

**Netra Server X3-2**  
**(formerly Sun Netra X4270 M3 Server)**

Operating System Installation Guide



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# Using This Documentation

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This document provides information about how to install one of several supported OS on Oracle's Netra Server X3-2 (formerly Sun Netra X4270 M3 server).

This document is written for technicians, system administrators, authorized service providers, and users who have a experience with computer technology.

- "Product Notes" on page vii
- "Related Documentation" on page viii
- "Feedback" on page viii
- "Support and Accessibility" on page viii

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## Product Notes

For late-breaking information and known issues about this product, refer to the product notes at:

<http://www.oracle.com/pls/topic/lookup?ctx=Netra-X3-2>

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## Related Documentation

| Documentation   | Links   |
|---|---|
| All Oracle products   | <a href="http://www.oracle.com/documentation">http://www.oracle.com/documentation</a>   |
| Netra Server X3-2   | <a href="http://www.oracle.com/pls/topic/lookup?ctx=Netra-X3-2">http://www.oracle.com/pls/topic/lookup?ctx=Netra-X3-2</a>                     |
| Oracle Integrated Lights Out Manager (Oracle ILOM) 3.1 software library | <a href="http://www.oracle.com/pls/topic/lookup?ctx=ilom31">http://www.oracle.com/pls/topic/lookup?ctx=ilom31</a>                             |
| Oracle Solaris OS and systems software library                          | <a href="http://www.oracle.com/technetwork/indexes/documentation/#sys_sw">http://www.oracle.com/technetwork/indexes/documentation/#sys_sw</a> |
| Oracle Linux  | <a href="http://linux.oracle.com/documentation/">http://linux.oracle.com/documentation/</a>   |

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## Feedback

Provide feedback about this documentation at:

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

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## Support and Accessibility

| Description   | Links   |
|---|---|
| Access electronic support through My Oracle Support | <a href="http://support.oracle.com">http://support.oracle.com</a><br>For hearing impaired:<br><a href="http://www.oracle.com/accessibility/support.html">http://www.oracle.com/accessibility/support.html</a> |
| Learn about Oracle's commitment to accessibility    | <a href="http://www.oracle.com/us/corporate/accessibility/index.html">http://www.oracle.com/us/corporate/accessibility/index.html</a>   |



# Choosing an OS Installation Method

The server supports several different operating systems. A subset of the supported OSs are available preinstalled, depending on what was selected when the server was ordered. You can use the preinstalled OS, or install a fresh version of any of the supported OSs.

The OS installation process varies based on the OS and whether you want to use a preinstalled version or install a fresh version.

| Description   | Links   |
|---|---|
| Configure the preinstalled Oracle Solaris OS or install a fresh version.  | <a href="#">“Configuring the Preinstalled Oracle Solaris OS” on page 13</a><br><a href="#">“OS Installation Task Map (Oracle Solaris)” on page 2</a><br><a href="#">“Supported OS Versions and Documentation” on page 7</a> |
| Configure the preinstalled Oracle VM software or install a fresh version. | <a href="#">“Configuring the Preinstalled Oracle VM 3.0 Software” on page 21</a><br><a href="#">“OS Installation Task Map (Oracle VM)” on page 3</a><br><a href="#">“Supported OS Versions and Documentation” on page 7</a> |
| Install a supported version of Linux.                                     | <a href="#">“OS Installation Task Map (Linux)” on page 4</a><br><a href="#">“Oracle Linux Support Kernel” on page 8</a><br><a href="#">“Supported OS Versions and Documentation” on page 7</a>                              |
| Install a supported version of VMware ESXi.                               | <a href="#">“OS Installation Task Map (VMware ESXi)” on page 5</a><br><a href="#">“Supported OS Versions and Documentation” on page 7</a>   |
| Install a supported version of Windows OS.                                | <a href="#">“OS Installation Task Map (Windows)” on page 6</a><br><a href="#">“Supported OS Versions and Documentation” on page 7</a>   |
| Choose an installation method.  | <a href="#">“Understanding Installation Methods” on page 8</a>  |

## Related Information

- [“Configuring the Preinstalled Oracle Solaris OS” on page 13](#)
- [“Configuring the Preinstalled Oracle VM 3.0 Software” on page 21](#)
- [“Preparing to Install an OS” on page 27](#)
- [“Configuring RAID” on page 45](#)
- [“Installing a Supported OS” on page 59](#)

- “Performing Post-Installation Tasks” on page 77

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## OS Installation Task Map (Oracle Solaris)

This table lists the tasks you perform for a new installation of the Oracle Solaris OS. If instead you plan to use a preinstalled version, see “Configuring the Preinstalled Oracle Solaris OS” on page 13.

| Step | Description  | Links  |
|------|--|--|
| 1.   | Install the server hardware and configure the Oracle ILOM service processor. | <i>Server Installation</i>   |
| 2.   | Determine which Oracle Solaris version to install.                           | “Supported OS Versions and Documentation” on page 7  |
| 3.   | Choose an installation method.   | “Understanding Installation Methods” on page 8   |
| 4.   | Download or order the Oracle Solaris installation media.                     | <ul style="list-style-type: none"><li>• For Oracle Solaris 10 8/11:<br/><a href="http://www.oracle.com/technetwork/server-storage/solaris10/downloads/index.html">http://www.oracle.com/technetwork/server-storage/solaris10/downloads/index.html</a></li><li>• For Oracle Solaris 11:<br/><a href="http://www.oracle.com/technetwork/server-storage/solaris11/downloads/index.html">http://www.oracle.com/technetwork/server-storage/solaris11/downloads/index.html</a></li></ul> |
| 5.   | Review the product notes.  | <i>Netra Server X3-2 (formerly Sun Netra X4270 M3 Server) Product Notes</i>  |
| 6.   | Prepare for the installation by configuring various installation options.    | “Preparing to Install an OS” on page 27  |
| 7.   | (Optional) Configure RAID.   | “Configuring RAID” on page 45  |
| 8.   | Install the Oracle Solaris OS.   | “Installing a Supported OS” on page 59   |
| 9.   | Perform post-installation tasks, if applicable.                              | “Performing Post-Installation Tasks” on page 77  |

### Related Information

- “Configuring the Preinstalled Oracle Solaris OS” on page 13
- “Preparing to Install an OS” on page 27
- “Configuring RAID” on page 45

- “Installing a Supported OS” on page 59
- “Performing Post-Installation Tasks” on page 77

## OS Installation Task Map (Oracle VM)

| Step | Description  | Links  |
|------|--|--|
| 1.   | Install your server hardware and configure the Oracle ILOM service processor.  | <i>Server Installation</i>   |
| 2.   | Determine which Oracle VM version to install.  | <a href="#">“Supported OS Versions and Documentation” on page 7</a>  |
| 3.   | Choose an installation method.   | <a href="#">“Understanding Installation Methods” on page 8</a>   |
| 4.   | Set up a second system with a static IP address on which you can install the Oracle VM Manager. This system must have one of these operating systems installed: <ul style="list-style-type: none"> <li>• Oracle Linux 5.5, 64-bit and subsequent releases</li> <li>• Red Hat Enterprise Linux Release 6, 64-bit and subsequent releases</li> </ul> | <i>Oracle VM Server Release Notes</i> and the <i>Oracle VM Manager Release Notes</i> at:<br><a href="http://docs.oracle.com/cd/E20065_01/index.htm">http://docs.oracle.com/cd/E20065_01/index.htm</a>  |
| 5.   | Obtain the Oracle VM installation media (optional) and the Oracle VM documentation. Use the Oracle VM documentation in conjunction with the installation procedures.<br><b>Note</b> - You do not need to download the image if you use OSA to install this OS.   | <ul style="list-style-type: none"> <li>• ISO image of the Oracle VM installation program:<br/><a href="http://www.oracle.com/virtualization">http://www.oracle.com/virtualization</a></li> <li>• Oracle VM documentation:<br/><a href="http://docs.oracle.com/cd/E20065_01/index.htm">http://docs.oracle.com/cd/E20065_01/index.htm</a></li> </ul> |
| 6.   | Review the product notes.  | <i>Netra Server X3-2 (formerly Sun Netra X4270 M3 Server) Product Notes</i>  |
| 7.   | Prepare for the installation by configuring various installation options.  | <a href="#">“Preparing to Install an OS” on page 27</a>  |
| 8.   | Install the Oracle VM Server and, if necessary, Oracle VM Manager.   | <a href="#">“Installing a Supported OS” on page 59</a>   |
| 9.   | Perform post-installation tasks.   | <a href="#">“Performing Post-Installation Tasks” on page 77</a>  |

### Related Information

- [“Configuring the Preinstalled Oracle VM 3.0 Software” on page 21](#)

- “Preparing to Install an OS” on page 27
- “Installing a Supported OS” on page 59
- “Performing Post-Installation Tasks” on page 77

## OS Installation Task Map (Linux)

| Step | Description   | Links   |
|------|---|---|
| 1.   | Install your server hardware and configure the Oracle ILOM service processor.                               | <i>Server Installation</i>  |
| 2.   | Determine which Linux version to install and access the documentation.                                      | <a href="#">“Supported OS Versions and Documentation” on page 7</a>   |
| 3.   | Choose an installation method.  | <a href="#">“Understanding Installation Methods” on page 8</a>  |
| 4.   | Obtain the Linux installation media. Use the documentation in conjunction with the installation procedures. | <a href="http://www.oracle.com/us/technologies/linux/index.html">http://www.oracle.com/us/technologies/linux/index.html</a> |
| 5.   | Review the product notes.   | <i>Netra Server X3-2 (formerly Sun Netra X4270 M3 Server) Product Notes</i>   |
| 6.   | Prepare for the installation by configuring various installation options.                                   | <a href="#">“Preparing to Install an OS” on page 27</a>   |
| 7.   | (Optional) Configure RAID.  | <a href="#">“Configuring RAID” on page 45</a>   |
| 8.   | Install the Linux OS.   | <a href="#">“Installing a Supported OS” on page 59</a>  |
| 9.   | Perform post-installation tasks.  | <a href="#">“Performing Post-Installation Tasks” on page 77</a>   |

### Related Information

- [“Preparing to Install an OS” on page 27](#)
- [“Configuring RAID” on page 45](#)
- [“Installing a Supported OS” on page 59](#)
- [“Performing Post-Installation Tasks” on page 77](#)

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# OS Installation Task Map (VMware ESXi)

| Step | Description   | Links   |
|------|---|---|
| 1.   | Install your server hardware and configure the Oracle ILOM service processor. | <i>Server Installation</i>  |
| 2.   | Determine which versions are supported.                                       | <a href="#">“Supported OS Versions and Documentation” on page 7</a>   |
| 3.   | Choose an installation method.  | <a href="#">“Understanding Installation Methods” on page 8</a>  |
| 4.   | Obtain the VMware ESXi installation media and documentation.                  | ISO image of the VMware ESXi installation program:<br><a href="http://www.vmware.com/download">http://www.vmware.com/download</a> |
| 5.   | Review the product notes.   | <i>Netra Server X3-2 (formerly Sun Netra X4270 M3 Server) Product Notes</i>   |
| 6.   | Prepare for the installation by configuring various installation options.     | <a href="#">“Preparing to Install an OS” on page 27</a>   |
| 7.   | Install the VMware ESXi software.   | <a href="#">“Installing a Supported OS” on page 59</a>  |
| 8.   | Perform post-installation tasks.  | <a href="#">“Performing Post-Installation Tasks” on page 77</a>   |

## Related Information

- [“Preparing to Install an OS” on page 27](#)
- [“Configuring RAID” on page 45](#)
- [“Installing a Supported OS” on page 59](#)
- [“Performing Post-Installation Tasks” on page 77](#)

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# OS Installation Task Map (Windows)

| Step | Description   | Links   |
|------|---|---|
| 1.   | Install your server hardware and configure the Oracle ILOM service processor. | <i>Server Installation</i>  |
| 2.   | Determine which version of Windows to install.                                | <a href="#">“Supported OS Versions and Documentation” on page 7</a>         |
| 3.   | Choose an installation method.  | <a href="#">“Understanding Installation Methods” on page 8</a>              |
| 4.   | Obtain the Windows installation media.  |   |
| 5.   | Review the product notes.   | <i>Netra Server X3-2 (formerly Sun Netra X4270 M3 Server) Product Notes</i> |
| 6.   | Prepare for the installation by configuring various installation options.     | <a href="#">“Preparing to Install an OS” on page 27</a>                     |
| 7.   | Install the Windows OS.   | <a href="#">“Installing a Supported OS” on page 59</a>                      |
| 8.   | Perform post-installation tasks.  | <a href="#">“Performing Post-Installation Tasks” on page 77</a>             |

## Related Information

- [“Preparing to Install an OS” on page 27](#)
- [“Configuring RAID” on page 45](#)
- [“Installing a Supported OS” on page 59](#)
- [“Performing Post-Installation Tasks” on page 77](#)

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# Supported OS Versions and Documentation

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**Note** – For the latest information about supported OS versions refer to the *Netra Server X3-2 (formerly Sun Netra X4270 M3 Server) Product Notes*.

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| OS             | Versions  | Links to Documentation  |
|----------------|---|---|
| Oracle Solaris | Release 10 8/11   | <a href="http://www.oracle.com/pls/topic/lookup?ctx=E23823_01">http://www.oracle.com/pls/topic/lookup?ctx=E23823_01</a>   |
|                | Release 11 11/11 (with SR2, required)   | <a href="http://www.oracle.com/pls/topic/lookup?ctx=E23824_01">http://www.oracle.com/pls/topic/lookup?ctx=E23824_01</a>   |
| Oracle VM      | Release 3.0   | <a href="http://www.oracle.com/pls/topic/lookup?ctx=E20065_01">http://www.oracle.com/pls/topic/lookup?ctx=E20065_01</a>   |
| Oracle Linux   | Oracle Linux 5.7 and 6.1 for x86 (64-bit) with the Oracle Linux Support kernel or the Red Hat Compatible Kernel. See <a href="#">“Oracle Linux Support Kernel”</a> on page 8.               | <a href="http://linux.oracle.com/documentation/">http://linux.oracle.com/documentation/</a>   |
| Red Hat Linux  | RHEL 5.7 and 6.1 for x86 (64-bit)   | <a href="http://www.redhat.com/docs">http://www.redhat.com/docs</a>   |
| SUSE Linux     | SUSE Linux Enterprise Server 11 SP1 (64-bit)  | <a href="http://www.suse.com/documentation/sles11/">http://www.suse.com/documentation/sles11/</a>   |
| VMware ESXi    | 5.0   | <a href="http://www.vmware.com/support/pubs">http://www.vmware.com/support/pubs</a>   |
| Windows Server | 2008 SP2 and 2008 R2 SP1 including: <ul style="list-style-type: none"><li>• Standard Edition (64-bit)</li><li>• Enterprise Edition (64-bit)</li><li>• Datacenter edition (64-bit)</li></ul> | <a href="http://www.microsoft.com/windowsserver2008/en/us/product-documentation.aspx">http://www.microsoft.com/windowsserver2008/en/us/product-documentation.aspx</a> |

## Related Information

- [“OS Installation Task Map \(Oracle Solaris\)”](#) on page 2
- [“OS Installation Task Map \(Oracle VM\)”](#) on page 3
- [“OS Installation Task Map \(Linux\)”](#) on page 4
- [“OS Installation Task Map \(VMware ESXi\)”](#) on page 5
- [“OS Installation Task Map \(Windows\)”](#) on page 6

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# Oracle Linux Support Kernel

Oracle Linux Support (formerly known as the Oracle Unbreakable Enterprise Kernel for Linux) is a kernel that is installed by default on Oracle Linux and can be installed on RHEL 5.7 and 6.1. This kernel is based on the 2.6.32 Linux kernel and includes optimizations developed by Oracle to ensure stability and optimal performance.

The Oracle Linux Support kernel installs directly on Oracle Linux 5.7 (by default) and on RHEL 5.7, so there is no need to upgrade to a new major release of the Linux OS to gain the benefits and features of this kernel. After you have installed this kernel, you still have the option of easily switching back to the Red Hat-compatible kernel.

For more information about Oracle Unbreakable Enterprise Linux, go to:  
<http://www.oracle.com/us/technologies/linux/ubreakable-enterprise-kernel-linux-173350.html>

## Related Information

- [“OS Installation Task Map \(Linux\)” on page 4](#)

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# Understanding Installation Methods

These topics describe the installation methods available for the supported OSs.

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**Note** – These installation methods describe how to install the OS on a single server. You can also install an OS on multiple servers using Oracle Enterprise Manager Ops Center. For details, refer to information at:

<http://www.oracle.com/in/products/enterprise-manager/enterprise-manager-opscenter-044497-en-in.html>

---

| Description   | Links   |
|---|---|
| Use OSA to install these OSs: <ul style="list-style-type: none"><li>• Oracle VM</li><li>• Supported Linux</li><li>• Windows</li></ul> | <a href="#">“OSA for Guided OS Installations” on page 9</a> |

---



| Description   | Links  |
|---|--|
| Use the OS media to locally or remotely install the OS on any of the supported OSs.   | <a href="#">“OS Media for Manual Installations” on page 10</a> |
| Use your PXE environment to install these OSs: <ul style="list-style-type: none"> <li>• Oracle Solaris</li> <li>• Supported Linux</li> <li>• Windows</li> </ul> | <a href="#">“PXE for Network Installations” on page 11</a>     |

## Related Information

- [“OS Installation Task Map \(Oracle Solaris\)” on page 2](#)
- [“OS Installation Task Map \(Oracle VM\)” on page 3](#)
- [“OS Installation Task Map \(Linux\)” on page 4](#)
- [“OS Installation Task Map \(VMware ESXi\)” on page 5](#)
- [“OS Installation Task Map \(Windows\)” on page 6](#)
- [“Supported OS Versions and Documentation” on page 7](#)

# OSA for Guided OS Installations

You can use OSA to perform a guided installation of these OSs:

- Oracle VM
- Linux
- Windows

You supply the OS installation media, and OSA guides you through the installation process. OSA then fetches the appropriate drivers based on your server hardware configuration.

---

**Note** – The OSA Installation OS option is not available for all supported operating systems.

---

During the OS installation you can use OSA to update the OS drivers and other firmware components (such as BIOS, Oracle ILOM, HBAs, and expanders, if applicable).

You can access OSA locally, using a local console connection, or remotely, using the Oracle ILOM Remote Console.

Alternatively, you can install an OS manually using the media. See [“OS Media for Manual Installations” on page 10](#).

Once the OS is installed, you can use OSA to perform a number of administrative tasks, even for OSs that OSA does not install. Some of these tasks include:

- Get the latest available system BIOS, Oracle ILOM, firmware, and drivers from Oracle (an Internet connection is required).
- Update system Oracle-certified device drivers for optional accessory cards and other system hardware.
- Configure RAID 0 or RAID 1 for servers that contain a supported LSI disk controller.
- Configure the SP, including modifying identification information; configuring network settings (IPv4 and IPv6) and DNS; adding, deleting, or modifying users; and setting the service processor clock.
- Display system overview and hardware inventory information.
- Set the keyboard language.
- Access a Linux shell terminal window allowing use of the runtime environment.
- Access Oracle HMP (using the Linux shell).

For more information about OSA refer to *Server Administration*.

### Related Information

- [“OS Installation Task Map \(Oracle VM\)” on page 3](#)
- [“OS Installation Task Map \(Linux\)” on page 4](#)
- [“OS Installation Task Map \(Windows\)” on page 6](#)
- [“Supported OS Versions and Documentation” on page 7](#)

## OS Media for Manual Installations

You provide the OS distribution media on either a local or remote CD/DVD, USB device, or CD/DVD image and perform the installation manually using the OS installation wizard.

You can use this method for every supported OS.

In some cases, you must install additional drivers. The drivers for your server are available on the server’s internal OSA USB drive and from the My Oracle Support web site.

### **Related Information**

- [“OS Installation Task Map \(Oracle Solaris\)” on page 2](#)
- [“OS Installation Task Map \(Oracle VM\)” on page 3](#)
- [“OS Installation Task Map \(Linux\)” on page 4](#)
- [“OS Installation Task Map \(VMware ESXi\)” on page 5](#)
- [“OS Installation Task Map \(Windows\)” on page 6](#)
- [“Supported OS Versions and Documentation” on page 7](#)

## **PXE for Network Installations**

The server supports PXE OS installations for these OSs:

- Oracle Solaris
- Supported Linux
- Windows

Performing OS installations using PXE enables you to install certain OSs by booting the server over an established PXE-based network.

Your network environment must be configured to support PXE. This guide does not cover PXE configuration, however, this guide does provide instructions for initiating a OS installation in a PXE environment.

### **Related Information**

- [“OS Installation Task Map \(Oracle Solaris\)” on page 2](#)
- [“OS Installation Task Map \(Linux\)” on page 4](#)
- [“OS Installation Task Map \(Windows\)” on page 6](#)
- [“Supported OS Versions and Documentation” on page 7](#)



# Configuring the Preinstalled Oracle Solaris OS

---

These topics describe how to configure the Oracle Solaris OS that is preinstalled (if ordered) on your server. The preinstalled OS image contains all of the necessary drivers for your server.

| Step | Description   | Links   |
|------|---|---|
| 1.   | Review RAID limitations on the preinstalled OS.                   | <a href="#">“Preinstalled OS RAID Limitations” on page 13</a>             |
| 2.   | Gather the information you need during the configuration process. | <a href="#">“Configuration Worksheet (Oracle Solaris)” on page 14</a>     |
| 3.   | Configure the preinstalled Oracle Solaris OS.                     | <a href="#">“Configure the Preinstalled Oracle Solaris OS” on page 17</a> |

## Related Information

- [“Choosing an OS Installation Method” on page 1](#)
- [“Configuring the Preinstalled Oracle VM 3.0 Software” on page 21](#)
- [“Preparing to Install an OS” on page 27](#)
- [“Configuring RAID” on page 45](#)
- [“Installing a Supported OS” on page 59](#)
- [“Performing Post-Installation Tasks” on page 77](#)

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## Preinstalled OS RAID Limitations

Configuring RAID for the server is optional. However, the Oracle Solaris preinstalled image can only be configured in a non-RAID configuration. If a RAID configuration is required, you must configure RAID on the server and then perform a fresh installation of the Oracle Solaris OS (or other OS) in the desired RAID configuration.

## Related Information

- “Configuration Worksheet (Oracle Solaris)” on page 14
- “Configure the Preinstalled Oracle Solaris OS” on page 17

---

# Configuration Worksheet (Oracle Solaris)

Use this configuration worksheet to gather the information you need to configure the Oracle Solaris OS. You need to collect only the information that applies to your application of the system.

| Information for Installation                         |            | Description or Example  | Your Values<br>(* Denotes the default value)  |
|--|------------|---|---|
| Language   |            | Select from the list of available languages for the OS.   | English*  |
| Locale   |            | Select your geographic region from the list of available locales.                                       |   |
| Terminal   |            | Select the type of terminal that you are using from the list of available terminal types.               |   |
| Network connection                                   |            | Is the system connected to a network?   | <ul style="list-style-type: none"><li>• Networked</li><li>• Nonnetworked*</li></ul> |
| DHCP   |            | Can the system use Dynamic Host Configuration Protocol (DHCP) to configure its network interfaces?      | <ul style="list-style-type: none"><li>• Yes</li><li>• No*</li></ul>                 |
| If you are not using DHCP, note the network address: | IP address | Supply the IP address for the system.<br>Example: 192.168.100.1   |   |
|  | Subnet     | Is the system part of a subnet?<br>If yes, what is the netmask of the subnet?<br>Example: 255.255.255.0 | 255.255.0.0*  |
|  | IPv6       | Do you want to enable IPv6 on this machine?   | <ul style="list-style-type: none"><li>• Yes</li><li>• No*</li></ul>                 |
| Host name  |            | Choose a host name for the system.  |   |

| Information for Installation |              | Description or Example  | Your Values<br>(* Denotes the default value)   |
|------------------------------|--------------|---|--|
| Kerberos                     |              | Do you want to configure Kerberos security on this machine?<br>If yes, gather this information:<br>Default realm:<br>Administration server:<br>First KDC:<br>(Optional) Additional KDCs:  | <ul style="list-style-type: none"> <li>• Yes</li> <li>• No*</li> </ul>   |
| Name service                 | Name service | If applicable, which name service will this system use?   | <ul style="list-style-type: none"> <li>• NIS+</li> <li>• NIS</li> <li>• DNS</li> <li>• LDAP</li> <li>• None*</li> </ul>  |
|                              | Domain name  | Provide the name of the domain in which the system resides.   | DNS or NIS   |
|                              | NIS+ and NIS | <i>If you chose NIS+ or NIS</i> , do you want to specify a name server, or let the installation program find one?   | <ul style="list-style-type: none"> <li>• Specify One</li> <li>• Find One*</li> </ul> <p>If you choose NIS:</p> <ul style="list-style-type: none"> <li>• Specify a NIS domain, or</li> <li>• Indicate whether to specify a NIS server or search for one.</li> </ul> |
|                              | DNS          | <i>If you chose DNS</i> , provide IP addresses for the DNS server. You must enter at least one IP address, but you can enter up to three addresses.<br><br>You can also enter a list of DNS domains to search when a DNS query is made.<br>Search domain:<br>Search domain:<br>Search domain: |  |
|                              | LDAP         | <i>If you chose LDAP</i> , provide this information about your LDAP profile:<br>Profile name:<br>Profile server:<br>If you specify a proxy credential level in your LDAP profile, gather this information:<br>Proxy-bind distinguished name:<br>Proxy-bind password:                          |  |

| Information for Installation | Description or Example   | Your Values<br>(* Denotes the default value)  |
|------------------------------|--|---|
| Default route                | <p>Do you want to specify a default route IP address, or let the OS installation program find one?</p> <p>The default route provides a bridge that forwards traffic between two physical networks. An IP address is a unique number that identifies each host on a network.</p> <p>You have these choices:</p> <ul style="list-style-type: none"> <li>• You can specify the IP address. An <code>/etc/defaultrouter</code> file is created with the specified IP address. When the system is rebooted, the specified IP address becomes the default route.</li> <li>• You can let the OS installation program detect an IP address. However, the system must be on a subnet that has a router that advertises itself by using the ICMP for router discovery. If you are using the CLI, the software detects an IP address when the system is booted.</li> <li>• You can select None if you do not have a router or do not want the software to detect an IP address at this time. The software automatically tries to detect an IP address on reboot.</li> </ul> | <ul style="list-style-type: none"> <li>• Specify one</li> <li>• Detect One</li> <li>• None*</li> </ul>                      |
| Time zone                    | How do you want to specify your default time zone?   | <ul style="list-style-type: none"> <li>• Geographic region*</li> <li>• Offset from GMT</li> <li>• Time zone file</li> </ul> |
| Root password                | Choose a root password for the system.   |   |

### Related Information

- [“Preinstalled OS RAID Limitations” on page 13](#)
- [“Configure the Preinstalled Oracle Solaris OS” on page 17](#)



---

## ▼ Configure the Preinstalled Oracle Solaris OS

When the server is started for the first time, you are prompted to configure the preinstalled Oracle Solaris OS.

---

**Note** – You can only perform this procedure if the server was ordered with the Oracle Solaris OS preinstalled.

---

1. **If you are not already logged in to Oracle ILOM, log in either locally from a serial connection or remotely from an Ethernet connection.**

Refer to *Server Administration*, accessing Oracle ILOM.

2. **Perform one of the following actions.**

---

**Note** – During the reset or power on, pay close attention to the screen so that you can interrupt the boot process at the correct time.

---

- **From the local server** – Press the Power button 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.

**reset /System**

The BIOS screen appears.



Version 2.13.1216. Copyright (C) 2011 American Megatrends, Inc.  
BIOS Date: 08/16/2011 07:18:42 Ver: 17010608  
Press F2 to run Setup (CTRL+E on serial keyboard)  
Press F8 for BBS Popup (CTRL+P on serial keyboard)  
Press F12 for network boot (CTRL+N on serial keyboard)  
Press F9 to start Oracle System Assistant  
[Oracle System Assistant Selected]

The server starts the boot process.

### 3. Start a host console using one of these methods.

The GRUB menu is displayed in the host console.

---

**Note** – If you do not press a key within five seconds, the GRUB menu disappears from the screen and the display is by default directed to the serial port. To pause at the GRUB menu, press any key other than Enter. Then select the option you want to use and Press Enter to continue.

---

---

**Note** – By default, the system displays the output to the serial port. If you do not select an option on the GRUB menu, after 10 seconds, the GRUB menu is no longer available, and the system continues with the output directed to the serial port.

---

From the GRUB menu, you can choose whether you want to continue to direct the display to the serial port, or whether you want to direct the display to a device connected to the video port.

■ **Oracle ILOM CLI** – Type, **start /HOST/console**

Are you sure you want to start /HOST/console (y/n)? **y**

Serial console started.

After the server boots, the GRUB menu appears.

GNU GRUB Version 0.97 (607K lower / 2087168K)

```
s11_2011.11_a - Serial Port (ttya)
s11_2011.11_a - Graphics Adapter
```

- **Oracle ILOM web interface** – On the System Information Summary page, under Actions, toggle Power State to On, then click the Launch button start the Remote Console application.

After the server boots, the GRUB menu appears.

**4. Use the up and down arrow keys to select one of these display options.**

- **Display output to the serial port** – Select this option:

```
s11_2011.11_a - Serial Port (tty)
```

- **Display output to the video port** – Select this option:

```
s11_2011.11_a - Graphics Adapter
```

**5. Follow the Oracle Solaris 11 installer on-screen prompts to configure the software.**

Use the information gathered in [“Configuration Worksheet \(Oracle Solaris\)” on page 14](#) to help you enter the system and network information as you are prompted.

The screens that are displayed will vary, depending on the configuration option you select (for example, DHCP or static IP address).

After you enter the system configuration information, the server completes the boot process and displays the Oracle Solaris login prompt.

For detailed information about using the Oracle Solaris OS, access the documentation listed in [“Related Documentation” on page viii](#).

**Related Information**

- [“Preinstalled OS RAID Limitations” on page 13](#)
- [“Configuration Worksheet \(Oracle Solaris\)” on page 14](#)



# Configuring the Preinstalled Oracle VM 3.0 Software

---

These topics describe how to configure the Oracle VM 3.0 software that is preinstalled (if ordered) on the server. The preinstalled image contains all of the necessary drivers for the server.

| Step | Description                                    | Links  |
|------|--|--|
| 1.   | Gather necessary configuration information.    | <a href="#">“Configuration Worksheet (Oracle VM Server)” on page 21</a>  |
| 2.   | Configure the preinstalled Oracle VM software. | <a href="#">“Configure the Preinstalled Oracle VM 3.0 OS” on page 23</a> |
| 3.   | Get started using Oracle VM.                   | <a href="#">“Oracle VM 3.0 Overview” on page 25</a>                      |

## Related Information

- [“Choosing an OS Installation Method” on page 1](#)
- [“Configuring the Preinstalled Oracle Solaris OS” on page 13](#)
- [“Preparing to Install an OS” on page 27](#)
- [“Configuring RAID” on page 45](#)
- [“Installing a Supported OS” on page 59](#)
- [“Performing Post-Installation Tasks” on page 77](#)

---

## Configuration Worksheet (Oracle VM Server)

Use this configuration worksheet to gather the information you need to configure the Oracle VM Server.

| Information for Configuration |                   | Description or Example  | Your Values |
|-------------------------------|-------------------|---|-------------|
| Oracle VM Server passwords    | Root              | Choose a root password. there are no restrictions on the characters or length.                |             |
|                               | Oracle VM agent   | Choose an Oracle VM agent password. The password must be at least six characters.             |             |
| Network interface             |                   | Supply the interface to be used to manage the server.   |             |
| Network configuration         | Static IP address | Supply the IP address for the server. A static IP address is required.<br>Example: 172.16.9.1 |             |
|                               | Netmask           | If the server is part of a subnet, supply the netmask of the subnet.<br>Example: 255.255.0.0  |             |
|                               | Gateway           | If the server is accessed via a gateway, supply the IP address of the gateway.                |             |
|                               | DNS server        | Supply the IP address for the domain name server (DNS). One (and only one) DNS is required.   |             |
| Hostname                      |                   | Supply the fully qualified domain name for the server.<br>Example: foo.company.com            |             |

## Related Information

- [“Configure the Preinstalled Oracle VM 3.0 OS” on page 23](#)
- [“Oracle VM 3.0 Overview” on page 25](#)

---

## ▼ Configure the Preinstalled Oracle VM 3.0 OS

These instructions only describe how to configure the preinstalled Oracle VM Server on your server. Oracle VM has other components that must be installed or already up and running to support the virtual machine environment.

For more information about Oracle VM requirements, refer to the Oracle VM documentation listed in [“Related Documentation” on page viii](#).

1. **If you are not already logged in to Oracle ILOM, log in locally from a serial connection or remotely using an Ethernet connection.**

Refer to *Server Installation*.

2. **If main power has not yet been applied to the server, power on or restart the server in one of these ways.**

- **Power on the server** – Use one of these methods:

- From the Oracle ILOM web interface System Information page, click Power State > Turn On.
- From the Oracle ILOM CLI, type:

```
-> start /System
```

- **Restart the server** – Use one of these methods:

- From the Oracle ILOM web interface, click Host Management > Power Control and select Reset from the Select Action list box. Then click Save and OK.
- From the Oracle ILOM CLI, type:

```
-> reset /System
```

The server starts the boot process.

3. **From Oracle ILOM, start the remote console using one of these methods.**

- **From the Oracle ILOM web interface System Information Summary page, under Actions**, toggle Power State to On, then click the Launch button start the Remote Console application.

After the server boots, the GRUB menu appears.

- **From the Oracle ILOM CLI, type:**

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

```
Are you sure you want to start /HOST/console (y/n)? y
```

```
Serial console started.
```

After the server boots, the GRUB menu appears.

From the GRUB menu, you can choose whether you want to continue to direct the display to the serial port, or whether you want to direct the display to a device connected to the video port.

---

**Note** – If you do not press a key within five seconds, the GRUB menu disappears from the screen and the display is by default directed to the serial port. To pause at the GRUB menu, press any key other than Enter. Then select the option you want to use and Press Enter to continue.

---

#### **4. Use the up and down arrow keys to select one of these display options.**

---

**Note** – The first two options and the last option listed on the screen are not supported.

---

- **Display output to the serial port** – Select the appropriate option in the GRUB menu and press Enter.

This is the default option. If you do not select an option on the GRUB menu, after five seconds, the GRUB menu is no longer available and the system continues with the output directed to the serial port.

- **Display output to the video port** – Select the appropriate option in the GRUB menu and press Enter.

If you choose this option, you must connect a device to the VGA connector on the server and an input device (USB keyboard or mouse).

#### **5. Follow the Oracle VM installer on-screen prompts to configure the Oracle VM Server portion of the software.**

After you have responded to all the prompts for system information, the server completes the boot process and displays the Oracle VM login prompt.

#### **Related Information**

- [“Configuration Worksheet \(Oracle VM Server\)” on page 21](#)
- [“Oracle VM 3.0 Overview” on page 25](#)



---

# Oracle VM 3.0 Overview

Use this information to get started using Oracle VM:

- The default root password for the Oracle Linux VM is `ovsroot`.
- The default console password for the VMs is `oracle`.
- You configure the root password for the Oracle Solaris VM during the Oracle Solaris installation procedure. Refer to the Oracle Solaris OS documentation.

For complete information about using Oracle VM 3.0, refer to the Oracle VM 3.0 documentation listed in [“Related Documentation” on page viii](#).

## Related Information

- [“Configuration Worksheet \(Oracle VM Server\)” on page 21](#)
- [“Configure the Preinstalled Oracle VM 3.0 OS” on page 23](#)



# Preparing to Install an OS

---

These topics describe how to prepare for a new installation of a supported OS.

| Step | Description  | Links   |
|------|--|---|
| 1.   | Learn about console display options and set them up. | <a href="#">“Selecting the Console Display” on page 27</a>    |
| 2.   | Learn about boot media options and set them up.      | <a href="#">“Selecting the Boot Media” on page 31</a>         |
| 3.   | Verify and configure server BIOS settings.           | <a href="#">“Setting Up BIOS” on page 39</a>                  |
| 4.   | Access installation utilities.                       | <a href="#">“Accessing Installation Utilities” on page 36</a> |
| 5.   | Configure BIOS.                                      | <a href="#">“Setting Up BIOS” on page 39</a>                  |

## Related Information

- [“Choosing an OS Installation Method” on page 1](#)
- [“Configuring RAID” on page 45](#)
- [“Installing a Supported OS” on page 59](#)
- [“Performing Post-Installation Tasks” on page 77](#)

---

## Selecting the Console Display

To use any of the OS installation methods, you must have access to the server.

These topics describe the options for connecting a console from which you perform the installation.

- [“Console Display Options” on page 28](#)
- [“Set Up a Local Console \(SER MGT Port\)” on page 28](#)
- [“Set Up a Local Console \(Monitor and Keyboard\)” on page 29](#)

- “Set Up a Remote Console (SSH)” on page 30
- “Set Up a Remote Console (Web Browser)” on page 30

### Related Information

- “Selecting the Boot Media” on page 31
- “Preparing Your PXE Environment” on page 33
- “Accessing Installation Utilities” on page 36
- “Setting Up BIOS” on page 39

## Console Display Options

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

- Serial console
- VGA monitor, with USB keyboard and mouse

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

- Web-based client connection using the Oracle ILOM Remote Console application
- SSH client connection to the NET MGT port

### Related Information

- Oracle ILOM 3.1 documentation at:  
<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>
- “Set Up a Local Console (SER MGT Port)” on page 28
- “Set Up a Local Console (Monitor and Keyboard)” on page 29
- “Set Up a Remote Console (SSH)” on page 30
- “Set Up a Remote Console (Web Browser)” on page 30

## ▼ Set Up a Local Console (SER MGT Port)

### 1. Attach a terminal device to the server SER MGT port.

For details, refer to *Server Installation*, connecting cables.

**2. Press the Enter key.**

The Oracle ILOM prompt appears.

**3. Log in to Oracle ILOM.**

This is the factory default login account:

- User name – root
- Password – changeme

**4. Establish a connection to the host console.**

-> **start /HOST/console**

The serial output is automatically routed to the local console.

**Related Information**

- Oracle ILOM 3.1 documentation at:  
<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>
- “Console Display Options” on page 28
- “Set Up a Local Console (Monitor and Keyboard)” on page 29
- “Set Up a Remote Console (SSH)” on page 30
- “Set Up a Remote Console (Web Browser)” on page 30

## ▼ Set Up a Local Console (Monitor and Keyboard)

**1. Attach a VGA monitor, keyboard, and mouse to the server.**

For details, refer to *Server Installation*, connecting cables.

**2. Press the Enter Key.**

The Oracle ILOM prompt appears.

**3. Log in to Oracle ILOM.**

This is the factory default login account:

- User name – root
- Password – changeme

**Related Information**

- Oracle ILOM 3.1 documentation at:  
<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>
- “Console Display Options” on page 28
- “Set Up a Local Console (SER MGT Port)” on page 28
- “Set Up a Remote Console (SSH)” on page 30

- “Set Up a Remote Console (Web Browser)” on page 30

## ▼ Set Up a Remote Console (SSH)

This procedure uses the Oracle ILOM CLI to remotely access the server console.

1. **View or establish an IP address for the server SP.**
2. **From a serial console, establish an SSH connection to the server SP.**

Use `ssh root@hostname`, if using DNS, or `ssh root@ipaddress`.

3. **Log in to Oracle ILOM.**

This is the factory default login account:

- User name – root
- Password – changeme

4. **Establish a connection to the host console:**

-> **start /HOST/console**

### Related Information

- Oracle ILOM 3.1 documentation at:  
<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>
- “Console Display Options” on page 28
- “Set Up a Local Console (SER MGT Port)” on page 28
- “Set Up a Local Console (Monitor and Keyboard)” on page 29
- “Set Up a Remote Console (Web Browser)” on page 30

## ▼ Set Up a Remote Console (Web Browser)

This procedure uses the Oracle ILOM web browser to remotely access the server console.

1. **View or establish an IP address for the server SP.**
2. **In a web browser, type the IP address for the server SP.**
3. **Log in to the Oracle ILOM web interface.**
4. **Redirect the video output from the server to the web client by starting the Oracle ILOM Remote Console.**
5. **Enable device redirection (mouse, keyboard, and so on) in the Devices menu.**

### Related Information

- Oracle ILOM 3.1 documentation at:  
<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>
- “Console Display Options” on page 28
- “Set Up a Local Console (SER MGT Port)” on page 28
- “Set Up a Local Console (Monitor and Keyboard)” on page 29
- “Set Up a Remote Console (SSH)” on page 30
- “Set Up a Remote Console (Web Browser)” on page 30

---

## Selecting the Boot Media

Use one of these procedures to start the OS installation by booting from a local or remote installation media source.

| Description  | Links   |
|--|---|
| Start the installation using a local CD/DVD-ROM device.                            | <a href="#">“Set Up Local Boot Media” on page 31</a>  |
| Start the installation using a remote CD/DVD-ROM device or ISO installation image. | <a href="#">“Set Up Remote Boot Media” on page 32</a> |

### Related Information

- “Selecting the Console Display” on page 27
- “Preparing Your PXE Environment” on page 33
- “Accessing Installation Utilities” on page 36
- “Setting Up BIOS” on page 39

## ▼ Set Up Local Boot Media

Local boot media requires that the server have a built-in or an externally attached CD/DVD-ROM device.

- If your server does not contain a built-in CD/DVD-ROM device, attach the appropriate device to the server.

For more information about how to attach devices to the server refer to *Server Service*.

#### Related Information

- [“Set Up Remote Boot Media” on page 32](#)

## ▼ Set Up Remote Boot Media

You can start the network installation from a redirected boot device such as a CD/DVD or ISO image. You must provide the installation media.

---

**Note** – Alternatively, you can start the network installation from a networked system that exports the installation over the network using a PXE environment. See [“Preparing Your PXE Environment” on page 33](#).

---

#### 1. Insert the boot media into the device, for example:

- **For a CD/DVD-ROM** – Insert media into the built-in or external CD/DVD drive.
- **For a CD/DVD-ROM ISO image** – Ensure that ISO images are readily available on a network shared location.
- **For a device driver floppy ISO image** – Ensure that the ISO image, if applicable, is readily available on a network shared location or on a USB drive.

#### 2. Establish a web-based remote console connection to the server’s Oracle ILOM SP and start the Oracle ILOM Remote Console application.

For more details, see the setup requirements for a web-based client connection in [“Set Up a Remote Console \(Web Browser\)” on page 30](#).

#### 3. In the Devices menu of the Oracle ILOM Remote Console, 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.

#### Related Information

- [“Set Up Local Boot Media” on page 31](#)



---

# Preparing Your PXE Environment

These topics describe how to set up your environment to support PXE OS installation of supported OSs. The server supports PXE-based installations for these OSs:

- Oracle Solaris
- Oracle Linux
- Red Hat Linux
- SUSE Linux
- Windows OS

---

**Note** – You only need to perform these setup tasks if you plan to perform an OS installation using PXE.

---

- [“Prepare PXE \(Oracle Solaris\)” on page 33](#)
- [“Prepare PXE \(Linux\)” on page 34](#)
- [“Prepare PXE \(Windows\)” on page 35](#)

## Related Information

- [“Selecting the Console Display” on page 27](#)
- [“Selecting the Boot Media” on page 31](#)
- [“Accessing Installation Utilities” on page 36](#)
- [“Setting Up BIOS” on page 39](#)

## ▼ Prepare PXE (Oracle Solaris)

This procedure describes how to prepare your environment so you can install the Oracle Solaris OS using PXE.

---

**Note** – JumpStart eliminates most of the manual tasks of setting up the Oracle Solaris OS for the first time on multiple servers. For more information about using a JumpStart image, refer to the Oracle Solaris installation documentation.

---

1. **Ensure that the PXE boot JumpStart installation server is properly set up and accessible to your server on the network.**

---

**Note** – The PXE network boot does not work properly over subnets that include multiple DHCP servers. Therefore, set up only one DHCP server on the subnet that includes the client system that you want to install.

---

2. Ensure that the Oracle Solaris installation media is available for PXE boot.

3. Ensure that the JumpStart installation server has the server's MAC address of the network interface from which the server will boot.

As an example, if you want to PXE boot from NET0, you can obtain the server's MAC address by logging in to the SP as root, and typing:

```
-> show /SYS/MB/NET0 fru_macaddress
/SYS/MB/NET0
Properties:
  fru_macaddress = 00:21:28:e7:77:24
```

4. Install the OS.

See “Install an OS (PXE)” on page 73.

### Related Information

- “Prepare PXE (Linux)” on page 34
- “Prepare PXE (Windows)” on page 35

## ▼ Prepare PXE (Linux)

This procedure describes the high-level steps that you perform to set up your PXE environment to support PXE booting for supported Linux OSs. For setup details, refer to the installation documentation for your OS.

1. Follow the PXE network installation instructions from one of these resources:

- **Oracle Linux and Red Hat Linux** – Follow the PXE network installation instructions in the *Red Hat Enterprise Linux 5.7: System Administration Guide* at:  
<http://www.redhat.com/docs>
- **SLES 11 SP1** – Go to:  
<http://www.suse.com/documentation/sles11/>

2. Configure the network (NFS, FTP, HTTP) server to export the installation tree.

You can configure your network to provide the ISO DVD image or use a KickStart image (network repository).

---

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

---

**3. Ensure that these items are configured:**

- Configure the files on the TFTP server necessary for PXE booting.
- Configure the server's MAC network port address to boot from the PXE configuration.

As an example, if you want to PXE boot from NET0, you can obtain the server's MAC address by logging in to the SP as root, and typing:

```
-> show /SYS/MB/NET0 fru_macaddress
/SYS/MB/NET0
Properties:
    fru_macaddress = 00:21:28:e7:77:24
```

- Configure DHCP.

**4. If you are using a KickStart image to perform the installation, ensure that these items are configured:**

- Create a KickStart file.
- Create the boot media with the KickStart file or make the KickStart file available on the network.

**5. Install the OS.**

See [“Install an OS \(PXE\)”](#) on page 73.

**Related Information**

- [“Prepare PXE \(Oracle Solaris\)”](#) on page 33
- [“Prepare PXE \(Windows\)”](#) on page 35

## ▼ Prepare PXE (Windows)

This procedure describes the high-level steps that you perform to set up your PXE environment to support PXE booting for supported Windows OSs using WDS. For setup details, refer to Microsoft's WDS documentation.

**1. Ensure that these items are configured:**

- Configure the network (NFS, FTP, HTTP) server to export the installation tree.

- Configure the files on the TFTP server necessary for PXE booting.
- Configure the server's MAC network port address to boot from the PXE configuration.

As an example, if you want to PXE boot from NET0, you can obtain the server's MAC address by logging in to the SP as root, and typing:

```
-> show /SYS/MB/NET0 fru_macaddress
/SYS/MB/NET0
Properties:
    fru_macaddress = 00:21:28:e7:77:24
```

- Configure DHCP.

## 2. If you are using WDS to perform the installation, ensure that these items are configured:

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

For instructions for adding drivers to the WIM installation images, refer to the Microsoft WDS documentation.

- Obtain the WIM Administrator password.

## 3. Install the OS.

See [“Install an OS \(PXE\)”](#) on page 73.

### Related Information

- [“Prepare PXE \(Oracle Solaris\)”](#) on page 33
- [“Prepare PXE \(Linux\)”](#) on page 34

---

# Accessing Installation Utilities

Use these topics to initiate various installation tasks:

- [“Reset the Server”](#) on page 37
- [“Start OSA”](#) on page 38

### Related Information

- [“Selecting the Console Display”](#) on page 27
- [“Selecting the Boot Media”](#) on page 31

- “Preparing Your PXE Environment” on page 33
- “Setting Up BIOS” on page 39

## ▼ Reset the Server

### 1. Perform one of the following actions.

---

**Note** – During the reset or power on, pay close attention to the screen so that you can interrupt the boot process at the correct time.

---

- **From the local server** – Press the Power button 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.

**reset /System**

The BIOS screen appears.



### 2. Depending on your OS installation method, interrupt the boot process and continue to the appropriate procedure.

Use one of these keys:

| Function Key | Control Key Sequence | Description  | Installation Procedure                                 |
|--------------|----------------------|--|--|
| F1           | Ctrl+Q               | Access BIOS setup help.  | n/a  |
| F2           | Ctrl+E               | Access the BIOS setup utility during BIOS POST.  | <a href="#">“Setting Up BIOS” on page 39</a>           |
| F7           | Ctrl+D               | Discard changes.   | n/a  |
| F8           | Ctrl+P               | Access the BIOS boot menu during BIOS POST.  | <a href="#">“Installing a Supported OS” on page 59</a> |
| F9           | Ctrl+O               | Start OSA during BIOS POST. BIOS boots to OSA, bypassing the current Boot Priority List for this one-time boot | <a href="#">“Install an OS (OSA)” on page 60</a>       |
| F10          | Ctrl+S               | Save BIOS changes and exit.  | n/a  |
| F12          | Ctrl+N               | Activate a network boot during BIOS POST.  |  |

### Related Information

- [“Start OSA” on page 38](#)

## ▼ Start OSA

### 1. Start OSA in one of two ways.

- **From the Oracle ILOM web interface** – Click Summary > Launch OSA.
- **Reset or power on the server.**

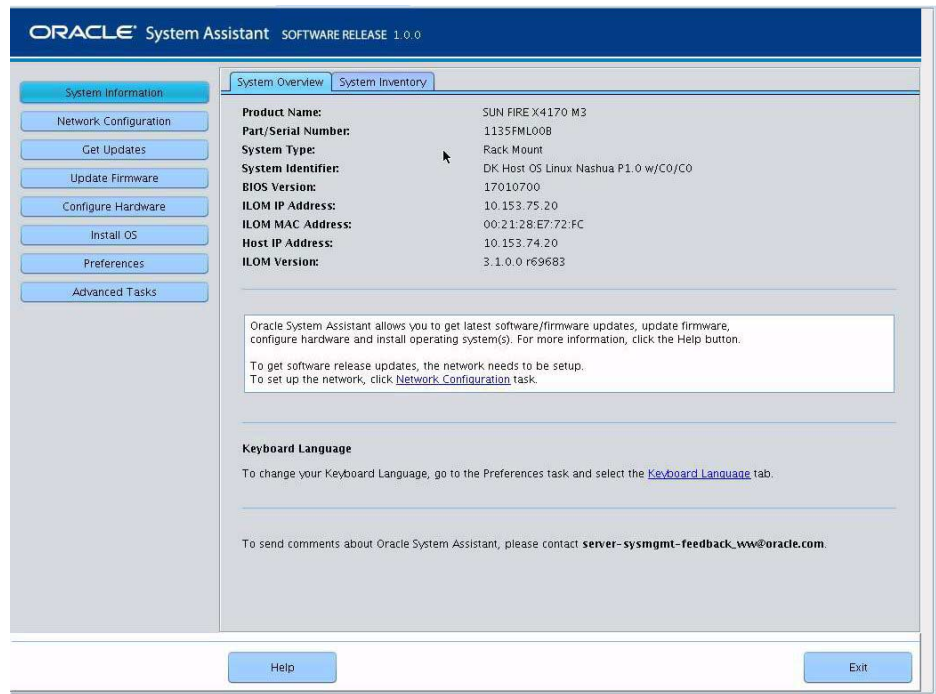
See [“Reset the Server” on page 37](#).

### 2. (Optional) Enlarge the size of your window to eliminate scroll bars.

The next events occur very quickly. Focused attention is needed for the following steps. Watch carefully for these messages as they appear on the screen for a brief time.

### 3. Watch for the prompt to press the F9 key, and when it appears, press F9.

The OSA main window appears.



#### 4. Use OSA to install and administer the server.

Use one of these procedures:

- [“Configure RAID \(OSA\)” on page 48](#)
- [“Install an OS \(OSA\)” on page 60](#)

#### Related Information

- [“Reset the Server” on page 37](#)

## Setting Up BIOS

If the server is newly installed and this is the first time that an OS is installed, then the BIOS is set to default values that are optimized for the server.

You only need to change the BIOS if you want to perform these tasks.

| Description  | Links  |
|--|--|
| Learn about BIOS.  | <a href="#">“BIOS Overview (OS Installation)” on page 40</a><br><i>Server Administration</i> , BIOS overview |
| Ensure that the BIOS settings are set to default values.               | <a href="#">“Set BIOS Settings to Default Values” on page 41</a>   |
| Configure the server to use either Legacy BIOS mode or UEFI boot mode. | <a href="#">“Switch Between Legacy BIOS and UEFI BIOS Modes” on page 43</a>                                  |

## Related Information

- *Server Administration*, understanding administration resources and accessing administration tools

# BIOS Overview (OS Installation)

BIOS firmware is built in to the server and provides the server with configuration information and programs that enable the server to boot.

The server’s BIOS can be configured to operate in one of these two modes:

- **Legacy BIOS** (default) – Works with all of the supported OSs, but does not offer the latest BIOS features.
- **UEFI BIOS** – Provides the latest BIOS features, but only supports these OSs:
  - Oracle Enterprise Linux
  - SUSE Linux Enterprise Server SP1
  - RHEL
  - Microsoft Windows

Some devices do not yet support UEFI-based BIOS and can only boot from Legacy BIOS. Depending on your situation, you might need to configure the server’s BIOS for Legacy BIOS Mode or UEFI Boot Mode.

Once you choose a mode and install an OS, the server can only boot using the same mode that was used for the installation.

Ensure that the server’s BIOS is configured for your desired mode before you install an OS.

---

**Note** – When switching between Legacy BIOS Mode and UEFI Boot Mode (either direction), the BIOS configuration settings for a given mode do not persist.

---



You can use these tools to view, configure, and reset default BIOS values:

- BIOS setup utility
- OSA

Any changes you make in the BIOS Setup Utility (through F2) are permanent until 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 takes effect after booting from the temporary boot device.

---

**Note** – You can set the BIOS mode using OSA during the installation process. See [“Install an OS \(OSA\)” on page 60](#).

---

### Related Information

- [“Set BIOS Settings to Default Values” on page 41](#)
- [“Switch Between Legacy BIOS and UEFI BIOS Modes” on page 43](#)

## ▼ Set BIOS Settings to Default Values

---

**Note** – If the server is newly installed and this is the first time that an OS is installed, then the BIOS is configured to its default settings. You do not have to perform this task.

---

### 1. Ensure that these requirements are met:

- A drive is properly installed in the server. Refer to *Server Service*.
- A console connection is established to the server. For details, see [“Selecting the Console Display” on page 27](#).

### 2. Reset or power on the server.

See [“Reset the Server” on page 37](#).

The BIOS screen appears.



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

After a few moments, the BIOS Setup Utility appears.

**4. 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.

**5. 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.

**6. In the BIOS Setup Utility, 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. Change the values in the highlighted fields using these keys:**

- + (plus) increments the current value shown.
- - (minus) decrements the current value shown.
- Enter moves the cursor to the next value field.

**7. Save changes and exit the BIOS Setup Utility by pressing F10.**

---

**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.

---

**Related Information**

- [“BIOS Overview \(OS Installation\)” on page 40](#)
- [“Switch Between Legacy BIOS and UEFI BIOS Modes” on page 43](#)

## ▼ Switch Between Legacy BIOS and UEFI BIOS Modes

The BIOS firmware supports both Legacy BIOS (the default) and UEFI. Because some OSs support both Legacy BIOS and UEFI BIOS and some only support Legacy BIOS, you have these options:

- If the OS being installed supports Legacy BIOS only, ensure that BIOS is set to Legacy mode before you install the OS.
- If the OS being installed supports both Legacy BIOS and UEFI BIOS, you can set the BIOS to either Legacy mode or UEFI mode. Set the BIOS mode before you install the OS.

---

**Note** – The Windows Server 2008 OSs support both Legacy and UEFI BIOS modes. You can choose which mode to use for the OS installation.

---

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

For example:

- **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 on the server SP** – Type.

```
-> reset /System
```

```
Are you sure you want to reset /System (y/n)? y
```

```
Performing hard reset on /System
```

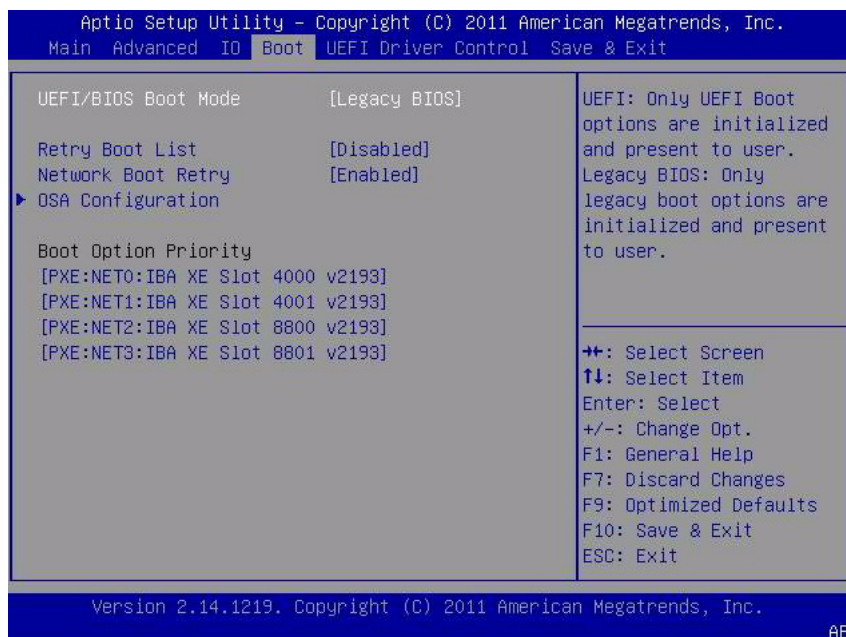
The BIOS screen appears.

### 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 screen appears.



4. Select the UEFI/BIOS Boot Mode field and use the +/- keys to change the setting to UEFI BIOS.
5. Save changes and exit BIOS by pressing the F10 key.

### Related Information

- [“BIOS Overview \(OS Installation\)” on page 40](#)
- [“Set BIOS Settings to Default Values” on page 41](#)

# Configuring RAID

---

These topics provide information on configuring the server drives into hardware RAID volumes.

| Step | Description   | Links  |
|------|---|--|
| 1.   | Learn about RAID configuration options.   | <a href="#">“HBA and RAID Support” on page 46</a><br><a href="#">“RAID Configuration Requirements” on page 46</a><br><a href="#">“Post-Installation RAID Volume Creation” on page 48</a> |
| 2.   | Configure server drives into RAID volumes using OSA or using the LSI MegaRAID BIOS utilities. | <a href="#">“Configure RAID (OSA)” on page 48</a><br><a href="#">“Configuring RAID Volumes (LSI BIOS Utilities)” on page 54</a>  |

## Related Information

- [“Choosing an OS Installation Method” on page 1](#)
- [“Configuring the Preinstalled Oracle Solaris OS” on page 13](#)
- [“Configuring the Preinstalled Oracle VM 3.0 Software” on page 21](#)
- [“Preparing to Install an OS” on page 27](#)
- [“Installing a Supported OS” on page 59](#)
- [“Performing Post-Installation Tasks” on page 77](#)

---

# HBA and RAID Support

| Disk Controller                                  | HBA Part Number  | RAID Support                    |
|--|------------------|---------------------------------|
| Sun Storage 6Gb/s SAS<br>PCIe HBA, Internal      | SGX-SAS6-INT-Z   | Hardware 0, 1, 10               |
| Sun Storage 6Gb/s SAS<br>PCIe RAID HBA, Internal | SGX-SAS6-R-INT-Z | Hardware 0, 1, 5, 6, 10, 50, 60 |

---

**Note** – If you are using OSA to configure RAID, you can only configure RAID volumes 0 and 1. To configure other RAID volumes, you must use the BIOS Setup Utility.

---

## Related Information

- [“RAID Configuration Requirements” on page 46](#)
- [“Post-Installation RAID Volume Creation” on page 48](#)
- [“Configuring RAID Volumes \(LSI BIOS Utilities\)” on page 54](#)

---

# RAID Configuration Requirements

Configuring drives into RAID volumes is an optional task.

You have these options:

- **Option 1** – If you intend to use the preinstalled version of Oracle Solaris OS, you cannot configure the server’s drives into RAID volumes because the preinstalled OS does not support RAID configurations.

For this option, skip this section and proceed to [“Configuring the Preinstalled Oracle Solaris OS” on page 13](#).

- **Option 2** – If you are going to perform a fresh OS installation and you want to configure the multiple drives into one or more RAID volumes, you must configure the server’s drives into RAID volumes before you install the OS.
  - If your server is equipped with OSA, proceed to [“Configure RAID \(OSA\)” on page 48](#).

- If your server is not equipped with OSA, proceed to [“Configuring RAID Volumes \(LSI BIOS Utilities\)” on page 54](#).
- **Option 3** – If your server has the SGX-SAS6-R-INT-Z HBA (see [“HBA and RAID Support” on page 46](#)) installed and you are going to perform a fresh OS install, but you do not want to configure multiple drives into RAID volumes, use this option.  
You must configure a single drive on a RAID volume and make that volume bootable.

---

**Note** – If you choose option 3, you must configure a single drive on a RAID volume and make that volume bootable. Otherwise, the internal HBA will not be able to identify the drive for the installation.

---

- If your server is equipped with OSA, proceed to [“Configure RAID \(OSA\)” on page 48](#) and configure RAID on a single drive.
- If your server is not equipped with OSA, proceed to [“Configuring RAID Volumes \(LSI BIOS Utilities\)” on page 54](#) and configure RAID on a single drive.
- If your server has the SGX-SAS6-R-INT-Z HBA (see [“HBA and RAID Support” on page 46](#)) installed and you want to create a RAID volume level 5, 6, 10, 50, or 60 using the drive on which you plan to install the OS, proceed to [“Configuring RAID Volumes \(LSI BIOS Utilities\)” on page 54](#) and configure RAID on a single drive.

---

**Note** – OSA only supports RAID 0 and 1 for the SGX-SAS6-R-INT-Z HBA.

---

- **Option 4** – If your server has the SGX-SAS6-INT-Z HBA (see [“HBA and RAID Support” on page 46](#)) installed and you want to perform a fresh OS installation, but you do not want to configure the server’s drives into RAID volumes, use this option.

Proceed to install the OS. See [“Installing a Supported OS” on page 59](#)

### Related Information

- [“HBA and RAID Support” on page 46](#)
- [“Configure RAID \(OSA\)” on page 48](#)
- [“Post-Installation RAID Volume Creation” on page 48](#)
- [“Configuring RAID Volumes \(LSI BIOS Utilities\)” on page 54](#)
- [“Installing a Supported OS” on page 59](#)

---

# Post-Installation RAID Volume Creation

RAID configuration is usually completed before installing an operating system. However, it is possible to create a RAID volume on nonboot disks after installing an operating system.

Use these resources for creating and managing the RAID resources in your server:

- **OSA** – You can use OSA to create RAID 0 or 1 level volumes and prepare drives for OS installation. See “Configure RAID (OSA)” on page 48.
- **Oracle HMP 2.2** – You can use the `raidconfig` commands contained in this software’s Oracle Server CLI Tools component to create and manage RAID volumes on your server. Refer to the Oracle HMP documentation at <http://www.oracle.com/pls/topic/lookup?ctx=ohmp>.
- **(SGX-SAS6-INT-Z HBA only) LSI SAS2 Integration RAID Configuration Utility** – You can use the `sas2ircu` commands contained in the LSI SAS2 Integrated RAID Configuration Utility to configure and manage RAID volumes on your server.

You can download the SAS2IRCUC software from the following location:

[http://www.lsi.com/sep/Pages/oracle/sg\\_x\\_sas6-int-z.aspx](http://www.lsi.com/sep/Pages/oracle/sg_x_sas6-int-z.aspx)

- **(SGX-SAS6-R-INT-Z only) LSI MegaCLI or MegaRAID Storage Manager** – You can use the LSI MegaCLI command-line tool or the MegaRAID Storage Manager graphical interface to configure and manage RAID volumes for SGX-SAS6-R-INT-Z.

You can download the LSI MegaCLI and MegaRAID Storage Manager software from the following location:

[http://www.lsi.com/sep/Pages/oracle/sg\\_x\\_sas6-r-int-z.aspx](http://www.lsi.com/sep/Pages/oracle/sg_x_sas6-r-int-z.aspx)

## Related Information

- “Configure RAID (OSA)” on page 48

---

## ▼ Configure RAID (OSA)

OSA is the easiest way to configure RAID on the server. Alternatively, you can use the LSI utilities or HMP. See “Configuring RAID Volumes (LSI BIOS Utilities)” on page 54.



---

**Note** – If you are using OSA to configure RAID, you can only configure RAID volumes 0 and 1. To configure other RAID levels, you must use the LSI utilities.

---

**1. Start OSA.**

See “Start OSA” on page 38.

The OSA main window appears.

**2. Click the Configure Hardware button.**

The Hardware Configuration window appears.

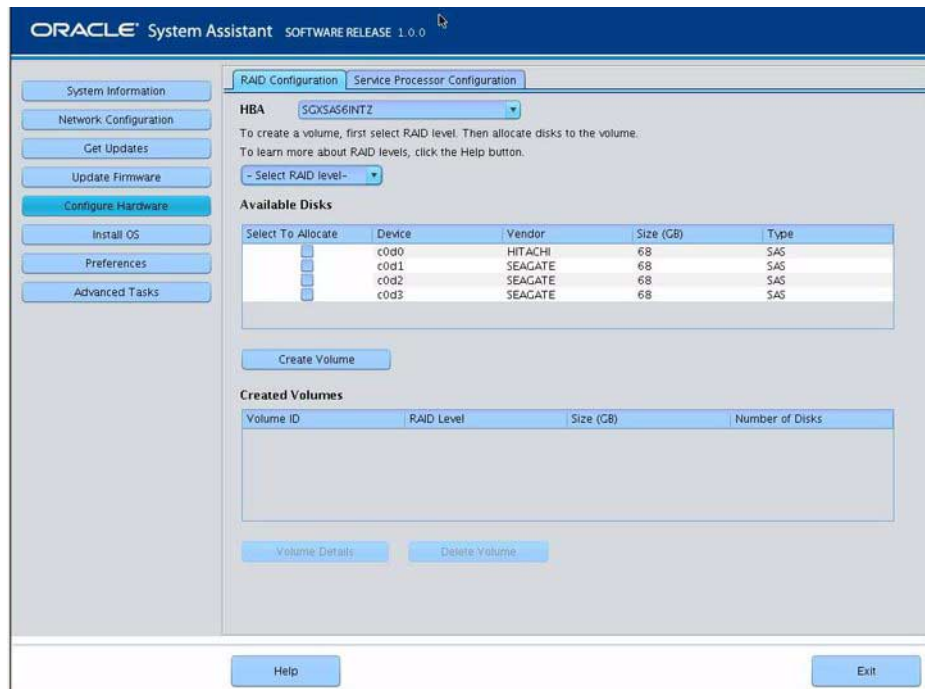
**3. Select the RAID Configuration tab.**

The RAID Configuration window appears.

---

**Note** – Your screen might appear slightly different based on the type of HBA installed in your server.

---



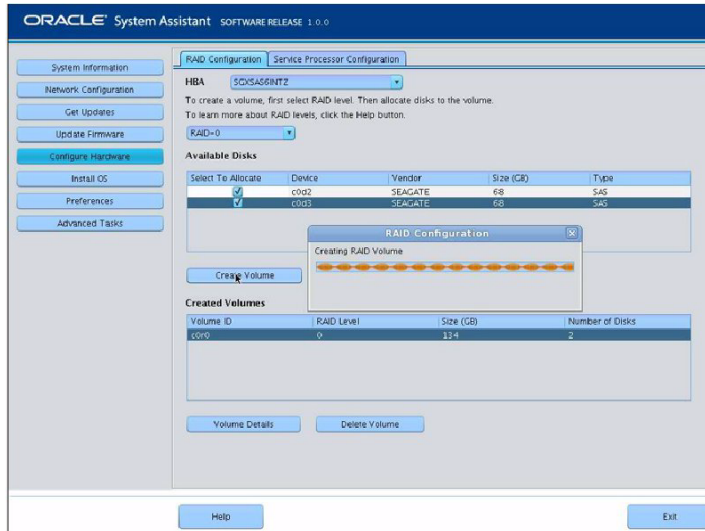
**4. In the HBA box, select the HBA.**

Select one of these:

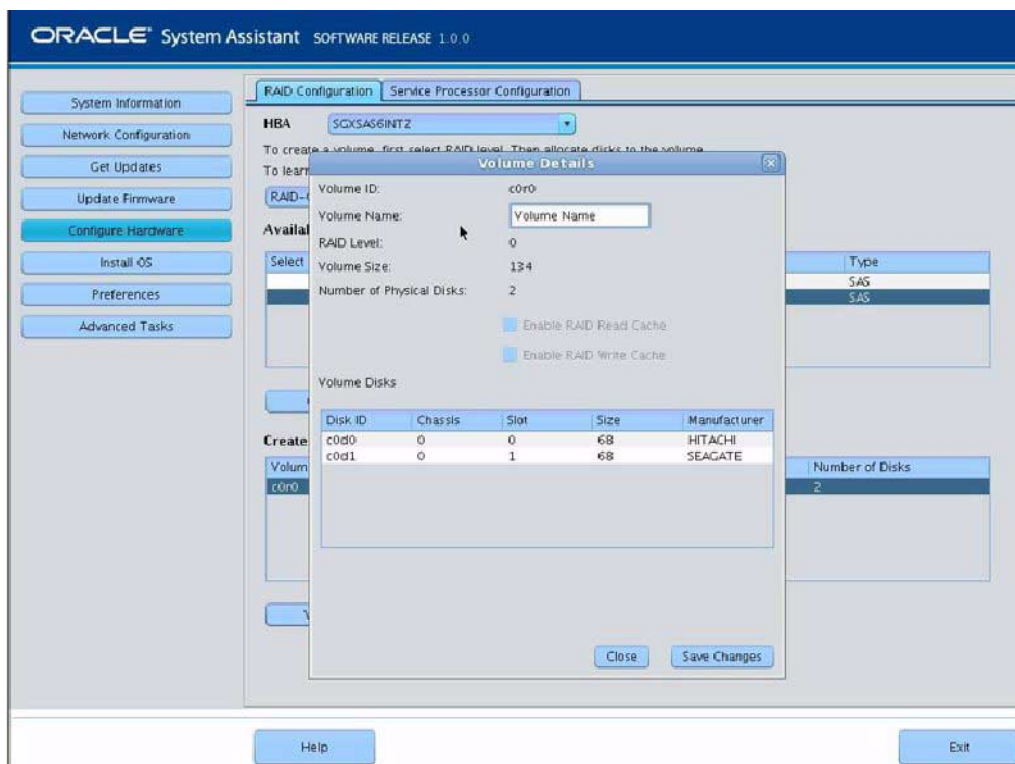
- SGXSAS6INTZ

■ SGX-SAS6-R-INT-Z

5. In the Select RAID Level menu, select the desire RAID level, RAID-0 or RAID-1.
6. In the Available Disks table, select the drives that you want to add to the RAID configuration and click the Create Volume button.

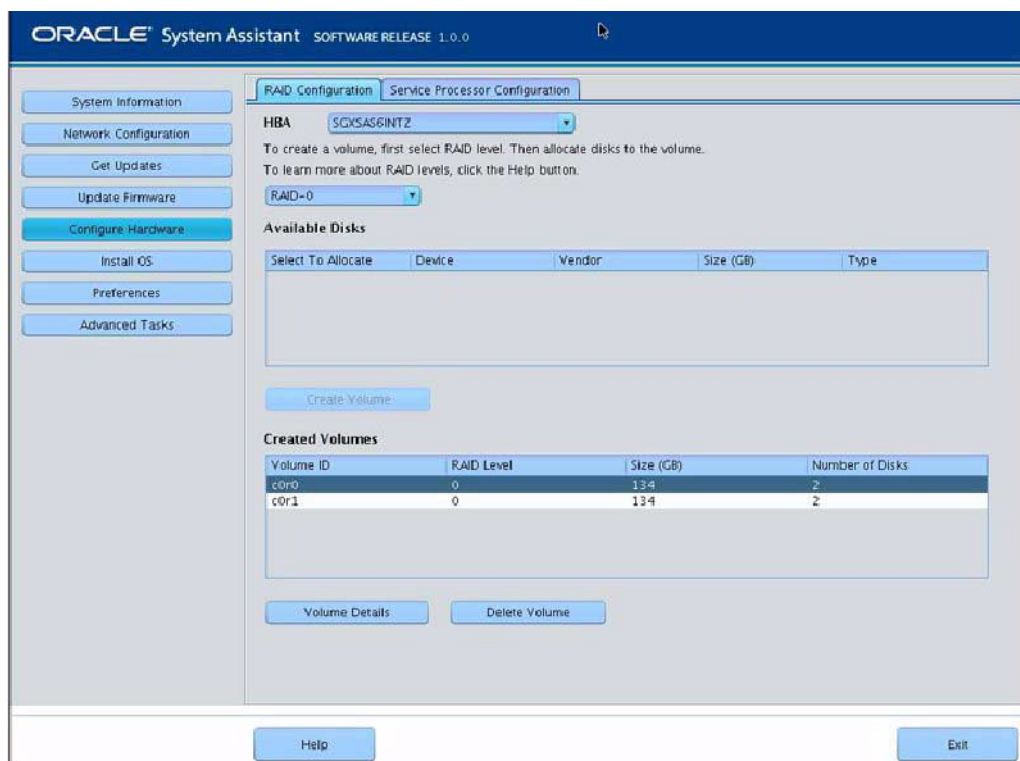


7. Wait for the RAID volume to be created.  
The Volume Details dialog box appears.



8. In the Volume Details dialog box, enter the volume name in the Volume Name box and click Save Changes.

The RAID Configuration window appears.




---

**Note** – If you want to delete a volume, select it and click the Delete Volume button.

---

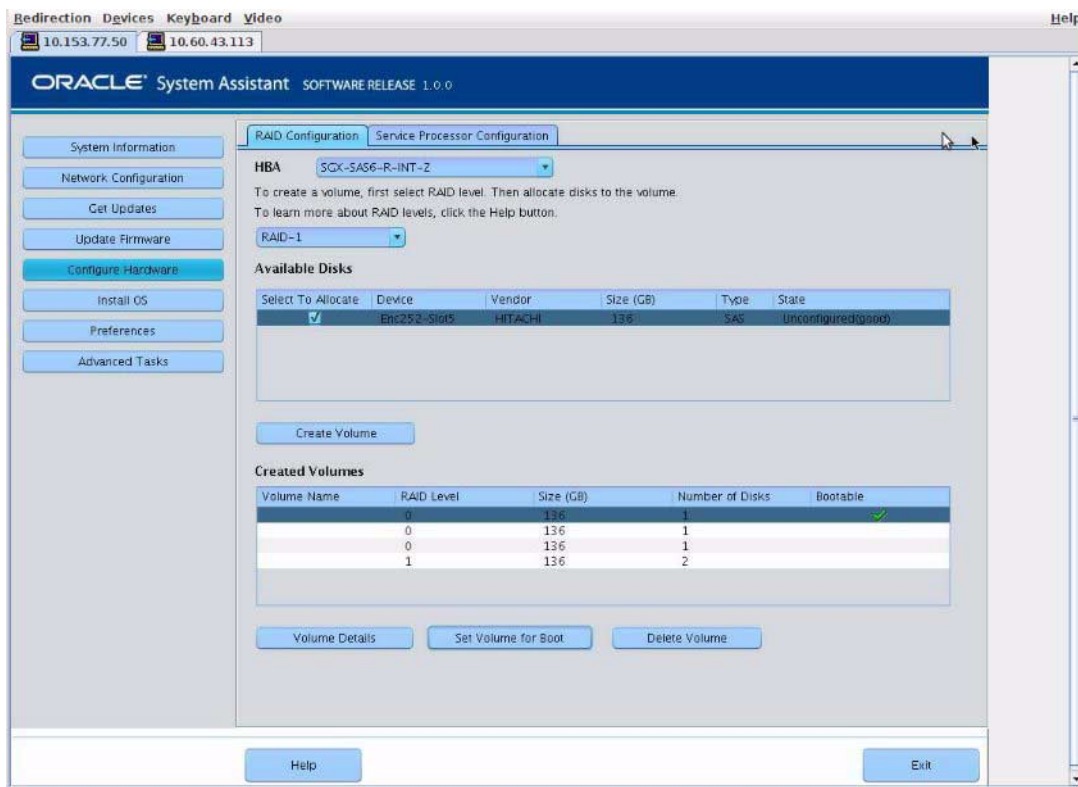
**9. (Only for SGX-SAS6-R-INT-Z HBAs) Highlight the RAID volume and click the Set Volume for Boot button.**

The RAID Configuration window appears and indicates the bootable volume.

---

**Note** – If the server has the SGX-SAS6-INT-Z HBA installed, setting the RAID volume to bootable is not required.

---



- Click System Information to return to the OSA main screen.  
This completes the RAID configuration task.

### Related Information

- “HBA and RAID Support” on page 46
- “RAID Configuration Requirements” on page 46
- “Post-Installation RAID Volume Creation” on page 48
- “Installing a Supported OS” on page 59

---

# Configuring RAID Volumes (LSI BIOS Utilities)

You can use LSI's MegaRAID BIOS utilities that reside in the HBA firmware as described in these topics:

- “Create a RAID Volume” on page 54
- “Make a Virtual Drive Bootable” on page 55

## Related Information

- “RAID Configuration Requirements” on page 46
- “Configure RAID (OSA)” on page 48

## ▼ Create a RAID Volume

The LSI SAS2 BIOS Configuration Utility resides in the HBA firmware. Use this procedure under either of these conditions:

- You want to configure RAID on the intended OS installation drive, regardless of the installed HBA, and the server does not have OSA or you do not want to use it.
- If your server has the SGX-SAS6-R-INT-Z HBA installed and you want to create a RAID volume level 5, 6, 10, 50, or 60 using the drive on which you plan to install the OS.

---

**Note** – OSA only supports RAID 0 and 1 for the SGX-SAS6-R-INT-Z HBA.

---

- You do not want to create a RAID volume, but the intended OS installation drive has not been initialized and the server has the SGX-SAS6-R-INT-Z HBA installed.

### 1. Create one or more RAID volumes (virtual drives).

Refer to the instructions in LSI's *MegaRAID SAS Software User's Guide*, located at: [http://www.lsi.com/sep/Pages/oracle/sg\\_x\\_sas6-r-int-z.aspx](http://www.lsi.com/sep/Pages/oracle/sg_x_sas6-r-int-z.aspx)

Click the Software User Guide link.

### 2. If you created more than one virtual drive, make one virtual drive bootable.

For instructions, see “Make a Virtual Drive Bootable” on page 55.

---

**Note** – The *MegaRAID SAS Software User's Guide* does not include instructions for making a drive bootable.

---

### Related Information

- [“Make a Virtual Drive Bootable” on page 55](#)

## ▼ Make a Virtual Drive Bootable

Perform this procedure to make a virtual drive bootable if you created more than one virtual drive, or RAID volume, using the LSI BIOS Configuration Utility on a server that has the SGX-SAS6-R-INT-Z HBA installed.

You do *not* need to perform this procedure if any of these conditions are true:

- You used OSA to create a volume and to make the volume bootable.
- The SGX-SAS6-INT-Z HBA is installed on your server.
- You only created one virtual drive using the LSI SAS2 BIOS Configuration Utility.

Before you begin, create at least one virtual drive, or RAID volume, on the SGX-SAS6-R-INT-Z HBA using the LSI BIOS Configuration Utility. See [“Create a RAID Volume” on page 54](#).

---

**Note** – The *MegaRAID SAS Software User's Guide* does not include instructions for making a drive bootable.

---

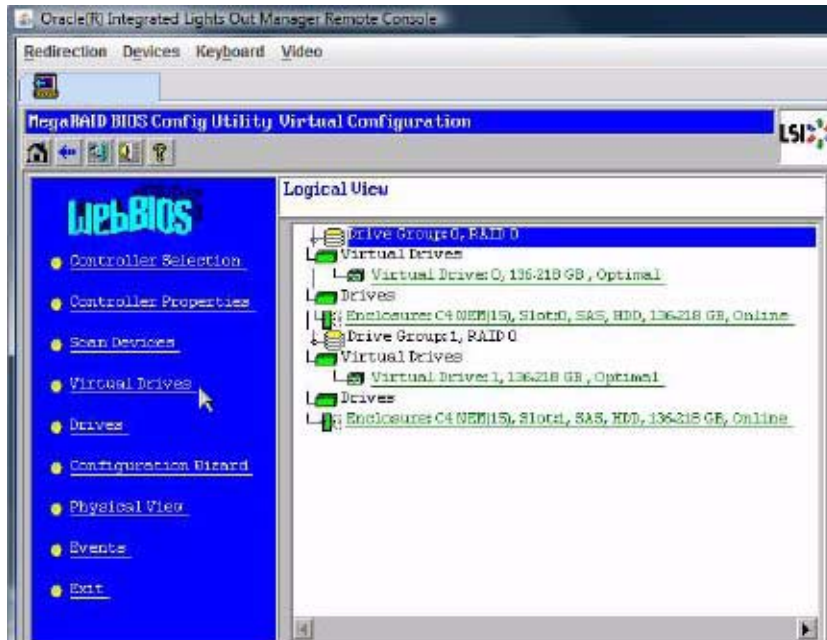
1. **Reset or power on the server.**
2. **To access the LSI WebBIOS utility, press the Control+H key combination during the server power-on sequence.**

The Adapter Selection screen appears.



**3. In the Adapter Selection window, click Start.**

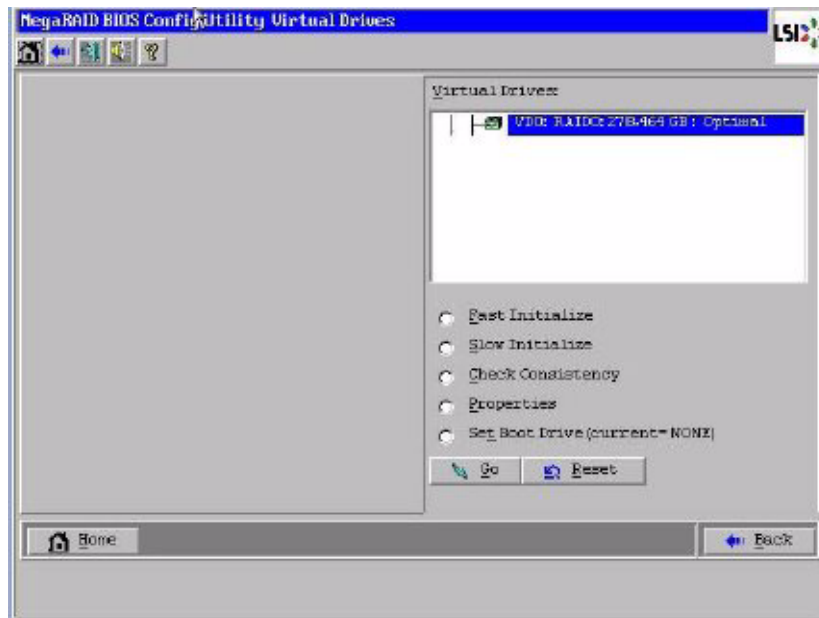
The LSI MegaRAID BIOS Config 1 Utility Virtual Configuration window appears.



**4. Click Virtual Drives.**

The Virtual Drives window appears.





5. Select the virtual drive that you want to make bootable.

6. Click Set Boot Drive, then click Go.

For information about administering RAID, refer to LSI's *MegaRAID SAS Software User's Guide* located at:

[http://www.lsi.com/sep/Pages/oracle/sg\\_x\\_sas6-r-int-z.aspx](http://www.lsi.com/sep/Pages/oracle/sg_x_sas6-r-int-z.aspx)

Click the Software User Guide link.

### Related Information

- "Create a RAID Volume" on page 54
- "Installing a Supported OS" on page 59



# Installing a Supported OS

---

These topics describe how to initiate OS installation to get you to the point where you use the OS documentation to complete the installation.

| Description   | Links   |
|---|---|
| Install the Oracle Solaris OS using media or PXE.         | <a href="#">“Installing an OS (Media)” on page 63</a><br><a href="#">“Install an OS (PXE)” on page 73</a>   |
| Install Oracle VM using OSA or media.                     | <a href="#">“Install an OS (OSA)” on page 60</a><br><a href="#">“Installing an OS (Media)” on page 63</a>   |
| Install a supported Linux OS using OSA, or media, or PXE. | <a href="#">“Install an OS (OSA)” on page 60</a><br><a href="#">“Installing an OS (Media)” on page 63</a><br><a href="#">“Install an OS (PXE)” on page 73</a> |
| Install VMware ESXi using media or PXE.                   | <a href="#">“Installing an OS (Media)” on page 63</a><br><a href="#">“Install an OS (PXE)” on page 73</a>   |
| Install a Windows OS using OSA, media, or PXE.            | <a href="#">“Install an OS (OSA)” on page 60</a><br><a href="#">“Installing an OS (Media)” on page 63</a><br><a href="#">“Install an OS (PXE)” on page 73</a> |

## Related Information

- [“Choosing an OS Installation Method” on page 1](#)
- [“Configuring the Preinstalled Oracle Solaris OS” on page 13](#)
- [“Configuring the Preinstalled Oracle VM 3.0 Software” on page 21](#)
- [“Preparing to Install an OS” on page 27](#)
- [“Configuring RAID” on page 45](#)
- [“Performing Post-Installation Tasks” on page 77](#)

---

## ▼ Install an OS (OSA)

Use this procedure to install one of these OSs using OSA:

- Oracle VM
- A supported Linux OS
- Windows

See [“Supported OS Versions and Documentation” on page 7](#).



---

**Caution – Loss of data.** The OS installation overwrites the contents of the drives on which the OS is installed.

---

**1. Access the documentation for the OS you plan to install.**

See [“Supported OS Versions and Documentation” on page 7](#).

**2. Ensure that you have established a console connection.**

See [“Selecting the Console Display” on page 27](#).

**3. Ensure that the installation media is available.**

- **For the distribution CD/DVD** – Insert the installation media into the local or remote CD/DVD-ROM drive.
- **For ISO images** – Ensure that the ISO images are available and that the Oracle ILOM Remote Console application is aware of the first ISO image location.

For additional information about how to set up the installation media, see [“Selecting the Boot Media” on page 31](#).

**4. (Optional) Configure RAID.**

If you want to configure the boot drive as a RAID volume, you must do so before you install an OS. See [“Configuring RAID” on page 45](#).

---

**Note** – If the server is equipped with the SGX-SAS6-R-INT-Z HBA, you must create RAID and a bootable volume before installing the OS. Otherwise, the HBA will not be able to identify the server’s drives.

---

**5. Start OSA using one of these methods:**

- **From the Oracle ILOM web interface** – Click Summary > Launch Oracle System Assistant.
- **Reset or power on the server.**

See [“Reset the Server” on page 37](#).

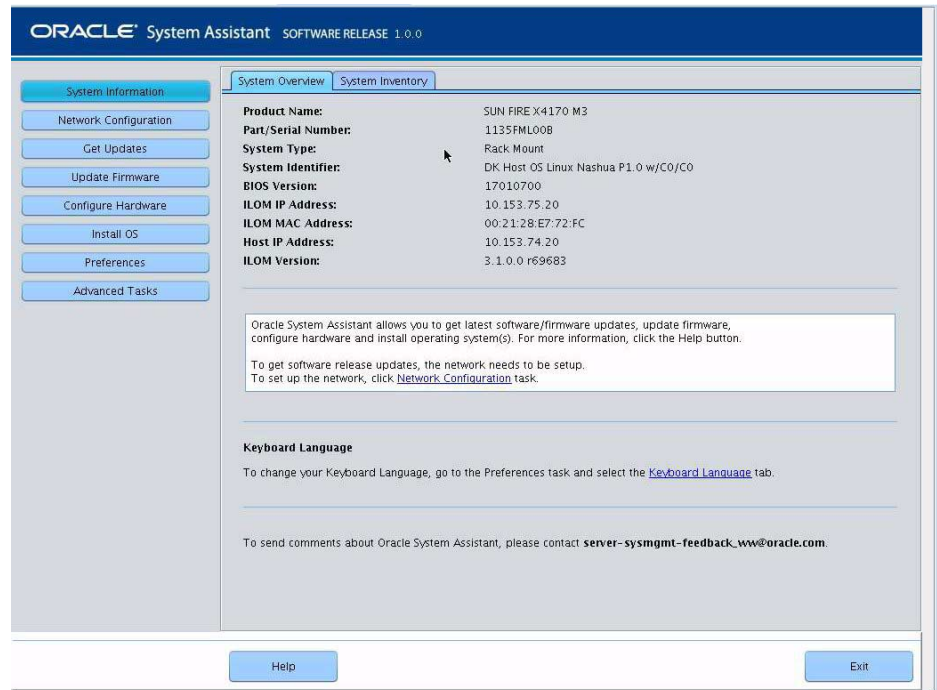
---

**Note** – During the reset or power on, pay close attention to the screen so that you can interrupt the boot process at the correct time.

---

**6. In the BIOS window, press F9 to start OSA.**

The OSA application is started, and the main screen appears.



**7. (Optional) Enlarge the size of your window to eliminate scroll bars.**

**8. (Optional) Update the OSA application by clicking Get Updates.**

This action downloads the latest version of OSA from Oracle.

---

**Note** – Server Internet access is required to perform this action.

---

**9. (Optional) Update the server firmware by clicking Update Firmware.**

This action downloads the latest versions of the server firmware, BIOS, and drivers.

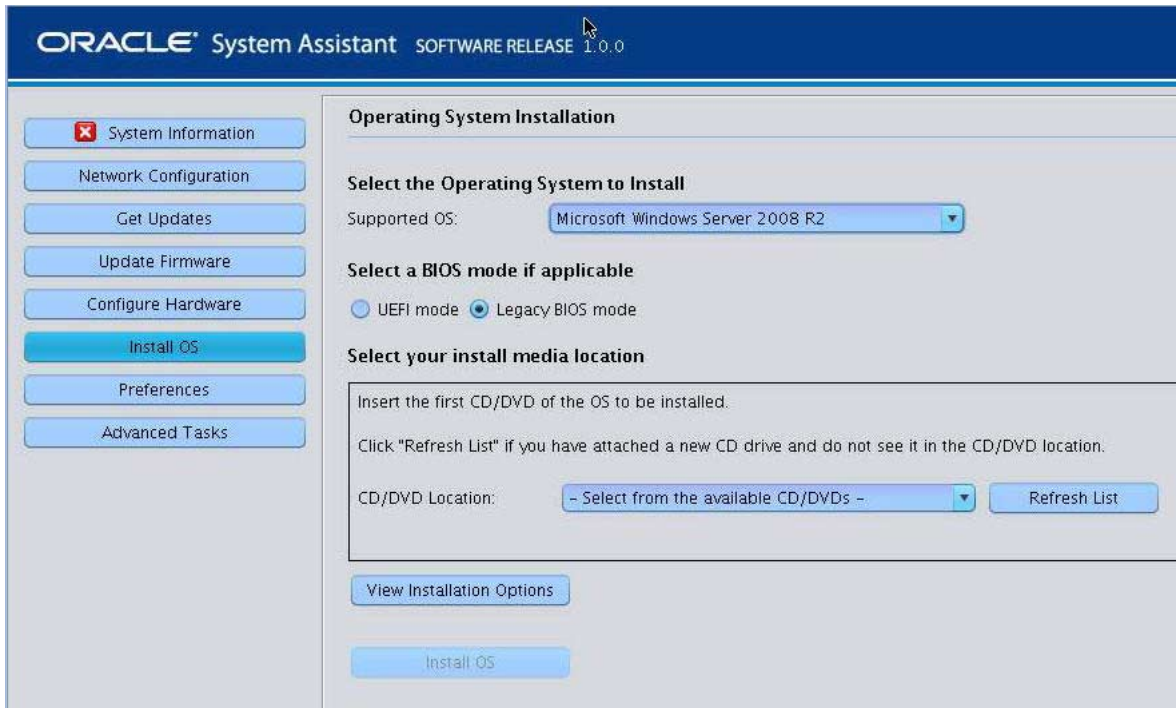
---

**Note** – Server Internet access is required to perform this action.

---

**10. Click the Install OS button.**

The OS Installation window is displayed.



**11. Configure the installation parameters in the Operating System Installation pane.**

**a. Select an OS from the Supported OS list.**

**b. Select a BIOS mode.**

See [“Setting Up BIOS” on page 39](#).

---

**Note** – Oracle VM only supports Legacy BIOS mode.

---

**c. Select your installation media location.**

**12. Click View Installation Options.**

The Installation Options dialog box appears.

**13. In the Installation Options dialog box, deselect any items that you do not want to install.**

---

**Note** – In the Installation Options dialog box, the OS and Drivers options are mandatory and cannot be deselected.

---

14. Click **Install OS** at the bottom of the OS Installation window.
15. Either confirm your selection of boot device by clicking **Yes**, or change boot devices by clicking **No** and selecting another device.



---

**Caution – Loss of data.** The OS installation overwrites the contents of the drives on which the OS is installed.

---

16. Continue the installation by following the on-screen instructions.

Refer to the documentation for your OS.

When the installation is finished, the server boots.

#### Related Information

- [“Supported OS Versions and Documentation” on page 7](#)
- [“OS Installation Task Map \(Oracle VM\)” on page 3](#)
- [“OS Installation Task Map \(Linux\)” on page 4](#)
- [“OS Installation Task Map \(Windows\)” on page 6](#)
- [“Installing an OS \(Media\)” on page 63](#)
- [“Install an OS \(PXE\)” on page 73](#)

---

## Installing an OS (Media)

You can install any of the supported OSs using the OS media and these topics:

| Step | Description  | Links  |
|------|--|--|
| 1.   | Install a supported OS using local or remote media.            | <a href="#">“Install an OS (Media)” on page 64</a>         |
| 2.   | (Windows only) Install HBA drivers during the OS installation. | <a href="#">“Install HBA Drivers (Windows)” on page 67</a> |

## Related Information

- [“Supported OS Versions and Documentation” on page 7](#)
- [“Install an OS \(OSA\)” on page 60](#)
- [“Install an OS \(PXE\)” on page 73](#)
- [“OS Installation Task Map \(Oracle Solaris\)” on page 2](#)
- [“OS Installation Task Map \(Oracle VM\)” on page 3](#)
- [“OS Installation Task Map \(Linux\)” on page 4](#)
- [“OS Installation Task Map \(VMware ESXi\)” on page 5](#)
- [“OS Installation Task Map \(Windows\)” on page 6](#)

## ▼ Install an OS (Media)

This procedure describes how to install an OS from local or remote media. You can install any of the supported OSs using this method.

### 1. Access the documentation for the OS you plan to install.

See [“Supported OS Versions and Documentation” on page 7](#).

### 2. Ensure that you have established a console connection.

See [“Selecting the Console Display” on page 27](#).

### 3. Ensure that the installation media is available.

- **For the distribution CD/DVD** – Insert the installation media into the local or remote CD/DVD-ROM drive.
- **For ISO images** – Ensure that the ISO images are available and that the Oracle ILOM Remote Console application is aware of the first ISO image location. Ensure that you have selected CD-ROM Image from the Oracle ILOM Remote Console system’s Devices menu.

For additional information about how to set up the installation media, see [“Selecting the Boot Media” on page 31](#).

### 4. (Optional) Configure BIOS.

By default the server uses Legacy BIOS mode. For some OSs, you can change the BIOS to UEFI mode. If you want to change the BIOS mode, do so before installing the OS. See [“Setting Up BIOS” on page 39](#).

---

**Note** – For Oracle Linux 5.7 installations, the BIOS mode must be set to Legacy BIOS, because UEFI BIOS is not supported by Oracle Linux 5.7.

---



## 5. (Optional) Configure RAID.

If you want to configure the boot drive as a RAID volume, you must do so before you install an OS. See [“Configuring RAID” on page 45](#).

---

**Note** – If the server is equipped with the SGX-SAS6-R-INT-Z HBA, you must create RAID and a bootable volume before installing the OS. Otherwise, the HBA will not be able to identify the server’s drives.

---

## 6. Reset or power on the server.

See [“Reset the Server” on page 37](#).

---

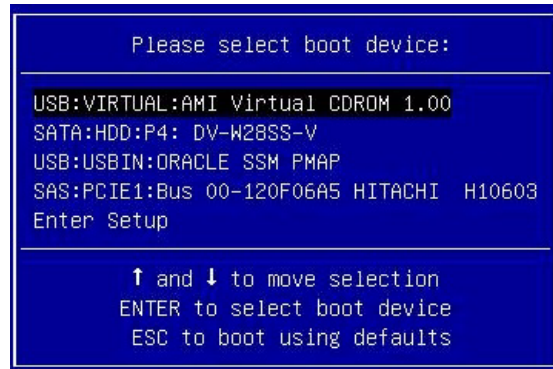
**Note** – During the reset or power on, pay close attention to the screen so that you can interrupt the boot process at the correct time.

---

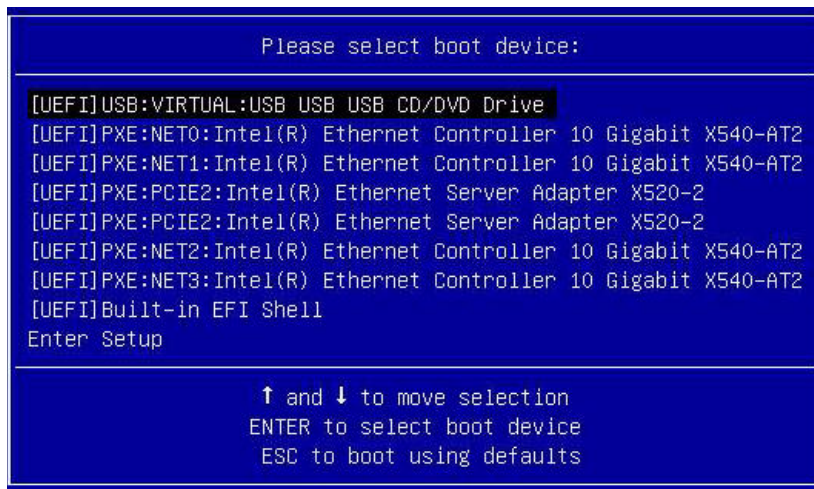
## 7. In the BIOS screen, press F8 to specify a temporary boot device for the OS installation.

The Please Select Boot Device menu appears.

For example, this is the menu when BIOS is set to Legacy mode:



For example, this is the menu when the BIOS is set to UEFI mode:




---

**Note** – The menu that is displayed differs depending on your BIOS configuration, OS you are installing, and the devices installed in your server.

---

**8. In the Please Select Boot Device menu, select the item according to the OS media you are using.**

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

In most cases, you select one of these:

| Media Location | BIOS Mode | Select                                 |
|----------------|-----------|--|
| Local          | Legacy    | SATA:HDD:P4 DV-W28SS-V                 |
|                | UEFI      | [UEFI]USB2:USB USB CD/DVR Drive        |
| Remote         | Legacy    | USB:VIRTUAL:AMI VIRTUAL CDROM 1.00     |
|                | UEFI      | [UEFI]USB:VIRTUAL:USB USB CD/DVD Drive |

The next set of windows and menus displayed varies depending on the type of OS you are installing.

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

**10. Continue the installation by following the on-screen instructions.**

Refer to the documentation for your OS.

**11. (Windows) Install the HBA drivers.**

See “[Install HBA Drivers \(Windows\)](#)” on page 67.

**12. Determine if you need to perform post-installation tasks.**

See [“Performing Post-Installation Tasks”](#) on page 77.

**Related Information**

- [“Install HBA Drivers \(Windows\)”](#) on page 67
- [“OS Installation Task Map \(Oracle Solaris\)”](#) on page 2
- [“OS Installation Task Map \(Oracle VM\)”](#) on page 3
- [“OS Installation Task Map \(Linux\)”](#) on page 4
- [“OS Installation Task Map \(VMware ESXi\)”](#) on page 5
- [“OS Installation Task Map \(Windows\)”](#) on page 6

## ▼ Install HBA Drivers (Windows)

During the Windows OS installation, perform these steps to ensure that the drivers for your HBA are installed.

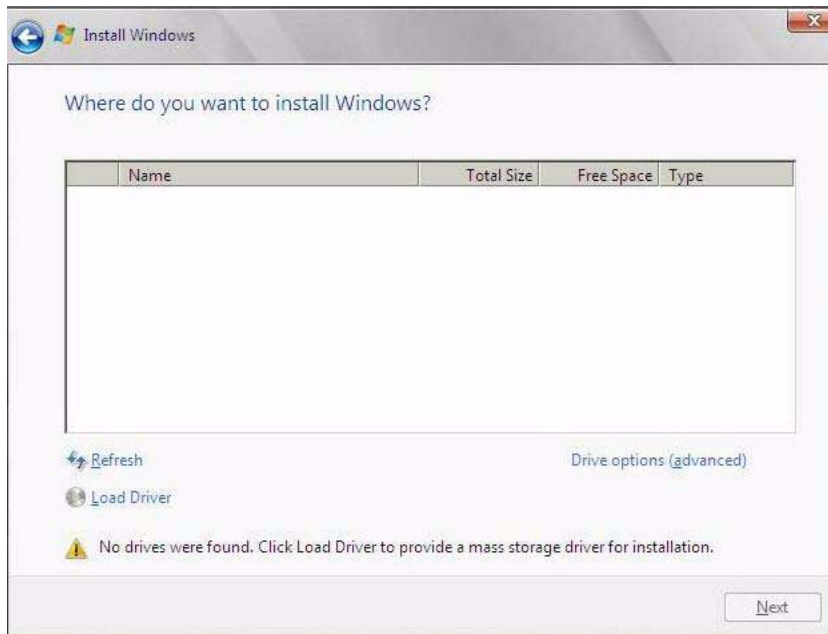
---

**Note** – If you used OSA to install the Windows OS, you do not need to perform this procedure because OSA installs the required HBA drivers.

---

**1. In the Installation Type window, click Custom (Advanced).**

The Where Do You Want to Install Windows window appears.



## 2. Perform one of these tasks:

- If you do not see any storage targets listed, and a Sun Storage SAS PCIe RAID HBA option is configured on your server, click Load Driver, then proceed to [Step 3](#).
- If you see the storage target where you want to install the OS but want to change the default partition settings associated with that target, select the target, click Drive Options (advanced), then proceed to [Step 4](#).

## 3. In the Load Drive dialog box, perform these steps:



- a. Ensure that the drivers are accessible according to the installation method chosen.

See [“Selecting the Boot Media”](#) on page 31.

For example:

- Drivers are on a disk mounted as a device from the Oracle ILOM Remote Console.
- Storage drivers are on a local physical storage media such as the OSA USB drive (if installed), which is mounted internally in the server’s chassis, a CD/DVD, or virtual media mounted from the Oracle ILOM Remote Console.

- b. In the Load Driver dialog box, click Browse to navigate to the appropriate driver media folder on the OSA USB drive.

| Supported HBA Option Number        | Folder                                | Driver Required During Installation |
|------------------------------------|---------------------------------------|-------------------------------------|
| SG-SAS6-R-INT-Z or SG-SAS6-R-EXT-Z | windows/w2k8/drivers/LSI-HBA-MegaSAS2 | LSI MegaRAID SAS 92xx-xx            |
| SG-SAS6-INT-Z or SG-SAS6-EXT-Z     | windows/w2k8/drivers/LSI-HBA-MPT2     | LSI Adapter SAS 2008 Falcon         |

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

The selected driver appears in the Select the Driver to Be Installed window.  
For example:



- d. In the Select the Driver to Be Installed window, click **Next** to install the driver.

The Where Do You Want to Install Windows window appears.

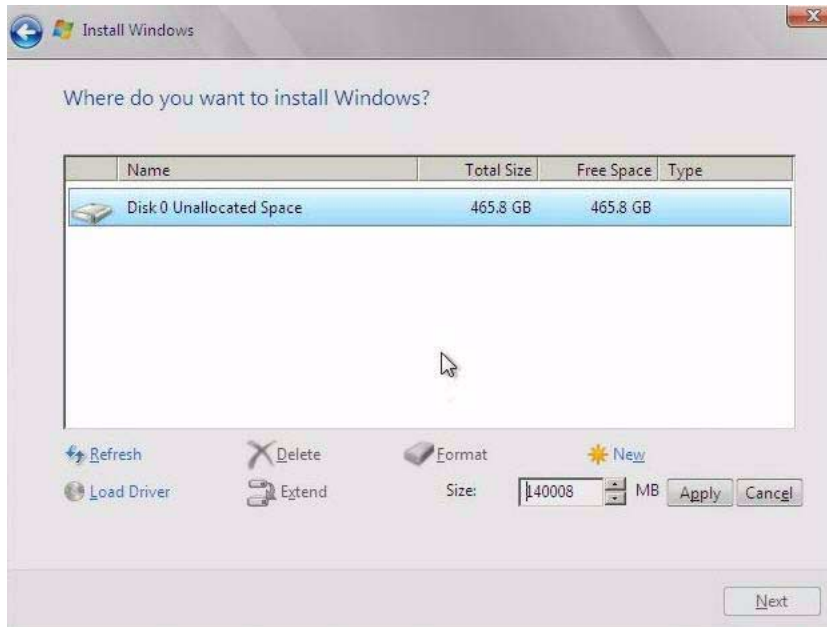


---

**Note** – If you previously removed or unmounted the Windows OS installation media to load the drivers from the internal OSA USB drive, you might see this message: “Windows Cannot be installed to this disk.” If this message appears, insert or re-mount the Windows installation media, then click Refresh.

---

- e. In the **Where Do You Want to Install Windows** window, perform one of these actions:
- If any partitions exist on your target drive, allow the setup to create the appropriate partitions. Go to [Step 4](#).
  - Select the storage target listed and click Next to install the OS, then proceed to [Step 5](#).
4. In the lower portion of the **Where Do You Want to Install Windows** window, perform these steps:



- a. Click **Delete** to delete the selected storage target existing partition configuration.

A confirmation window appears.

- b. Click **OK** to confirm the partition deletion.
- c. If any additional partitions exist on the target drive, repeat Step a and Step b.
- d. Click **Next** to install the OS to the selected storage target.

The Windows installation program begins and will reboot the server multiple times during the installation process.

#### 5. Change the user password when prompted.

When the installation is complete, Windows starts and prompts you to change the user password.

#### 6. In the User Password dialog box, click **OK** and set up the initial user login account.

After the initial user account is created, the Windows OS desktop appears.

#### 7. Perform post-installation tasks.

See [“Performing Post-Installation Tasks”](#) on page 77.

### Related Information

- [“Install an OS \(Media\)”](#) on page 64



- [“OS Installation Task Map \(Windows\)” on page 6](#)

---

## ▼ Install an OS (PXE)

This procedure describes how to install a supported OS using a PXE network environment.

The server supports a PXE installations for these OSs:

- Oracle Solaris
- Linux
- Windows

See [“Supported OS Versions and Documentation” on page 7](#).

---

**Note** – Once you reset the server, events occur very quickly. Pay close attention to the screen so that you can interrupt the boot process at the correct time.

---

**1. Access the documentation for the OS you plan to install.**

See [“Supported OS Versions and Documentation” on page 7](#).

**2. Ensure that the PXE network environment is set up.**

See [“Preparing Your PXE Environment” on page 33](#).

**3. Ensure that you have established a console connection.**

See [“Selecting the Console Display” on page 27](#).

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

See [“Reset the Server” on page 37](#).

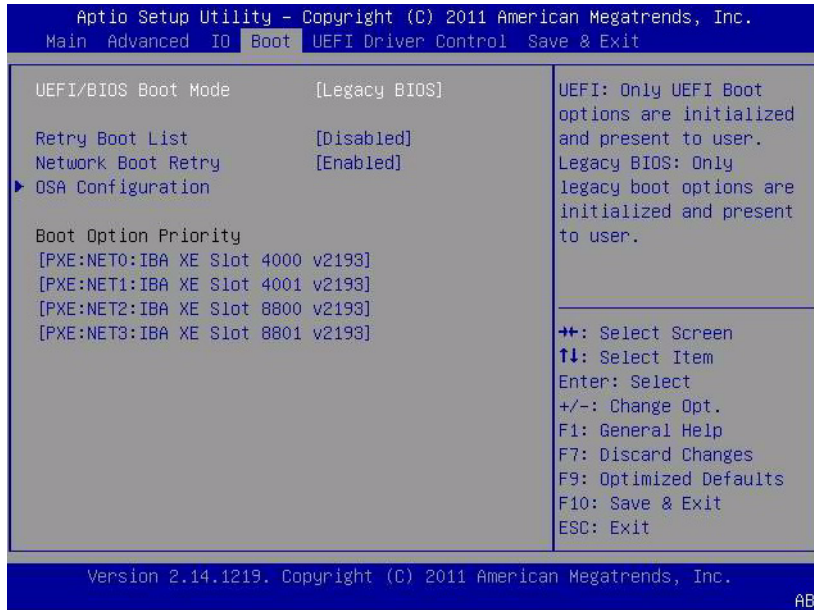
The BIOS screen appears.



**5. (Oracle Solaris) Enable the Launch PXE OpROM BIOS option.**

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

The BIOS Setup Utility appears.



**b. Select Advanced in the menu bar.**

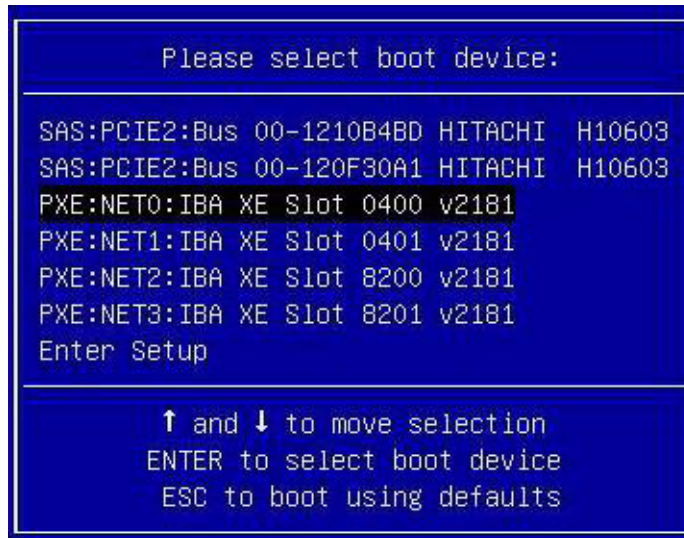
**c. Set the Launch PXE OpROM setting to Enabled.**

**d. Save the changes and exit the BIOS Setup Utility by pressing F10.**

This action causes the server to reset. After resetting, the BIOS window displays again.

**6. In the BIOS window, press F8 to specify a temporary boot device.**

The Please Select Boot Device dialog box appears.



**7. In the Boot Device menu, select the appropriate PXE boot port, then press Enter.**

The PXE boot port is the physical network port configured to communicate with your network installation server. NET0 is selected in the previous figure.

**8. Follow the on-screen prompts to complete the OS installation.**

For instructions on completing OS installation, refer to the OS installation documentation. See [“Supported OS Versions and Documentation” on page 7](#).

---

**Note** – For Windows OS installations, you might need to ensure that the HBA drivers are installed during the installation. See [“Install HBA Drivers \(Windows\)” on page 67](#).

---

**9. Determine if you need to perform post-installation tasks.**

See [“Performing Post-Installation Tasks” on page 77](#).

**Related Information**

- [“Supported OS Versions and Documentation” on page 7](#)
- [“OS Installation Task Map \(Oracle Solaris\)” on page 2](#)
- [“OS Installation Task Map \(Linux\)” on page 4](#)
- [“OS Installation Task Map \(Windows\)” on page 6](#)



# Performing Post-Installation Tasks

---

After completing the OS installation, review these post-installation topics to see if any apply to your installation.

| Description   | Links  |
|---|--|
| For all supported OSs, (Optional) assign the server's boot drive priorities.            | <a href="#">“(Optional) Assign Boot Drive Priorities” on page 78</a>                       |
| For Oracle VM installations, access information to install and use an Oracle VM server. | <a href="#">“Oracle VM Post-Installation Information” on page 79</a>                       |
| For Oracle Linux installations, configure Linux to use a particular kernel.             | <a href="#">“(Optional) Choose an Oracle Linux Kernel” on page 80</a>                      |
| For Red Hat Linux, install the Oracle Linux Support kernel.                             | <a href="#">“(Optional) Install the Oracle Linux Support Kernel (RHEL 5.7)” on page 81</a> |
| Perform VMware ESXi post-installation tasks.  | <a href="#">“Performing VMware ESXi Post-Installation Tasks” on page 83</a>                |
| Perform Windows OS post-installation tasks.   | <a href="#">“Performing Windows Post-Installation Tasks” on page 87</a>                    |

## Related Information

- [“Choosing an OS Installation Method” on page 1](#)
- [“Configuring the Preinstalled Oracle Solaris OS” on page 13](#)
- [“Configuring the Preinstalled Oracle VM 3.0 Software” on page 21](#)
- [“Preparing to Install an OS” on page 27](#)
- [“Configuring RAID” on page 45](#)
- [“Installing a Supported OS” on page 59](#)

## ▼ (Optional) Assign Boot Drive Priorities

Use this procedure if you want to assign the server's boot priorities.

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

See ["Reset the Server" on page 37](#).

---

**Note** – During the reset or power on, pay close attention to the screen so that you can interrupt the boot process at the correct time.

---

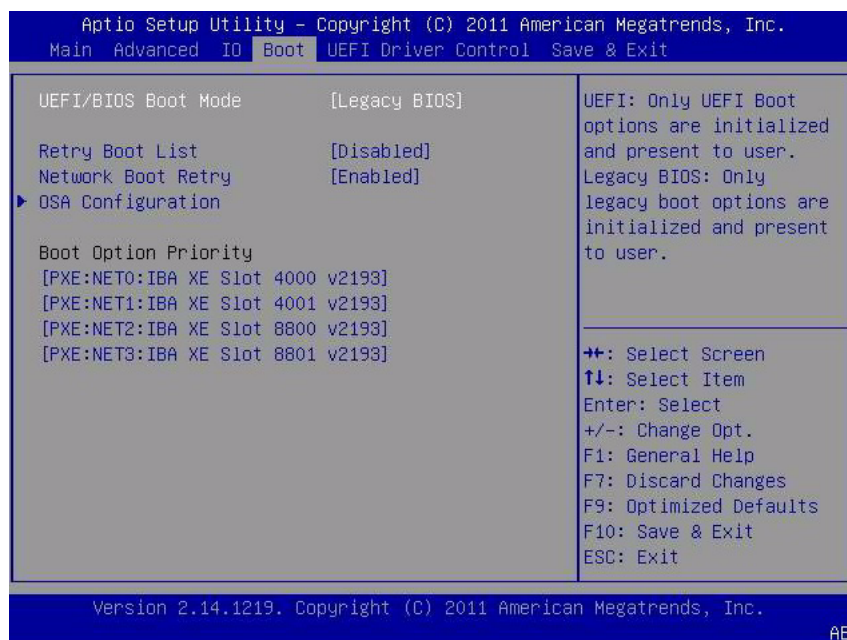
### 2. Press F2 to run the BIOS Setup Utility.

The BIOS Setup Utility appears.

### 3. Use the left and right arrow keys to display the Boot menu.

### 4. Change the order of the drives under Boot Option Priority to suit your needs.

Use the up and down arrow keys to move the primary boot drive to the top of the boot priority list.



### 5. Press F10 to save your changes and exit the BIOS Setup Utility.

### Related Information

- “OS Installation Task Map (Oracle Solaris)” on page 2
- “OS Installation Task Map (Oracle VM)” on page 3
- “OS Installation Task Map (Linux)” on page 4
- “OS Installation Task Map (VMware ESXi)” on page 5
- “OS Installation Task Map (Windows)” on page 6
- “Install an OS (OSA)” on page 60
- “Install an OS (Media)” on page 64
- “Install an OS (PXE)” on page 73

---

## Oracle VM Post-Installation Information

If you do not have an Oracle VM Manager configured to manage the Oracle VM Server, you must install the Oracle VM Manager.

Refer to the *Oracle VM Manager Installation Guide* at:

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

### Related Information

- “OS Installation Task Map (Oracle VM)” on page 3

---

## Performing Linux Post-Installation Tasks

Use these topics to perform post-installation tasks:

- “(Optional) Choose an Oracle Linux Kernel” on page 80
- “(Optional) Install the Oracle Linux Support Kernel (RHEL 5.7)” on page 81
- “(Optional) Install the Oracle Linux Support Kernel (RHEL 6.1)” on page 82

### Related Information

- “OS Installation Task Map (Linux)” on page 4

## ▼ (Optional) Choose an Oracle Linux Kernel

Oracle Linux supports two kernels:

- Oracle Linux Support, also known as the Unbreakable Enterprise Kernel (default)
- Red Hat Compatible Kernel

If you want to switch to the Red Hat Compatible Kernel or back to the Oracle Linux Support kernel, perform these steps.

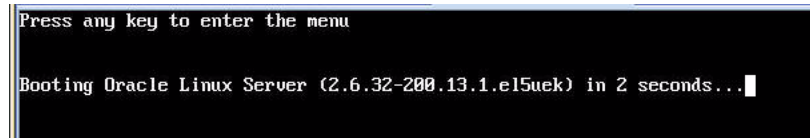
### 1. Reboot the server.

As the server boots, the kernel window appears.

---

**Note** – Pay close attention to the screen so that you can interrupt the boot process at the correct time.

---

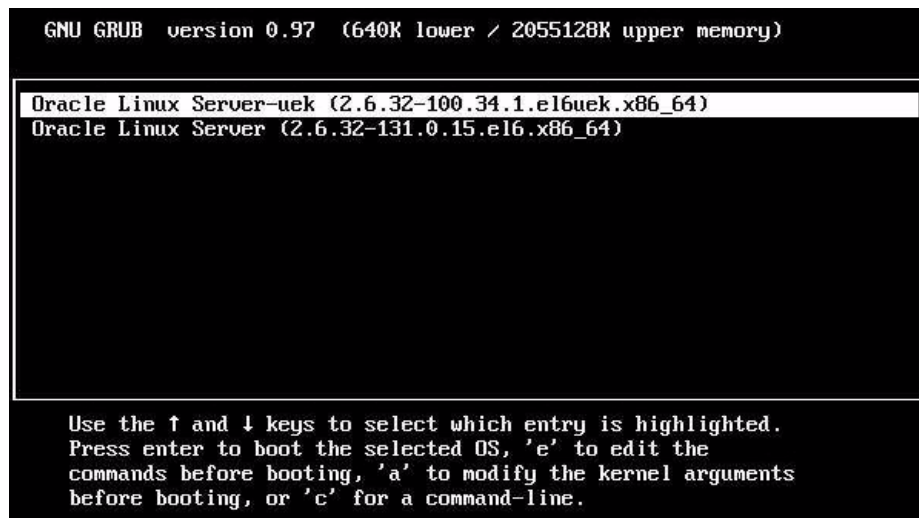


```
Press any key to enter the menu

Booting Oracle Linux Server (2.6.32-200.13.1.el5uek) in 2 seconds...
```

### 2. Press any key.

The kernel select window appears.



```
GNU GRUB  version 0.97  (640K lower / 2055128K upper memory)

Oracle Linux Server-uek (2.6.32-100.34.1.el6uek.x86_64)
Oracle Linux Server (2.6.32-131.0.15.el6.x86_64)

Use the ↑ and ↓ keys to select which entry is highlighted.
Press enter to boot the selected OS, 'e' to edit the
commands before booting, 'a' to modify the kernel arguments
before booting, or 'c' for a command-line.
```

### 3. Select a kernel and press Enter.

- For the Oracle Linux Support kernel – Select Oracle Linux Server-uek.



- **For the Red Hat Compatible kernel** – Select Oracle Linux Server-base. The server boots using the selected kernel.

### Related Information

- [“OS Installation Task Map \(Linux\)” on page 4](#)
- [“\(Optional\) Install the Oracle Linux Support Kernel \(RHEL 5.7\)” on page 81](#)
- [“\(Optional\) Install the Oracle Linux Support Kernel \(RHEL 6.1\)” on page 82](#)

## ▼ (Optional) Install the Oracle Linux Support Kernel (RHEL 5.7)

After you have installed the RHEL OS, you have the option of installing and using the Oracle Linux Support kernel (formerly known as the Oracle Unbreakable Enterprise Kernel for Linux). See [“Oracle Linux Support Kernel” on page 8](#).

1. **Ensure that your system is running RHEL 5.7 before installing the Oracle Linux Support kernel.**
2. **Perform these steps to download and edit the Oracle Linux 5 Yum repository file:**
  - a. **Type.**

```
# cd /etc/yum.repos.d
# wget http://public-yum.oracle.com/public-yum-el5.repo
```
  - b. **Open the /etc/yum.repos.d/etc/public-yum-el5.repo file in an editor.**
  - c. **Edit both the [el5\_u5\_base] and [ol5\_u5\_base] stanzas and change enable=0 to enable=1.**

```
[el5_u5_base]
name=Enterprise Linux $releasever U5 - $basearch - base
baseurl=http://publicyum.
oracle.com/repo/EnterpriseLinux/EL5/5/base/$basearch/
gpgkey=http://public-yum.oracle.com/RPM-GPG-KEY-oracle-el5
gpgcheck=1
enable=1

[ol5_u5_base]
name=Oracle Linux $releasever - U5 - x86_64 - base
baseurl=http://publicyum.
oracle.com/repo/OracleLinux/OL5/5/base/x86_64/
```

```
gpgkey=http://public-yum.oracle.com/RPM-GPG-KEY-oracle-el5
gpgcheck=1
enable=1
```

### 3. Update the system kernel using one of these methods:

- Update the kernel, type.  
# **yum install kernel**
- Update the kernel and upgrade all the recommended packages associated with it, type.  
# **yum install oracle-linux**

### 4. Reboot the server.

---

**Note** – For more information on the Oracle Linux Support kernel, refer to the release notes at:

<https://www.oracle.com/technetwork/server-storage/linux/download-s/index.html>.

---

### Related Information

- [“OS Installation Task Map \(Linux\)” on page 4](#)

## ▼ (Optional) Install the Oracle Linux Support Kernel (RHEL 6.1)

After you have installed the RHEL OS, you have the option of installing and using the Oracle Linux Support kernel (formerly known as the Oracle Unbreakable Enterprise Kernel for Linux). See [“Oracle Linux Support Kernel” on page 8](#).

1. Ensure that your system is running RHEL 6.1 before installing the Oracle Linux Support kernel.
2. Perform these steps to download and edit the Oracle Linux 6 Yum repository file:
  - a. Type.  
# **cd /etc/yum.repos.d**  
# **wget http://public-yum.oracle.com/public-yum-ol6.repo**
  - b. Open the `/etc/yum.repos.d/etc/public-yum-ol6.repo` file in an editor.

- c. Edit the `[ol6_ga_base]` stanza and change `enable=0` to `enable=1`.

```
[ol6_ga_base]
name=Oracle Linux 6 GA - $basearch - base
baseurl=
http://public-yum.oracle.com/repo/OracleLinux/OL6/0/base/$basearch/
gpgkey=http://public-yum.oracle.com/RPM-GPG-KEY-oracle-ol6
gpgcheck=1
name=Oracle Linux 6 GA - $basearch - base
enable=1
```

3. Update the system kernel using one of these methods.

- To update the kernel, type.  
# **yum install kernel-uek**
- To update the kernel all the recommended packages associated with it, type.  
# **yum update**

4. Reboot the server.

---

**Note** – For more information on the Oracle Linux Support kernel, refer to the release notes at:

<https://www.oracle.com/technetwork/server-storage/linux/downloads/index.html>.

---

**Related Information**

- [“OS Installation Task Map \(Linux\)” on page 4](#)

---

## Performing VMware ESXi Post-Installation Tasks

After completing the VMware ESXi installation, perform these tasks:

- [“Configure Network Adapter Settings \(VMware ESXi\)” on page 84](#)
- [“Determine the MAC Address of a Connected Server Network Port \(VMware ESXi\)” on page 86](#)

## Related Information

- [“OS Installation Task Map \(VMware ESXi\)” on page 5](#)

# ▼ Configure Network Adapter Settings (VMware ESXi)

---

**Note** – This task is necessary only if you installed VMware ESXi and you are using static IP addressing. If you are using DHCP, this task is not necessary.

---

For VMware ESXi installations, you must determine the network management interface that 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 must select a network interface for the service console during installation because the network interface defaults to `vmnic0`.

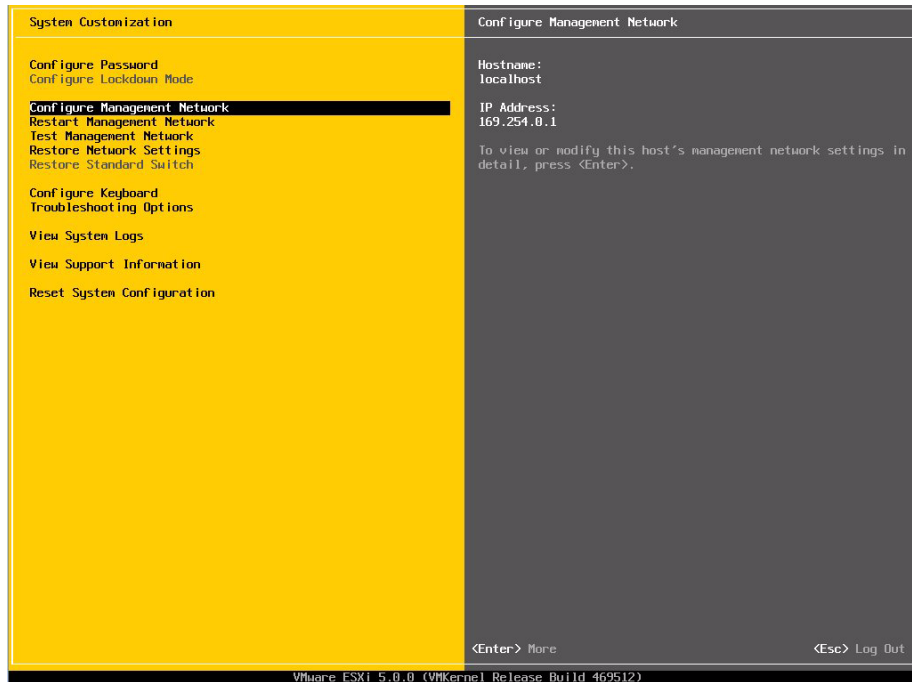
This procedure describes how to configure the VMware ESXi settings for the network adapters installed on your server.

1. **After completing the VMware ESXi software installation wait for the server to reboot.**

This window appears:



2. Press F2 to select **Customize System/View Logs**.
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.

6. Determine the MAC address of connected ports.

See [“Determine the MAC Address of a Connected Server Network Port \(VMware ESXi\)”](#) on page 86.

### Related Information

- [“Determine the MAC Address of a Connected Server Network Port \(VMware ESXi\)”](#) on page 86

## ▼ Determine the MAC Address of a Connected Server Network Port (VMware ESXi)

The server has four network ports, NET0, NET1, NET2, and NET3. When any of these ports are connected to the network, VMware ESXi assigns a MAC address to each port.

Use this procedure to determine the MAC address for each server network port.

- Type this command in the Oracle ILOM CLI for each server network port:  
-> **show /System/Networking/Ethernet\_NICs/Ethernet\_NIC\_1**  
where *n* is 0, 1, 2, or 3  
For example:

```
-> 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
->
```

**Related Information**

- [“Configure Network Adapter Settings \(VMware ESXi\)” on page 84](#)



# Performing Windows Post-Installation Tasks

Depending on the method you used to install the Windows OS, you might need to perform these tasks.

| Description  | Links   |
|--|---|
| Perform post-installation tasks if you used OSA to install the Windows OS. | <a href="#">“(Optional) Configure TPM Support (Windows)” on page 90</a> |

| Description   | Links  |
|---|--|
| Perform post-installation tasks if you manually installed the Windows OS with media or PXE. | <a href="#">“Supplemental Software Component Options (Windows)” on page 88</a><br><a href="#">“Install Server-Specific Device Drivers and Supplemental Software (Windows)” on page 89</a><br><a href="#">“(Optional) Configure TPM Support (Windows)” on page 90</a> |

## Related Information

- [“OS Installation Task Map \(Windows\)” on page 6](#)

# Supplemental Software Component Options (Windows)

OSA makes several supplemental software components available for the server.

If you used OSA to install the Windows OS, the supplemental software was automatically installed.

If you manually installed the Windows OS, you can install the supplemental software. See [“Install Server-Specific Device Drivers and Supplemental Software \(Windows\)” on page 89](#)

You have two options:

- **Typical** – Installs all supplemental software applicable for your server.
- **Custom** – Installs only the supplemental software selected for installation.

OSA makes these optional supplemental software components available for your server.

- **LSI MegaRAID Storage Manager** – Enables you to configure, monitor, and maintain RAID on the SAS internal RAID HBA.
- **HMP** – provides tools to help you manage and configure your server enabling you to do these things:
  - Use a management agent at the OS level to enable in-band monitoring of your server hardware over SNMP. You can use this information to integrate your server into your data center management infrastructure.
  - Use a management agent to enable in-band monitoring of your server’s storage devices, including RAID arrays. You can view this information from the Oracle ILOM web interface or CLI.



- Use a BIOS configuration tool, which runs on the host OS and configures the host BIOS CMOS settings, host boot order, and some SP settings.
- Use IPMITool to access the servers service processor using the IPMI protocol and perform management tasks.
- **Intel NIC Teaming** – Enables the network interfaces on a server to be grouped together into a team of physical ports called a virtual interface.

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

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

### Related Information

- “Install Server-Specific Device Drivers and Supplemental Software (Windows)” on page 89
- “(Optional) Configure TPM Support (Windows)” on page 90

## ▼ Install Server-Specific Device Drivers and Supplemental Software (Windows)

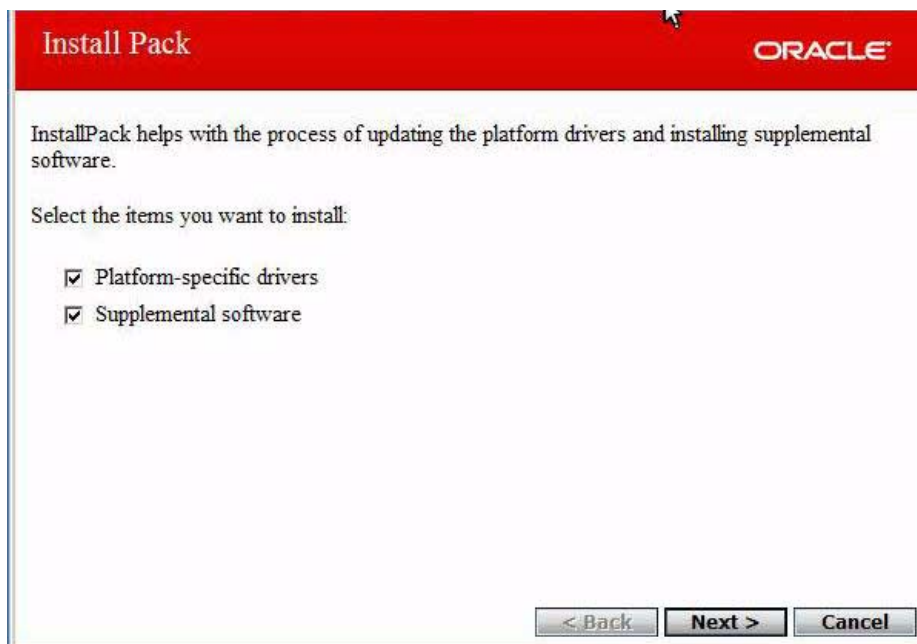
If you used OSA to install the Windows OS, then the required platform-specific device drivers and supplemental software are installed for you.

However, if you did not use OSA, you can use Install Pack to install the platform-specific device drivers and supplemental software.

The Install Pack application provides an installation wizard for installing platform-specific device drivers and supplemental software. This application is included in OSA.

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

The Install Pack window appears.



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

---

**Note** – Always accept the default installable items to ensure that the most recent versions of the drivers are installed.

---

The Install Pack notice dialog box appears.

3. Follow the prompts to complete the installation of the device drivers and supplemental software.

#### **Related Information**

- [“Supplemental Software Component Options \(Windows\)” on page 88](#)
- [“\(Optional\) Configure TPM Support \(Windows\)” on page 90](#)

## ▼ (Optional) Configure TPM Support (Windows)

If you intend to use the Windows 2008 TPM feature set on Oracle’s Netra Server X3-2 (formerly Sun Netra X4270 M3 Server), you must configure the server to support this feature.

---

**Note** – TPM enables you to administer the TPM security hardware in your server. For additional information about implementing this feature, refer to the Windows TPM Management documentation provided by Microsoft.

---

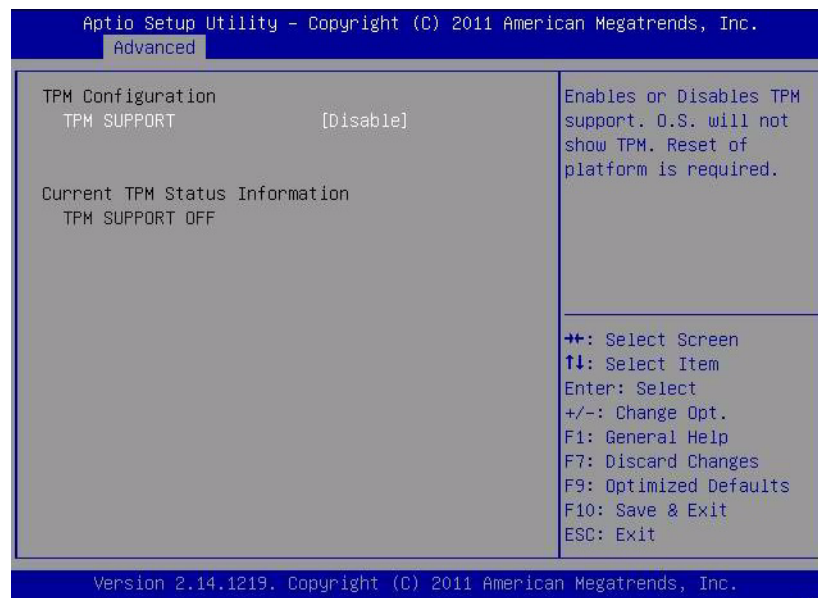
**1. Access the BIOS Setup Utility.**

Refer to *Server Administration*, accessing BIOS.

**2. From the BIOS Main menu screen, select Advanced.**

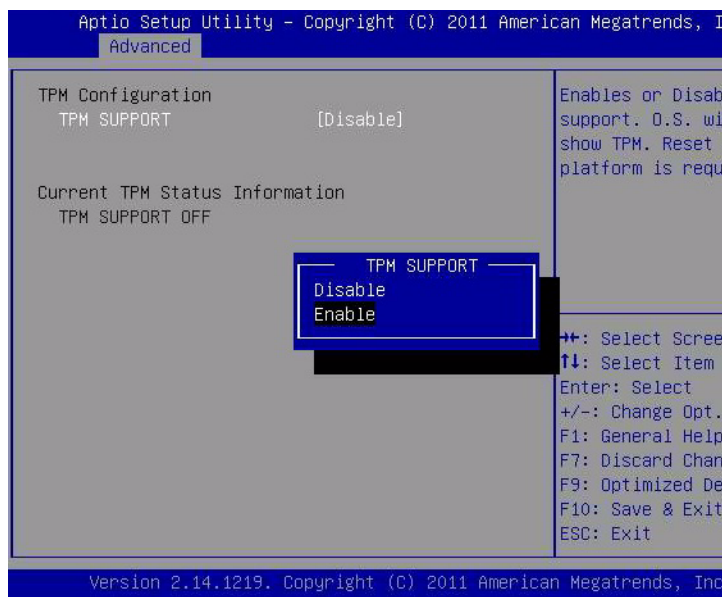
**3. From the Advanced Settings screen, select Trusted Computing.**

The TPM Configuration screen appears.

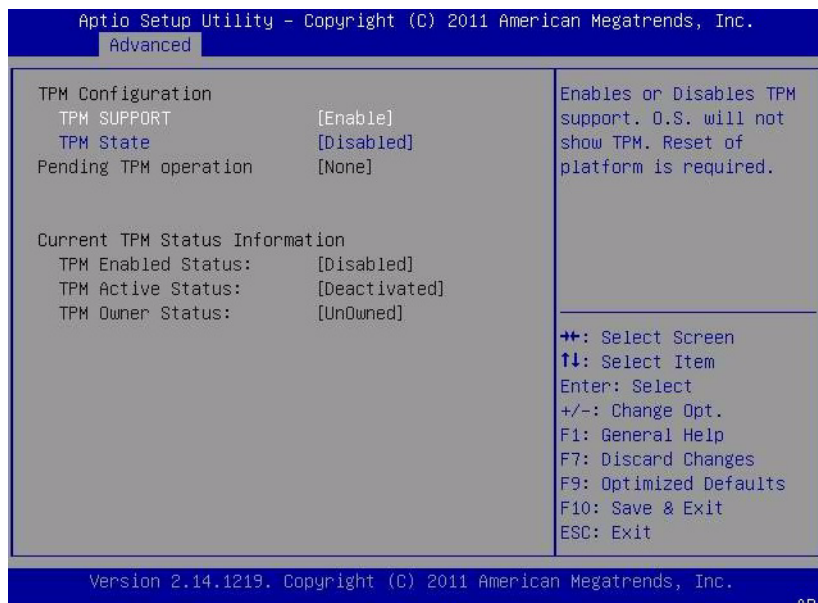


**4. Select TPM Support and press Enter.**

A TPM Support dialog box appears.



5. In the dialog box, set TPM Support to Enable and press Enter.  
The updated TPM Configuration screen appears.



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

**Related Information**

- [“Supplemental Software Component Options \(Windows\)” on page 88](#)
- [“Install Server-Specific Device Drivers and Supplemental Software \(Windows\)” on page 89](#)



# Glossary

---

---

## A

|                 |  |
|-----------------|--|
| <b>ACPI</b>     | Advanced Configuration and Power Interface.                      |
| <b>ANSI SIS</b> | American National Standards Institute Status Indicator Standard. |
| <b>ASF</b>      | Alert standard format (Netra products only).                     |
| <b>ASR</b>      | Automatic system recovery.                                       |
| <b>AWG</b>      | American wire gauge.   |

---

## B

|                     |   |
|---------------------|---|
| <b>BAT</b>          | basic assurance test.   |
| <b>BIOS</b>         | Basic Input Output System.  |
| <b>blade</b>        | Generic term for server modules and storage modules. See <i>server module</i> and <i>storage module</i> . |
| <b>blade server</b> | Server module. See <i>server module</i> .   |
| <b>BMC</b>          | Baseboard management controller.  |
| <b>BOB</b>          | Memory buffer on board.   |

---

## C

|                        |   |
|------------------------|---|
| <b>chassis</b>         | For servers, refers to the server enclosure. For server modules, refers to the modular system enclosure.  |
| <b>CMA</b>             | Cable management arm.   |
| <b>CMM</b>             | Chassis monitoring module. The CMM is the service processor in the modular system. Oracle ILOM runs on the CMM, providing lights out management of the components in the modular system chassis. <i>See <a href="#">Modular system</a> and <a href="#">Oracle ILOM</a>.</i> |
| <b>CMM Oracle ILOM</b> | Oracle ILOM that runs on the CMM. <i>See <a href="#">Oracle ILOM</a>.</i>   |

---

## D

|                                  |  |
|----------------------------------|--|
| <b>DHCP</b>                      | Dynamic Host Configuration Protocol.   |
| <b>disk module or disk blade</b> | Interchangeable terms for storage module. <i>See <a href="#">storage module</a>.</i> |
| <b>DTE</b>                       | Data terminal equipment.   |

---

## E

|            |                                  |
|------------|----------------------------------|
| <b>ECC</b> | Error-correcting code.           |
| <b>EIA</b> | Electronics Industries Alliance. |
| <b>ESD</b> | Electrostatic discharge.         |

---

## F

|            |  |
|------------|--|
| <b>FEM</b> | Fabric expansion module. FEMs enable server modules to use the 10GbE connections provided by certain NEMs. <i>See <a href="#">NEM</a>.</i> |
| <b>FRU</b> | Field-replaceable unit.  |



---

## G

- GPT** GUID partition table.
- GRUB** GRand Unified Bootloader. A GNU implementation that supports booting multiple OSs on a computer.

---

## H

- HBA** Host bus adapter.
- HMP** Hardware Management Pack.
- host** The part of the server or server module with the CPU and other hardware that runs the Oracle Solaris OS and other applications. The term *host* is used to distinguish the primary computer from the SP. See [SP](#).

---

## I

- ICMP** Internet Control Message Protocol.
- IDE** Integrated Development Environment.
- ID PROM** Chip that contains system information for the server or server module.
- IP** Internet Protocol.

---

## K

- KVM** Keyboard, video, mouse. Refers to using a switch to enable sharing of one keyboard, one display, and one mouse with more than one computer.

---

## L

**LwA** Sound power level.

---

## M

**MAC** Machine access code.

**MAC address** Media access controller address.

**MBR** Master boot record.

**Modular system** The rackmountable chassis that holds server modules, storage modules, NEMs, and PCI EMs. The modular system provides Oracle ILOM through its CMM.

**MSGID** Message identifier.

---

## N

**name space** Top-level Oracle ILOM CMM target.

**NEBS** Network Equipment-Building System (Netra products only).

**NEM** Network express module. NEMs provide 10/100/1000 Mbps Ethernet, 10GbE Ethernet ports, and SAS connectivity to storage modules.

**NET MGT** Network management port. An Ethernet port on the server SP, the server module SP, and the CMM.

**NIC** Network interface card or controller.

**NMI** Nonmaskable interrupt.

---

## O

|                          |   |
|--------------------------|---|
| <b>OBP</b>               | OpenBoot PROM.  |
| <b>Oracle ILOM</b>       | Oracle Integrated Lights Out Manager. Oracle ILOM firmware is preinstalled on a variety of Oracle systems. Oracle ILOM enables you to remotely manage your Oracle servers regardless of the state of the host system. |
| <b>Oracle Solaris OS</b> | Oracle Solaris operating system.  |
| <b>OS</b>                | Operating system.   |
| <b>OSA</b>               | Oracle System Assistant.  |

---

## P

|               |   |
|---------------|---|
| <b>PCI</b>    | Peripheral component interconnect.  |
| <b>PCI EM</b> | PCIe ExpressModule. Modular components that are based on the PCI Express industry-standard form factor and offer I/O features such as Gigabit Ethernet and Fibre Channel. |
| <b>PDB</b>    | power distribution board.   |
| <b>PMR</b>    | Physical media request.   |
| <b>POST</b>   | Power-on self-test.   |
| <b>PROM</b>   | Programmable read-only memory.  |
| <b>PSH</b>    | Predictive self healing.  |
| <b>PXE</b>    | Pre-boot eXecution environment.   |

---

## Q

|             |                                   |
|-------------|-----------------------------------|
| <b>QSFP</b> | Quad small form-factor pluggable. |
|-------------|-----------------------------------|

---

## R

- REM** RAID expansion module. Sometimes referred to as an HBA *See* [HBA](#). Supports the creation of RAID volumes on drives.
- RHEL** Red Hat Enterprise Linux.

---

## S

- SAN** Storage area network.
- SAS** Serial attached SCSI.
- SATA** Serial advanced technology attachment.
- SCC** System configuration chip.
- SER MGT** Serial management port. A serial port on the server SP, the server module SP, and the CMM.
- server module** Modular component that provides the main compute resources (CPU and memory) in a modular system. Server modules might also have onboard storage and connectors that hold REMs and FEMs.
- SLES** SUSE Linux Enterprise Server.
- SMART** Self-Monitoring, Analysis, and Reporting Technology.
- SNMP** Simple network management protocol.
- SP** Service processor. In the server or server module, the SP is a card with its own OS. The SP processes Oracle ILOM commands providing lights out management control of the host. *See* [host](#).
- SRU** Support Repository Update. Used to updated the Oracle Solaris OS.
- SSD** Solid-state drive.
- SSH** Secure shell.
- storage module** Modular component that provides computing storage to the server modules.

---

## T

|            |  |
|------------|--|
| <b>TIA</b> | Telecommunications Industry Association (Netra products only). |
| <b>Tma</b> | Maximum ambient temperature.                                   |
| <b>TPM</b> | Trusted Platform Module (a Windows 2008 feature).              |

---

## U

|                 |   |
|-----------------|---|
| <b>UCP</b>      | Universal connector port.               |
| <b>UEFI</b>     | Unified Extensible Firmware Interface.  |
| <b>UI</b>       | User interface.                         |
| <b>UL</b>       | Underwriters Laboratory Inc.            |
| <b>U.S. NEC</b> | United States National Electrical Code. |
| <b>UTC</b>      | Coordinated Universal Time.             |
| <b>UUID</b>     | Universal unique identifier.            |

---

## V

|           |                  |
|-----------|------------------|
| <b>VM</b> | Virtual machine. |
|-----------|------------------|

---

## W

|            |  |
|------------|--|
| <b>WDS</b> | Windows Deployment Services.                                   |
| <b>WIM</b> | Windows Imaging Format.  |
| <b>WWN</b> | World wide name. A unique number that identifies a SAS target. |



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