Oracle® Server X6-2L Installation Guide for Oracle Solaris Operating System

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Using This Documentation

- **Overview** – This installation guide contains procedures for installing the Oracle Solaris operating system, and initial software configuration procedures for bringing the Oracle Server X6-2L to a configurable and usable state.
- **Audience** – Technicians, system administrators, authorized service providers, and users.
- **Required knowledge** – Experience installing operating systems.

Product Documentation Library

Documentation and resources for this product and related products are available at http://www.oracle.com/goto/x6-2l/docs.

Feedback

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

About Oracle Solaris Operating Systems Installations

This section provides an overview of the process to install a new Oracle Solaris operating system (OS) on your server.

Description	Links
Review the Oracle Solaris operating system installation steps.	"Oracle Solaris Installation Task Map" on page 9
Review the supported Oracle Solaris operating systems.	"Supported Oracle Solaris Operating Systems" on page 10
Review operating system install options.	"Oracle Solaris Installation Options" on page 11

Related Information

- "Installing the Oracle Solaris Operating Systems" on page 27

Oracle Solaris Installation Task Map

The following table describes the high-level steps for installing the Oracle Solaris operating system for a new installation.

Step	Description	Links
1.	Review the product notes.	*Oracle Server X6-2L Product Notes* at: `http://www.oracle.com/goto/x6-2l/docs`
2.	Install the server hardware.	■ "Installing the Server Into a Rack" in *Oracle Server X6-2L Installation Guide* ■ "Cabling the Server and Applying Power" in *Oracle Server X6-2L Installation Guide*

Step	Description	Links
3.	Configure the Oracle ILOM service processor.	■ "Connecting to Oracle ILOM" in *Oracle Server X6-2L Installation Guide*
4.	Review the Oracle Solaris versions supported on the server.	"Supported Oracle Solaris Operating Systems" on page 10
5.	Obtain the Oracle Solaris installation media.	You can download or order the installation media at: `http://www.oracle.com/technetwork/server-storage/solaris11/downloads/index.html`
6.	Set up the console, the boot media, and the installation target that you will use to perform the installation.	■ "Selecting the Console Display" on page 13 ■ "Selecting the Boot Media Option" on page 22 ■ "Selecting the Installation Target" on page 24
7.	Verify and, if necessary, configure BIOS.	"Preparing the Boot Environment" on page 16
8.	Install the Oracle Solaris OS.	"Installing the Oracle Solaris Operating Systems" on page 27
9.	Perform the post installation tasks, if applicable.	"Post Installation Tasks for Oracle Solaris Operating Systems" on page 36

Additional Oracle Solaris 11.3 OS documentation is available at:

`http://docs.oracle.com/cd/E53394_01/index.html`

Related Information

- "Preparing to Install the Oracle Solaris Operating Systems" on page 13

Supported Oracle Solaris Operating Systems

The server supports the following Oracle Solaris operating system software.

Oracle Solaris OS	Edition
Oracle Solaris 11	Release 11.3 (with SRU5)

Note - For all late-breaking requirements for the Oracle Solaris operating system, refer to the latest version of the *Oracle Server X6-2L Product Notes* at `http://www.oracle.com/goto/x6-2l/docs`.

If the Oracle Solaris OS is installed on your server, but you do not want to use it, you can install any other supported operating system or virtual machine software on your server.

For an updated list of operating systems supported by the server, refer to the latest version of the *Oracle Server X6-2L Product Notes* at http://www.oracle.com/goto/x6-2l/docs.

The Oracle Solaris Hardware Compatibility List (HCL) identifies the latest operating system version supported on Oracle hardware. To find the latest Oracle Solaris version supported for the server, go to the following site and search using your server model number:

http://www.oracle.com/webfolder/technetwork/hcl/index.html.

Related Information

- "Installing the Oracle Solaris Operating Systems" on page 27

Oracle Solaris Installation Options

You can choose to install the Oracle Solaris OS on a single server or on multiple servers.

The scope of this document is for single-server OS installations. The table below provides some information about these two installation options.

Option	Description
Multiple servers	You can use Oracle Enterprise Manager Ops Center to install an OS on multiple servers. For information, go to http://www.oracle.com/technetwork/oem/ops-center/index.html.
Single server	Install an OS to a single server using one of the following methods: ■ Locally: Perform the OS installation locally at the server. This option is recommended if you have just completed the physical installation of the server in the rack. ■ Remotely: Perform the OS installation from a remote location. This option uses the Oracle ILOM Remote System Console Plus application to perform a manual OS installation.

For more information about single-server OS installation methods, see:

- "Single-Server Installation Methods" on page 11

Single-Server Installation Methods

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

Note - For the latest information on installation requirements for the Oracle Solaris operating system, refer to the *Oracle Server X6-2L Product Notes* at: http://www.oracle.com/goto/x6-2l/docs.

Media Delivery Method	Additional Requirements
Local OS installation using a DVD drive – Uses a physical DVD drive connected to the server.	A monitor, USB keyboard and mouse, a USB DVD or flash drive, and Oracle Solaris distribution media. For local installations, you deliver the installation media using a local DVD drive or USB flash drive attached directly to the server. For more information, see "Manual Oracle Solaris Installation" on page 12.
Remote OS installation using a DVD drive or DVD ISO image – Uses a redirected physical DVD drive on a remote system running the Oracle ILOM Remote System Console Plus application.	A remote system with a browser, an attached physical DVD or flash drive, Oracle Solaris distribution media, and network access to the server's management port (NET MGT). For remote installations, you deliver the installation media using the remote DVD, USB flash drive, or DVD ISO image. For more information, see "Manual Oracle Solaris Installation" on page 12.
PXE Image – Uses the server Preboot eXecution Environment (PXE) to launch the Oracle Solaris installer from a network interface.	A PXE server with the Oracle Solaris installation image. For additional information, refer to the Oracle Solaris documentation at http://docs.oracle.com/cd/E53394_01/index.html.

Manual Oracle Solaris Installation

With this method, you deliver the Oracle Solaris distribution media on either a local or remote DVD drive, USB device, or DVD image. To install Oracle Solaris, you use the distribution media's installation wizard.

Preparing to Install the Oracle Solaris Operating Systems

This section describes how to prepare the server for installing the operating system.

Description	Links
Review console display options and how to set them up.	“Selecting the Console Display” on page 13
Set the BIOS to optimal defaults.	“Preparing the Boot Environment” on page 16
Review boot media options and how to set them up.	“Selecting the Boot Media Option” on page 22
Review installation target options and how to set them up.	“Selecting the Installation Target” on page 24
Configure RAID on the server.	“Configuring RAID” on page 26

Related Information

- “Installing Oracle Solaris on a Single System Manually” on page 28

Selecting the Console Display

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

- “Console Display Options” on page 14
- “Set Up the Local Console” on page 14
- “Set Up the Remote Console” on page 15

Console Display Options

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

- A terminal connected to the serial management port (SER MGT)

  You can connect the terminal directly to the port or connect it to a terminal emulator that is connected directly to the port.
- A VGA monitor connected directly to the video port (VGA) and a USB keyboard and USB mouse connected to any of the four exterior USB connectors

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 System Console Plus application
- Secure Shell (SSH) client connection to the network management port (NET MGT)

▼ Set Up the Local Console

1. **Connect a terminal to the serial management (SER MGT) port either directly or through a terminal emulator.**

   Set the terminal device to 9600 baud, 8 bit, no parity, 1 stop bit (9600/8-N-1).

2. **Press Enter on the terminal device to create a connection between the serial console and the Oracle ILOM SP.**

   The Oracle ILOM Login prompt appears.

3. **Log in to Oracle ILOM. At the Login prompt, type your Oracle ILOM user name and password.**

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

   The Oracle ILOM CLI prompt (->) appears.

4. **Connect to host console. At the CLI prompt, type:**

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

   The serial management port output is automatically routed to the server's host serial local console.

Related Information

- Oracle Integrated Lights Out Manager (ILOM) 3.2 Documentation Library at: `http://www.oracle.com/goto/ilom/docs`

▼ Set Up the Remote Console

1. **View or establish an IP address for the server SP.**

   To log in to Oracle ILOM remotely using either the command-line interface (CLI) or the web interface, you must know the IP address of the server SP. For instructions on determining the server's IP address, refer to "Modifying the Service Processor Network Settings Using Oracle ILOM" in *Oracle Server X6-2L Installation Guide*.

2. **If you are using a web-based client connection, perform these steps; otherwise go to Step 3.**

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

      The Oracle ILOM Login prompt appears.

   b. **Log in to the Oracle ILOM web interface. At the Login prompt, type your Oracle ILOM user name and password.**

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

      The Oracle ILOM Summary Information page appears.

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

      The Oracle ILOM Remote System Console Plus screen appears.

      For details, refer to "Redirect Host Server Desktop or Storage Devices Using Oracle ILOM" in *Oracle Server X6-2L Installation Guide*.

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

   a. **From a serial console, establish an SSH connection to the server SP. Type:**

      `ssh root@`*hostname*

      Where *hostname* can be the DNS name or the IP address for the server SP.

      The Oracle ILOM Login prompt appears.

b. **Log in to Oracle ILOM. At the Login prompt, type your Oracle ILOM user name and password.**

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

   The Oracle ILOM CLI prompt (->) appears.

c. **Redirect the serial output from the server to the SSH client. At the CLI prompt, type:**

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

Related Information

- Oracle Integrated Lights Out Manager (ILOM) 3.2 Documentation Library at: `http://www.oracle.com/goto/ilom/docs`

Preparing the Boot Environment

Before you install the Oracle Solaris operating system, you should ensure that Unified Extensible Firmware Interface (UEFI) settings are configured to support the type of installation you plan to perform.

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

- "Verify the UEFI Optimal Defaults" on page 16
- "Set the Boot Mode" on page 19

For more information about changing boot properties, refer to the *Oracle X6 Series Servers Administration Guide* at `http://www.oracle.com/goto/x86admindiag/docs`.

▼ Verify the UEFI Optimal Defaults

Note - If the server is newly installed and this is the first time an operating system is being installed, then UEFI is probably configured to its optimal default settings and you do not have to perform this procedure.

In the BIOS Setup Utility, you can set optimal defaults, as well as view and edit UEFI settings, as needed. By setting optimal defaults, you ensure that the server is operating efficiently with

a configuration that is known to be good. You can review the optimal defaults in the *Oracle Server X6-2L Service Manual*.

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

In addition to using the F2 key to view or edit the 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 using F2 will be in effect after booting from the temporary boot device.

Before you begin, ensure that the following requirements are met:

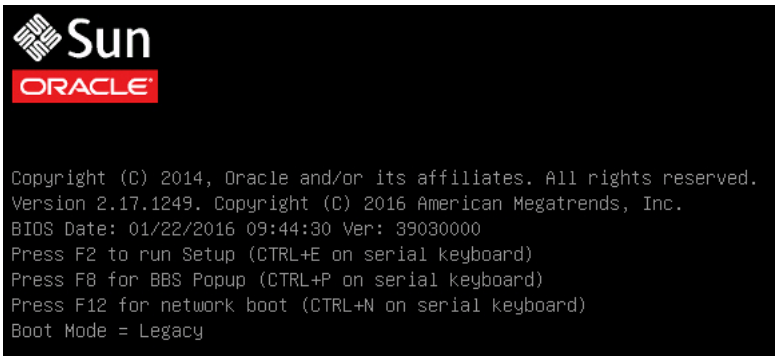
- The server is equipped with a hard disk drive (HDD) or solid state drive (SSD).
- The HDD or SSD is properly installed in the server. For instructions, refer to "Servicing Storage Drives and Rear Drives (CRU)" in *Oracle Server X6-2L Service Manual*.
- A console connection is established to the server. For details, see "Selecting the Console Display" on page 13.

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

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

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

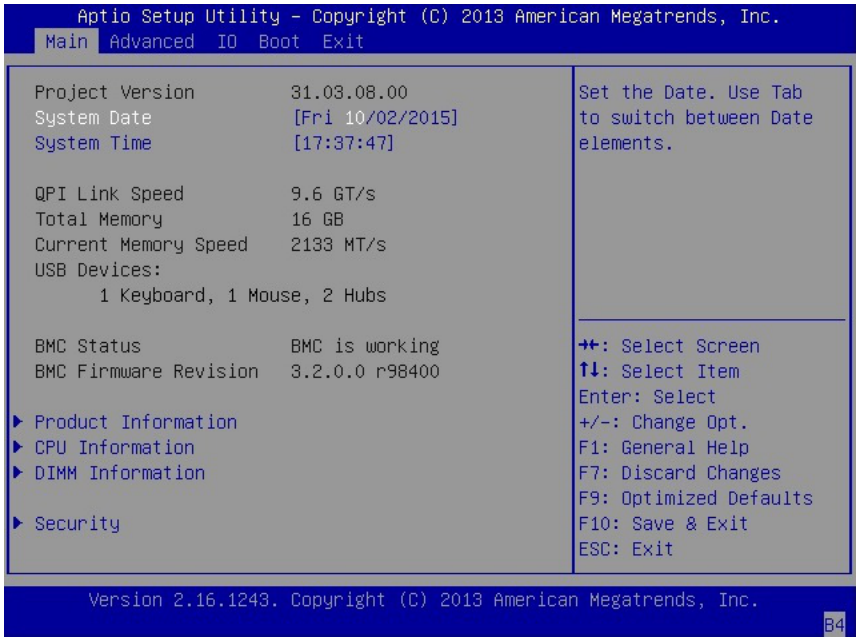
The server begins the boot process and the BIOS screen appears.



Note - The next events occur very quickly; therefore, be ready to press the F2 key. Watch carefully for messages as they appear on the screen for a brief time. You might want to enlarge the size of your screen to eliminate scroll bars.

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

`[Setup Selected]` and the Boot Mode (Legacy or UEFI) are displayed at the bottom of the BIOS screen, then the BIOS Setup Utility appears.



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

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

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

5. **To save your changes and exit the BIOS Setup Utility, press the F10 key.**

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

▼ Set the Boot Mode

The server UEFI firmware supports both Legacy BIOS and UEFI boot modes. Legacy BIOS Boot Mode is enabled by default. Because Oracle Solaris 11.3 supports both Legacy BIOS and

UEFI, you have the option of setting the boot mode to either Legacy BIOS or UEFI before you perform the OS installation.

Note - After you have installed the Oracle Solaris operating system, if you decide you want to switch from Legacy BIOS Boot Mode to UEFI Boot Mode, or vice versa, you must remove all partitions and reinstall the operating system.

---

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

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

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

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

Note - The next step occurs very quickly; therefore, be ready to press the F2 key. Watch carefully for messages as they appear on the screen for a brief time.

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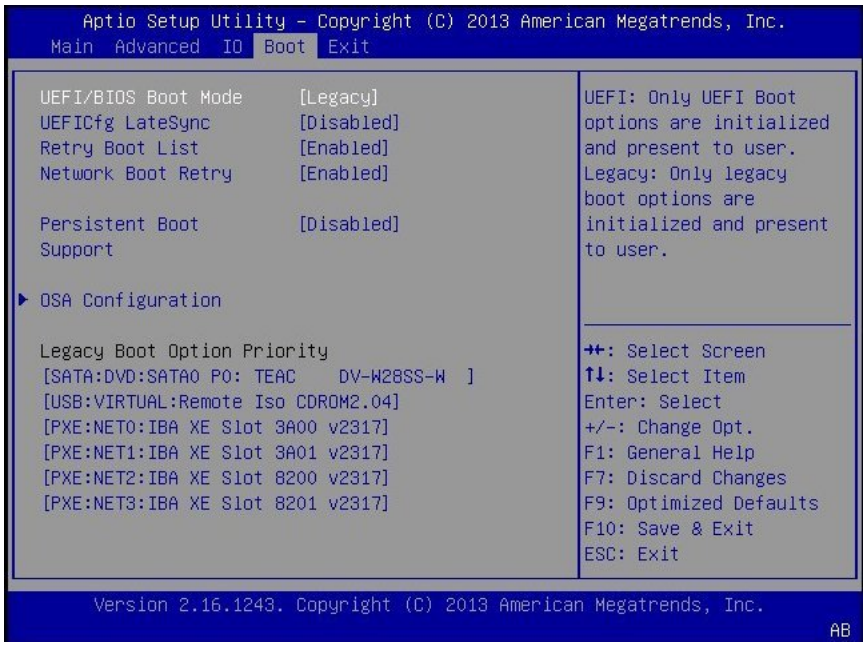
2. **When prompted in the BIOS screen, press the F2 key to access the BIOS Setup Utility.**

   After a few moments, the BIOS Setup Utility appears.

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

The Boot Menu screen appears. The UEFI/BIOS Boot Mode field displays the current boot mode.



Note - The options in the boot order list differ depending on the storage drive configuration and whether you have enabled the Persistent Boot Support feature. For more information about Persistent Boot Support, refer to the *Oracle X6 Series Servers Administration Guide* at `http://www.oracle.com/goto/x86admindiag/docs`.

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4. **Use the down arrow key to select the `UEFI/BIOS Boot Mode` field, and then press Enter.**

5. **Select your preferred boot mode, and then press Enter.**

   You must select the desired boot mode, Legacy BIOS or UEFI, before starting the operating system installation.

6. **To save your changes and exit the BIOS Setup Utility, press the F10 key.**

Selecting the Boot Media Option

You can start the operating system installation to the server by booting from a local or remote installation media source. This section identifies the supported media sources and the setup requirements for each source.

- "Boot Media Option Requirements" on page 22
- "Set Up the Boot Media for Remote Installation" on page 23
- "Set Up the Boot Media for Remote Installation" on page 23

Boot Media Option Requirements

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

- "Local Boot Media Requirements" on page 22
- "Remote Boot Media Requirements" on page 22

Local Boot Media Requirements

Local boot media requires a built-in storage device on the server, or an external storage device attached to the server.

Remote Boot Media Requirements

Remote boot media enables you to boot the install over the network. You can start the installation from a redirected boot storage device or another networked system that exports an ISO image over the network using a PreBoot eXecution environment (PXE).

Supported OS remote boot media sources include:

- DVD-ROM installation media installed in remote DVD drive, or remote USB removable flash drive installation media
- DVD-ROM ISO image available in a location on the network that is setup for virtual redirection

- DVD-ROM installation media image mounted on the server service processor (SP)

  For instructions on mounting an installation image onto the server SP, refer to the *Oracle ILOM Administrator's Guide for Configuration and Maintenance* at `http://www.oracle.com/goto/ilom/docs`. Alternatively, refer to the More Details link in the Oracle ILOM Remote Control → Remote Device web interface page.
- PXE boot – Oracle Solaris 11 supports PXE boots. Once the PXE boot has been initiated, the Oracle Solaris 11 installation is accomplished using the Automated Installation (AI) installer. For instructions for performing PXE network installations for the supported Oracle Solaris operating system, see "Install Oracle Solaris Using PXE Network Boot" on page 32.

▼ Set Up the Boot Media for Local Installation

1. **Obtain the Oracle Solaris installation media.**

   You can download or order the installation media at `http://www.oracle.com/technetwork/server-storage/solaris11/downloads/index.html`.

2. **Insert the Oracle Solaris installation DVD into a DVD drive attached to the server.**

   - If the server is equipped with an optional DVD drive, insert the Oracle Solaris OS installation DVD into the DVD drive located on the front of the server.
   - If your server does not have a DVD drive, insert an external USB DVD drive or a USB flash drive that contains the Oracle Solaris OS installation media into one of the external USB ports located on the front and rear of the server.

   For information about the location of the server's external USB ports, refer to "Server Features and Components" in *Oracle Server X6-2L Installation Guide*.

▼ Set Up the Boot Media for Remote Installation

To install the OS from media sourced from a remote location using the Oracle ILOM Remote System Console Plus application, perform these steps.

1. **Mount or present the OS boot media so that it is accessible, for example:**

   - **For DVD-ROM**, insert the media into the built-in or external DVD-ROM drive on a remote system.

- **For DVD-ROM ISO image**, ensure that the ISO image(s) are readily available on a network shared location or are mounted on the server service processor (SP).

For instructions on mounting an installation image onto the server SP, refer to the *Oracle ILOM Administrator's Guide for Configuration and Maintenance* at `http://www.oracle.com/goto/ilom/docs`. Alternatively, refer to the More Details link in the Oracle ILOM Remote Control → Remote Device web interface page.

2. **Establish a web-based client connection to the server Oracle ILOM SP and launch the Oracle ILOM Remote System Console Plus application on the remote system.**

   For instructions, see "Set Up the Remote Console" on page 15.

3. **In the remote console, do the following:**

   a. **Click KVMS to display the KVMS drop-down menu.**

   b. **Click Storage.**

      The Storage Devices dialog appears.

   c. **In the Storage Devices dialog, click `Add`.**

      The Add Storage Device dialog appears.

   d. **Browse to the ISO image, select it, and then click `Select`.**

      The Storage Devices screen appears and lists the ISO image.

   e. **Select the ISO image, and then click `Connect`.**

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

Selecting the Installation Target

Before you boot the Oracle Solaris OS, select and prepare the installation target.

- "Installation Target Options" on page 25
- "Set Up a Local Storage Drive (HDD, SSD, or RAID Volume) as the Installation Target" on page 25
- "Set Up a Fibre Channel Storage Area Network Device as the Installation Target" on page 25

Installation Target Options

You can install the operating system on any of the storage drives installed in the server. Hard disk drives (HDDs), solid state drives (SSDs), NVMe Express (NVMe) storage drives, and RAID volumes are valid installation targets for Oracle Solaris OS.

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

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

1. **Ensure that the target drive (HDD or SSD) is properly installed and powered on.**
   For more information about installing and powering on a hard disk drive (HDD) or solid state drive (SSD), refer to "Servicing Storage Drives and Rear Drives (CRU)" in *Oracle Server X6-2L Service Manual*.

2. **Ensure that the target drives are configured to suit your environment.**
   By default, each physical drive on the server is configured as a logical RAID 0 volume. To implement an alternative configuration, refer to the following resources:

   - "Configuring Storage Drives for Operating System Installation" in *Oracle Server X6-2L Installation Guide*
   - Oracle X6 Series Server Administration Guide at `http://www.oracle.com/goto/x86admindiag/docs`

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

1. **Ensure that the fibre channel PCIe host bus adapter (HBA) is properly installed in the server.**
   For more information about installing a PCIe HBA option, refer to "Servicing PCIe Cards (CRU)" in *Oracle Server X6-2L Service Manual*.

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

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

Configuring RAID

If you want to configure the server storage drives in a redundant array of independent disks (RAID) configuration, you must configure the RAID volume before you install the Oracle Solaris OS. For instructions for configuring RAID, refer to "Configuring Storage Drives for Operating System Installation" in *Oracle Server X6-2L Installation Guide*.

Related Information

- *Oracle X6 Series Servers Administration Guide* at: `http://www.oracle.com/goto/x86admindiag/docs`

Installing the Oracle Solaris Operating Systems

This section describes how to install the Oracle Solaris operating system on the server.

Description	Links
Preinstallation requirements.	“Before You Begin” on page 27
Using media to install the Oracle Solaris operating system on a single server.	“Installing Oracle Solaris on a Single System Manually” on page 28
Performing post installation tasks.	“Post Installation Tasks for Oracle Solaris Operating Systems” on page 36

Related Information

- “About Oracle Solaris Operating Systems Installations” on page 9
- “Verify the UEFI Optimal Defaults” on page 16
- “Configuring RAID” on page 26

Before You Begin

Ensure that the following requirements are met:

- If you want to configure RAID (redundant array of independent disks) on the server's storage drives, you must do so before you install the operating system. For instructions for configuring RAID, refer to “Configuring Storage Drives for Operating System Installation” in *Oracle Server X6-2L Installation Guide*.

Note - If you are using the Oracle Storage 12 Gb/s SAS PCIe RAID HBA Internal to manage your storage drives, you must create a RAID volume and make it bootable before installing the operating system; otherwise, the HBA will not be able to identify the server's storage drives.

- Select the console display option and set it up prior to performing the installation. For more information about this option and setup instructions, see “Selecting the Console Display” on page 13.
- Verify that the UEFI firmware settings are set to the optimal defaults. For instructions on how to verify and, if necessary, set the UEFI firmware settings, see “Verify the UEFI Optimal Defaults” on page 16.
- Set the UEFI firmware to the desired boot mode, Legacy BIOS or UEFI. For instructions on how to set the UEFI Boot Mode, see “Set the Boot Mode” on page 19.
- Select the boot media option and set it up prior to performing the installation. For more information about this option and setup instructions, see “Selecting the Boot Media Option” on page 22.
- Determine the storage drive to be used as the installation target option and set it up prior to starting this installation procedure. For more information about this option and setup instructions, see “Selecting the Installation Target” on page 24.
- Gather the Oracle Solaris operating system (OS) documentation so that you can use it in conjunction with the instructions provided in this section. Oracle Solaris 11.3 OS documentation is available at:

  `http://docs.oracle.com/cd/E53394_01/index.html`

Installing Oracle Solaris on a Single System Manually

This section provides guidelines for installing the Oracle Solaris 11.3 operating system.

- “Install Oracle Solaris Using Local or Remote Media” on page 29
- “Install Oracle Solaris Using PXE Network Boot” on page 32
- “Post Installation Tasks for Oracle Solaris Operating Systems” on page 36

Related Information

- “About Oracle Solaris Operating Systems Installations” on page 9

▼ Install Oracle Solaris Using Local or Remote Media

This procedure describes how to boot the Oracle Solaris 11.3 operating system (OS) installation from local or remote media. It assumes that you are booting the installation media from one of the following sources:

- Oracle Solaris 11.3 (with SRU5) DVD (internal or external DVD)
- Oracle Solaris 11.3 (with SRU5) ISO DVD image (network repository)

Note - If you are booting the installation media from a PXE environment, see "Install Oracle Solaris Using PXE Network Boot" on page 32 for instructions.

---

1. Ensure that the installation media is available to boot.

- **For Distribution DVD**, insert the Oracle Solaris 11.3 (with SRU5) DVD into the local or remote DVD drive.
- **For ISO image**, ensure that the Oracle Solaris 11.3 (with SRU5) ISO image is available and that the ISO image has been mounted in the Oracle ILOM Remote System Console Plus application using the KVMS menu.

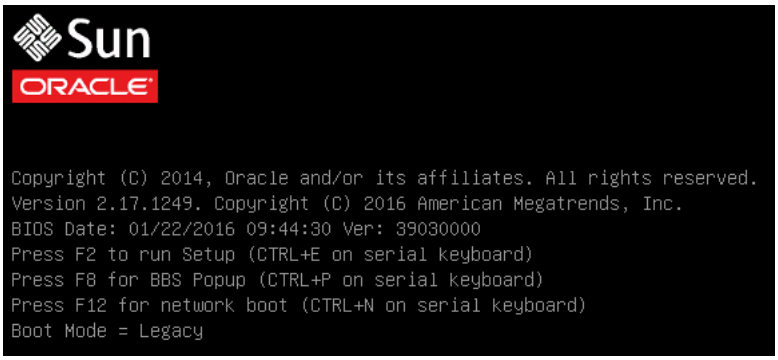
For additional information about how to set up the install media, see "Selecting the Boot Media Option" on page 22.

2. Reset or power on the server.

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

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

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



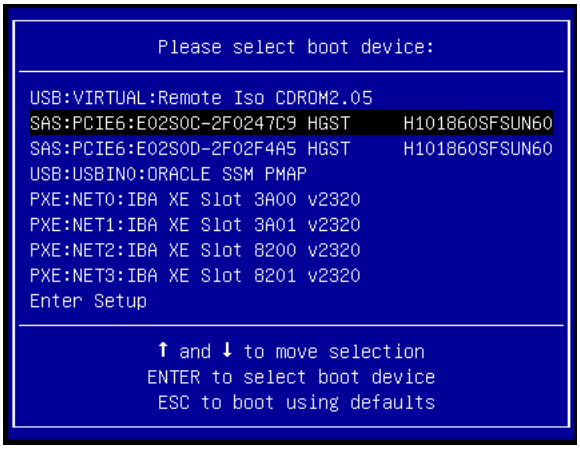
Note - The next step occurs very quickly; therefore, be ready to press the F8 key. Watch carefully for messages as they appear on the screen for a brief time. You might want to enlarge the size of your screen to eliminate scroll bars.

3. **In the BIOS screen, press the F8 key to specify a temporary boot device for the Oracle Solaris OS installation.**

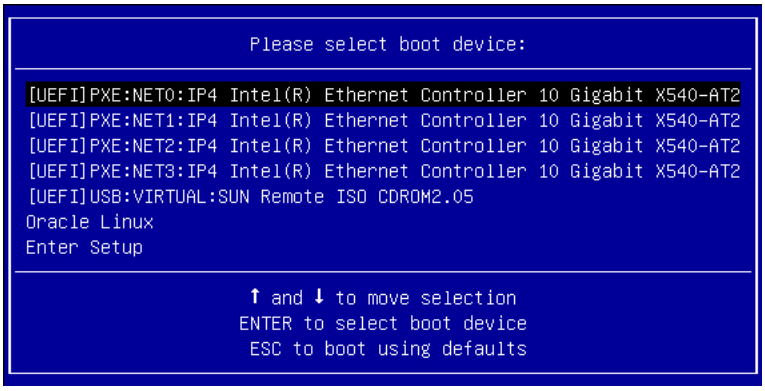
   `[Boot Pop Up Menu Selected]` appears at the bottom of the BIOS screen.

   Then the Please Select Boot Device menu appears. The screen that appears will be different depending on whether you have the UEFI/BIOS Boot Mode configured for Legacy BIOS or UEFI.

   - For Legacy BIOS Boot Mode, a screen similar to the following appears:



- For UEFI Boot Mode, a screen similar to the following appears:



Note - The Please Select Boot Device menu might differ depending on the type of disk controller, and other hardware, such as PCIe network cards, installed in your server.

4. **In the Please Select Boot Device menu, select the menu item according to the Solaris OS media installation method and the UEFI/BIOS Boot Mode you elected to use, and then press Enter.**

   For example:

- If you elected to use the Oracle ILOM Remote System Console Plus application method in Legacy BIOS Boot Mode, select `SATA:DVD:SATA0 P0: TEAC DV-W28SS-W` from the Legacy BIOS Boot Mode version of the Please Select Boot Device menu screen.
- If you elected to use the Oracle ILOM Remote System Console Plus delivery method in UEFI Boot Mode, select `[UEFI]USB:VIRTUAL:Remote Iso CDROM2.04` from the UEFI Boot Mode version of the Please Select Boot Device menu screen.

The GRUB menu appears.

5. **Follow the on-screen prompts to complete the Oracle Solaris installation.**

   For instructions for completing the Oracle Solaris 11.3 installation (with SRU5), refer to the Oracle Solaris 11.3 installation documentation at `http://docs.oracle.com/cd/E53394_01/index.html`.

Related Information

- "Install Oracle Solaris Using PXE Network Boot" on page 32

▼ Install Oracle Solaris Using PXE Network Boot

The following procedure describes how to install the Oracle Solaris 11.3 (with SRU5) operating system from a PXE network environment.

Before you begin, ensure that the following requirements are met prior to starting the Oracle Solaris 11.3 (with SRU5) PXE boot installation.

- To use PXE to boot the installation media over the network, ensure that the Automated Installation (AI) image install server is setup and accessible to your server over the network.
- If your AI server requires the MAC address of an install client, you can obtain your system's MAC address by logging in to the Oracle ILOM SP as `root`, and typing:

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

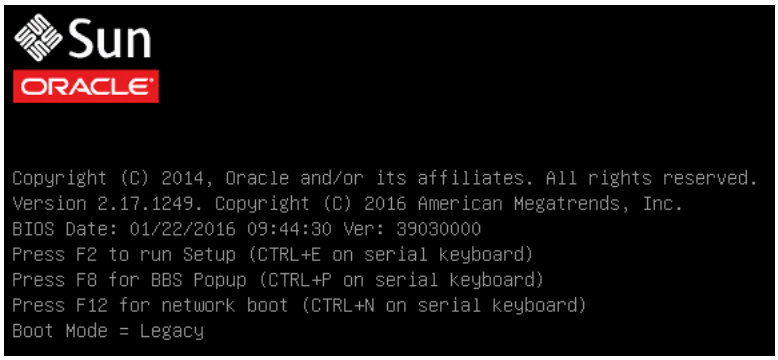
1. **Ensure that the PXE network environment is properly set up.**

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

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

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

The system begins the boot process and the BIOS screen appears.



Note - The next step occurs very quickly; therefore, be ready to press the F2 key. Watch carefully for messages as they appear on the screen for a brief time. You might want to enlarge the size of your screen to eliminate scroll bars.

---

3. **To verify that PXE boot is enabled, perform the following steps:**

Note - PXE boot is enabled by default; however, this step directs you to verify that PXE boot is enabled in the event that it was disabled. Once you have verified that PXE boot is enabled, you can omit this step on subsequent PXE boots.

---

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

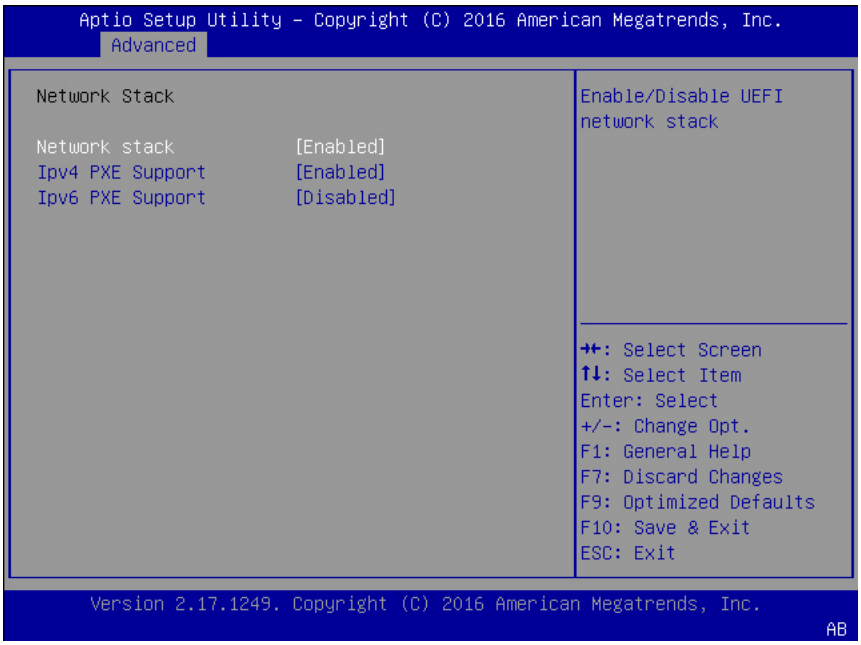
      The BIOS Setup Utility appears.

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

      The BIOS Setup Utility Advanced screen appears.

   c. **Select Network Stack from the list of available options.**

The BIOS Setup Utility Network Stack screen appears.



d. If necessary, set the appropriate PXE Support setting (either IPv4 or IPv6) to Enabled.

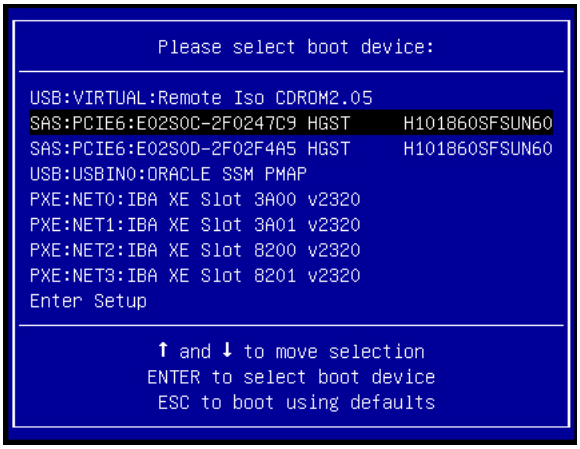
e. To save the changes and exit the BIOS Setup Utility, press the F10 key.

This causes the server to reset. After resetting, the BIOS screen appears again.

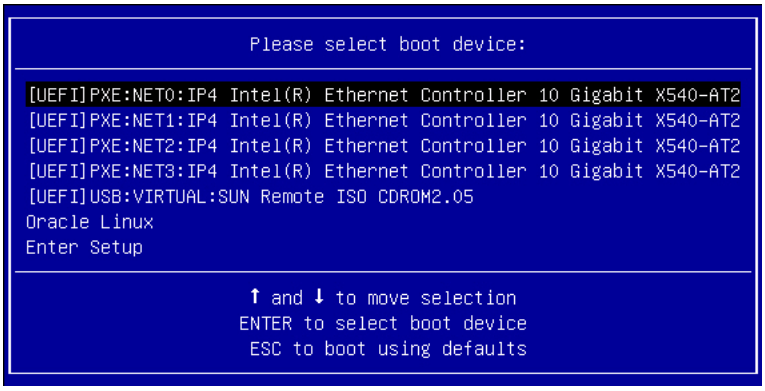
4. In the BIOS screen, press the F8 key to specify a temporary boot device or press the F12 key to network boot (PXE).

The Please Select Boot Device menu appears, listing the available boot devices. The screen that appears will differ depending on whether you have BIOS configured for Legacy BIOS Boot Mode or UEFI Boot Mode.

- For Legacy BIOS Boot Mode, a screen similar to the following appears:



- For UEFI Boot Mode, a screen similar to the following appears:



Note - The Please Select Boot Device menu options might differ depending on the type of disk controller and other hardware, such as PCIe network cards, installed in your server.

5. **In the Please Select 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 install server.

The GRUB menu appears.

6. **Follow the on-screen prompts to complete the PXE installation.**

   For instructions for completing the PXE installation, refer to *Creating a Custom Oracle Solaris 11.3 Installation Image* at `http://docs.oracle.com/cd/E53394_01/index.html`.

7. **Proceed to the section "Post Installation Tasks for Oracle Solaris Operating Systems" on page 36 to perform post installation tasks.**

Related Information

- "Post Installation Tasks for Oracle Solaris Operating Systems" on page 36

Post Installation Tasks for Oracle Solaris Operating Systems

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

- "Update Oracle Solaris" on page 36
- "Manage Oracle Solaris Resources" on page 37

Update Oracle Solaris

After installing and rebooting the Oracle Solaris operating system, review the Oracle Solaris documentation for instructions on how to determine whether updates are available and how to install them. See the Oracle Solaris 11.3 documentation web site at:

`http://docs.oracle.com/cd/E53394_01/index.html`

The Oracle Solaris installation media might not contain the most up-to-date versions of the software. If necessary, update the Oracle Solaris operating system with the latest updates. To download the most recent version of the operating system, go to the Oracle Software Delivery Cloud web site at:

`https://edelivery.oracle.com`

Manage Oracle Solaris Resources

To learn how to configure, access, and manage Oracle Solaris resources, refer to the Oracle Solaris 11.3 documentation web site at:

http://docs.oracle.com/cd/E53394_01/index.html

Configuring Network Interfaces

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

- “NIC Connectors” on page 39

NIC Connectors

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

TABLE 1 NIC Connector Label

NIC Connector Label	Interface Type
NET0	First interface (ixgbe0)
NET1	Second interface (ixgbe1)
NET2	Third interface (ixgbe2)
NET3	Fourth interface (ixgbe3)

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

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