.

---



# Index

---

## B

- BIOS, 13
  - changing boot mode, 15
  - memory-mapped I/O restriction, 33
  - setting defaults, 14
- Boot Device menu
  - selections, 41
- boot media
  - preparing, 19
- boot mode
  - changing, 15
- booting from ISO image, 40

## C

- Configure Management Network screen, 48
- configuring VMware ESXi, 63

## D

- documentation
  - server, 10
  - VMware ESXi, 63
- driver
  - enabling, 50

## H

- host bus adapter cache settings
  - configuring
    - Legacy BIOS boot mode, 23, 53, 58

- UEFI boot mode, 28

- host console
  - viewing, 18

## I

- installation
  - overview, 9
  - screens, 36
  - task map, 9
  - using installation media, 40
- installation option
  - local, 11
  - remote, 11
- installation options, 11
  - single server, 11
- installation prerequisites, 39
- installation target
  - fibre channel storage area network (SAN)
    - device, 22
  - local storage drive, 22
  - options, 21
  - preparing, 21
- ISO image
  - VMware ESXi, 40

## L

- local boot media
  - setting up, 19
- local console
  - setting up, 18

## **M**

- maintenance mode, 51
- management port
  - setting, 44
- megaraid\_sas driver, 50
- memory-mapped I/O setting
  - configuring, 33

## **N**

- network interfaces
  - configuring, 65

## **O**

- Oracle Storage 12 Gb/s SAS PCIe RAID HBA Internal
  - restriction, 23, 53, 58
- Oracle System Assistant
  - USB flash drive caution, 21, 42

## **P**

- patches and updates, 63
- post installation tasks
  - VMware ESXi, 43
- post-installation requirement
  - host bus adapter cache settings, 53, 58
- preinstallation requirement
  - host bus adapter cache settings, 23
- PXE installation, 11

## **R**

- RAID volume
  - as installation target, 22
- remote boot media
  - setting up, 20
- remote console
  - setting up, 18
- resetting server power, 40

## **S**

- server port MAC addresses
  - determining, 43
- supported software versions, 10
- System Customization screen, 47

## **T**

- task map, 9
- temporary boot device
  - specifying, 41

## **U**

- updating VMware ESXi, 63

## **V**

- VMware
  - documentation web site, 49
- VMware ESXi
  - configuring, 36
  - configuring network adapters, 44
  - configuring network interfaces, 65
  - installation options, 11
  - post installation tasks, 43
  - setting management port, 44
  - software versions supported, 10