

Sun Server X3-2 (formerly Sun Fire X4170 M3)

Installation Guide for Oracle Solaris Operating
System



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Using This Documentation

This installation guide contains procedures for installing the Oracle Solaris operating system on the Sun Server X3-2 from Oracle.

Note – The Sun Server X3-2 was formerly named the Sun Fire X4170 M3 server. This former name might still appear in the software. The new product name does not indicate any change in system features or functionality.

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

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

- [“Getting the Latest Software and Firmware” on page v](#)
- [“About This Documentation” on page vi](#)
- [“Related Documentation” on page vi](#)
- [“Feedback” on page vi](#)
- [“Access to Oracle Support” on page vii](#)

Getting the Latest Software and Firmware

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

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

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

For more information, see “Getting Server Firmware and Software” on page 31.

About This Documentation

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

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

Related Documentation

Documentation	Link
All Oracle documentation	http://www.oracle.com/documentation
Sun Server X3-2	http://www.oracle.com/pls/topic/lookup?ctx=SunServerX3-2
Oracle Integrated Lights Out Manager (ILOM) 3.1	http://www.oracle.com/pls/topic/lookup?ctx=ilom31
Oracle Hardware Management Pack 2.2	http://www.oracle.com/pls/topic/lookup?ctx=ohmp

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Access to Oracle Support

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About Oracle Solaris Operating System Installs

This section contains an overview for installing a new Oracle Solaris Operating System (OS) on your server.

Description	Links
Learn about Oracle Solaris Operating System installation steps.	“Oracle Solaris OS Installation Task Map” on page 1
Learn about the supported Oracle Solaris Operating Systems.	“Supported Operating Systems” on page 3
Learn about console display options and how to set them up.	“Selecting the Console Display Option” on page 4
Learn about boot media options and how to set them up.	“Selecting the Boot Media Option” on page 6
Learn about installation target options and how to set them up.	“Selecting the Installation Target Option” on page 8
Learn about OS install options.	“Oracle Solaris OS Installation Options” on page 9

Related Information

- [“Installing the Oracle Solaris Operating System” on page 17](#)

Oracle Solaris OS Installation Task Map

These procedures describe the steps for installing the Oracle Solaris OS for a new installation.

Step	Description	Links
1.	Install the server hardware and configure the Oracle ILOM service processor.	<ul style="list-style-type: none"> • Sun Server X3-2 Installation Guide, “Installing the Server Into a Rack” on page 21 • Sun Server X3-2 Installation Guide, “Cabling the Server” on page 59 • Sun Server X3-2 Installation Guide, “Connecting to Oracle ILOM” on page 65
2.	Obtain the Oracle Solaris installation media.	You can download or order the installation media at: <ul style="list-style-type: none"> • http://www.oracle.com/technetwork/server-storage/solaris10/downloads/index.html • http://www.oracle.com/technetwork/server-storage/solaris11/downloads/index.html
3.	Review the product notes.	<i>Sun Server X3-2 Product Notes</i> at: http://www.oracle.com/pls/topic/lookup?ctx=SunServerX3-2
4.	Set up the console, the media, and the installation target that you will use to perform the installation.	<ul style="list-style-type: none"> • “Selecting the Console Display Option” on page 4 • “Selecting the Boot Media Option” on page 6 • “Selecting the Installation Target Option” on page 8
5.	Verify BIOS settings for new OS installations.	“Verify the BIOS Factory Defaults” on page 11
6.	Install the Oracle Solaris OS.	“Installing Oracle Solaris 10 or 11 Operating System on a Single System Using Media” on page 19
7.	Perform the post installation tasks, if applicable.	“Post Installation Tasks for Oracle Solaris” on page 29

Oracle Solaris OS documentation is available at:

- Oracle Solaris 10 8/11:
http://docs.oracle.com/cd/E23823_01/index.html
- Oracle Solaris 11 11/11:
http://docs.oracle.com/cd/E23824_01/index.html
- For Oracle Solaris 11.1:
http://docs.oracle.com/cd/E26502_01/index.html.

Related Information

- [“Preparing to Install the Operating System”](#) on page 11

Supported Operating Systems

The server supports the following Oracle Solaris operating system software.

Oracle Solaris OS	Edition
Oracle Solaris	Release 10 1/13
	Release 10 8/11
	Release 11 11/11 (with SRU 2 or later, required)
	Release 11.1

Note – Before installing Oracle Solaris 11 11/11 on your server, you must update it to include Support Repository Update (SRU) 2, or later. For information on how to add an SRU to the Oracle Solaris 11 11/11, go to:

<http://www.oracle.com/technetwork/server-storage/solaris11/documentation/index.html>

If you requested that the preinstalled version of the Oracle Solaris operating system (OS) be preinstalled on your server when you ordered the server, Oracle Solaris 11 11/11 with SRU 2 or later was preinstalled at the factory. If the Oracle Solaris OS is preinstalled on your server, but you do not want to use it, you can do a fresh install of Oracle Solaris 11 11/11 or Oracle Solaris 11.1.

Additionally, you can install any other supported operating system or virtual machine software on your server. For a complete list of operating systems supported by the server, see the latest version of the *Sun Server X3-2 Product Notes* at:

<http://www.oracle.com/pls/topic/lookup?ctx=SunServerX3-2> for updated information.

Related Information

- [“Installing the Oracle Solaris Operating System” on page 17](#)

Selecting the Console Display Option

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

- [“Console Display Options” on page 4](#)
- [“Set Up the Local Console” on page 4](#)
- [“Set Up the Remote Console” on page 5](#)

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, USB keyboard, and USB mouse connected directly to the video port (VGA) and the two rear 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 application
- SSH client connection to the network management port (NET MGT)

▼ Set Up the Local Console

1. To connect a local console, do one of the following:

- Connect a terminal to the serial management port (SER MGT) either directly or through a terminal emulator.
- Connect a VGA monitor, keyboard, and mouse to the video port (VGA) and the USB ports.

2. For serial management port (SER MGT) connections only, to establish a connection to the host serial port:

- a. Type your Oracle ILOM user name and password.

b. At the Oracle ILOM prompt, type:

-> **start /HOST/console**

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

Related Information

- Oracle Integrated Lights Out Manager (ILOM) 3.1 Documentation Library at:
<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>

▼ 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 or the web interface, you must know the IP address of the server SP. For instructions on determining the server's IP address, see the *Sun Server X3-2 Installation Guide*, "Determining the IP Address of the Server SP" on page 69.

2. If you are using a web-based client connection, perform these steps; otherwise go to the next step.

- a. In a web browser, type the IP address for the server SP.
- b. Log in to the Oracle ILOM web interface.
- c. Redirect the video output from the server to the web client by launching the Oracle ILOM Remote System Console.
- d. If necessary, enable device redirection (mouse, keyboard, etc.) in the Devices menu.

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

- a. From a serial console, establish an SSH connection to the server SP (`ssh root@hostname`, where *hostname* can be the DNS name or the IP address for the server SP).
- b. Log in to Oracle ILOM.
- c. Redirect the serial output from the server to the SSH client by typing:
-> **start /HOST/console**

Related Information

- Oracle Integrated Lights Out Manager (ILOM) Documentation Library at:
<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>

Selecting the Boot Media Option

You can start the operating system installation 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 Options Requirements” on page 6](#)
- [“Set Up the Local Boot Media Option” on page 7](#)
- [“Set Up the Remote Boot Media Option” on page 7](#)

Boot Media Options Requirements

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

- [“Local Boot Media Requirements” on page 6](#)
- [“Remote Boot Media Requirements” on page 6](#)

Local Boot Media Requirements

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

Remote Boot Media Requirements

You can start the network install from a redirected boot storage device or another networked system that exports an OS image over the network using a Pre-Boot eXecution environment (PXE).

Supported OS remote boot media sources can include:

- DVD-ROM installation media
- DVD-ROM ISO installation image media
- PXE boot – Oracle Solaris 11 support PXE boots. However, once the PXE boot has been initiated, the Oracle Solaris 11 installation is accomplished using the Automated Installation (AI) installer.

▼ Set Up the Local Boot Media Option

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

1. **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; otherwise, proceed to the next step.**
2. **If your server does not contain a DVD drive, insert 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.**

Note – For information about the location of the server’s external USB ports, see the *Sun Server X3-2 Installation Guide*, “About Server Features and Components” on page 5.

▼ Set Up the Remote Boot Media Option

To install OS from media in a remote location, perform these steps.

1. **To redirect the boot media from a remote storage device, perform these steps; otherwise, go to the next step.**
 - a. **Mount or present the OS boot media so that it is accessible, for example:**
 - **For DVD-ROM**, insert media into the built-in or external DVD-ROM drive on a remote system.
 - **For DVD-ROM ISO image**, ensure that an ISO image is available on a shared network location.
 - b. **Establish a web-based client connection to the server Oracle ILOM SP and launch the Oracle ILOM Remote System Console application.**

For more details, see the Setup Requirements for web-based client connection in “[Selecting the Console Display Option](#)” on page 4.
 - c. **In the Devices menu of the Oracle ILOM Remote System Console application, specify the location of the boot media, for example:**
 - **For DVD-ROM boot media**, select CD-ROM.
 - **For DVD-ROM ISO image boot media**, select CD-ROM Image.
2. **For instructions on performing the installation using PXE, see the following Oracle Solaris installation documents:**

- For Oracle Solaris 10 OS, see *Oracle Solaris 10 8/11 Installation Guide: Network-Based Installations* at:
http://docs.oracle.com/cd/E23823_01/index.html
- For Oracle Solaris 11 11/11 OS, see *Creating a Custom Oracle Solaris 11 Installation Image* at:
http://docs.oracle.com/cd/E23824_01/index.html
- For Oracle Solaris 11.1 OS, see *Creating a Custom Oracle Solaris 11.1 Installation Image* at: http://docs.oracle.com/cd/E26502_01/index.html.

Selecting the Installation Target Option

This section describes how to set up installation targets.

- “Installation Target Options” on page 8
- “Set Up a Local Storage Drive (HDD or SSD) as the Installation Target” on page 8
- “Set Up a Fibre Channel Storage Area Network Device as the Installation Target” on page 9

Installation Target Options

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

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

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

- **Ensure that the HDD or SSD is properly installed and powered on.**

For more information about installing and powering on a HDD or SSD, see the *Sun Server X3-2 Service Manual*, “Servicing Storage Drives (CRU)” on page 49.

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

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

For more information about installing a PCIe HBA option, refer to the *Sun Server X3-2 Service Manual*, “Servicing PCIe Cards (CRU)” on page 88.

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

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

Oracle Solaris OS Installation Options

You can choose to install an 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/ops-center/index.html
Single server	Install an OS to a single server using one of the following methods: <ul style="list-style-type: none">• Locally: OS installation is performed locally at the server. This option is recommended if you have just completed the physical installation of the server in the rack.• Remotely: OS installation is performed from a remote location. Uses the Oracle ILOM Remote System Console application to perform a manual OS installation.

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

- “Single-Server Installation Methods” on page 10

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.

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

Preparing to Install the Operating System

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

Description	Links
Verify and set server BIOS settings to factory defaults.	“Verify the BIOS Factory Defaults” on page 11
Configure boot mode.	“Switch Between Legacy BIOS and UEFI BIOS Mode” on page 14
Configure RAID setup on the server.	“Configuring RAID” on page 16

Setting Up BIOS

Before you install the Oracle Solaris operating system, you should ensure that BIOS settings are configured to support the type of installation you plan to perform.

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

- [“Verify the BIOS Factory Defaults” on page 11](#)
- [“Switch Between Legacy BIOS and UEFI BIOS Mode” on page 14](#)

▼ Verify the BIOS Factory Defaults

Note – If the server is newly installed and this is the first time an operating system is being installed, the BIOS is probably configured to its 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 BIOS settings as needed. Any changes you make in the BIOS Setup Utility (through F2) are permanent until the next time you change them.

In addition to using F2 to view or edit the system's BIOS settings, you can use F8 during the BIOS start-up to specify a temporary boot device. If you use F8 to set a temporary boot device, this change is only in effect for the current system boot. The permanent boot device specified through F2 will be in effect after booting from the temporary boot device.

Ensure that the following requirements are met:

- The server is equipped with a hard disk drive (HDD) or solid state drive (SSD).
- The HDD or SSD is properly installed in the server. For instructions, see the [Sun Server X3-2 Service Manual, "Servicing Storage Drives \(CRU\)"](#) on page 49.
- A console connection is established to the server. For details, see ["Selecting the Console Display Option"](#) on page 4.

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 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 and select Reset from the Select Action list box.
- **From the Oracle ILOM CLI on server SP**, type: **reset /System**

The BIOS screen appears.



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

After a few moments, the BIOS Setup Utility appears.

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

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

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

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

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

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

a. Highlight the values you want to change.

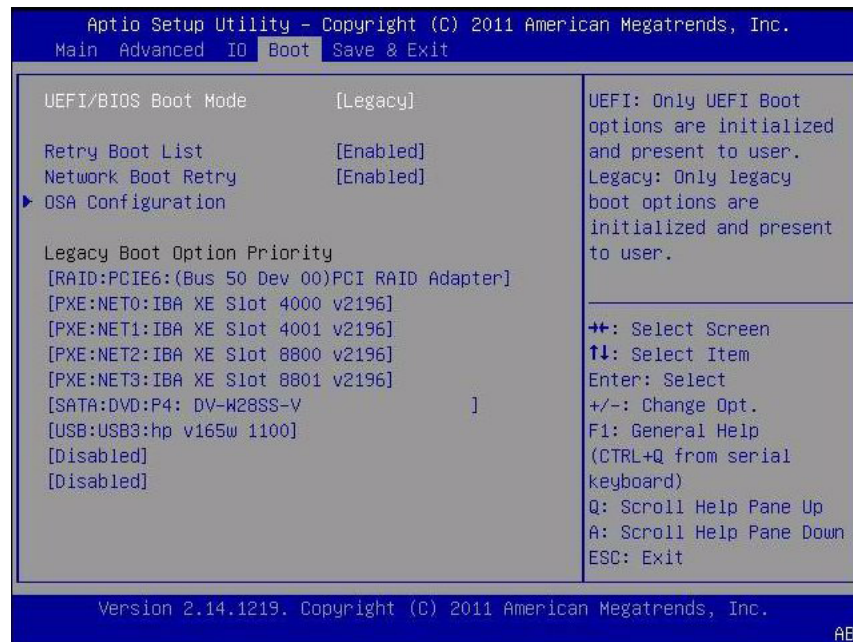
Use up or down arrow keys to change between the system time and date selection.

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

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

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

The Boot menu appears.



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

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

7. In the Boot Device Priority menu, do the following to edit the first boot device entry in the list:
 - a. Use the up and down arrow keys to select the first entry in the list, then press `Enter`.
 - b. In the Options menu, use the up and down arrow keys to select the default permanent boot device, then press `Enter`.

Note – You can change the boot order for other devices in the list by repeating Steps 7a and 7b for each device entry you want to change.

8. To save changes and exit the BIOS Setup Utility, press `F10`.

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

Note – When using the Oracle ILOM Remote System 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 System Console application.

▼ Switch Between Legacy BIOS and UEFI BIOS Mode

Note – Currently, Oracle Solaris 11.1 is the only supported Solaris operating system that supports UEFI.

The BIOS firmware supports both legacy BIOS and Unified Extensible Firmware Interface (UEFI). The default setting is legacy BIOS. Because some operating systems support both legacy BIOS and UEFI BIOS and some support legacy BIOS only, users have the following options:

- If the operating system being installed supports legacy BIOS only, you must make sure that BIOS is set to Legacy mode before you do the OS installation.

- If the operating system being installed supports both legacy BIOS and UEFI BIOS, you have the option of setting BIOS to either Legacy mode or UEFI mode before you perform the OS installation.

Note – After you have installed the operating system, if you decide you want to switch from legacy BIOS to UEFI BIOS or vice versa, you must remove all partitions and reinstall the operating system.

1. Reset or power on the server.

For example, to reset the server:

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

The BIOS screen appears.

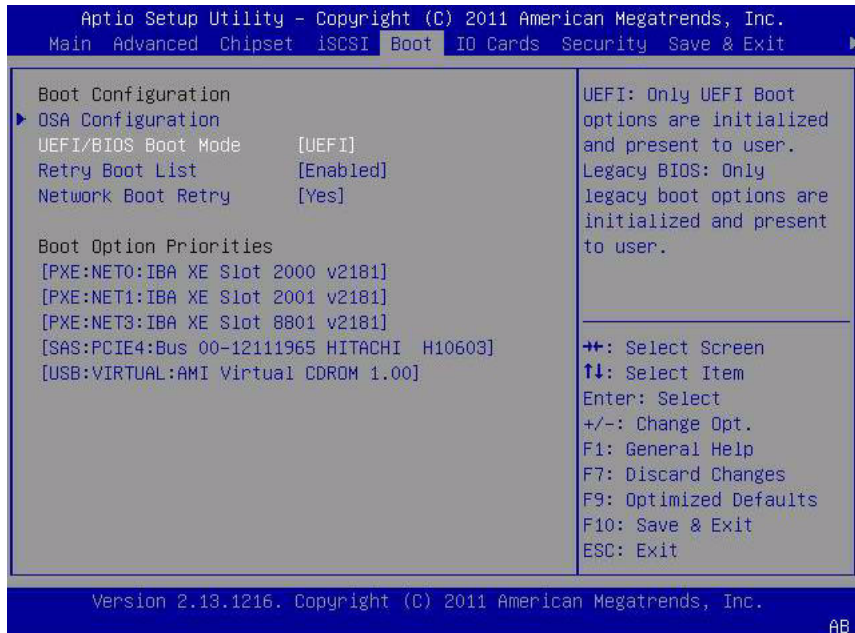


2. When prompted in the BIOS screen, press F2 to access the BIOS Setup Utility.

After a few moments, the BIOS Setup Utility appears.

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

The Boot Menu screen appears.



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

Configuring RAID

If you want to install Oracle Solaris OS to a RAID volume, you must configure the RAID volume before starting the Oracle Solaris OS install process. For instructions for configuring RAID, see the *Sun Server X3-2 Installation Guide*, “Configuring Server Drives for OS Installation” on page 91.

Related Information

- *Sun Server X3-2 Administration Guide*, “Configuring RAID” on page 101

Installing the Oracle Solaris Operating System

This section describes how to install the Oracle Solaris Operating System on the server.

Description	Links
Review re-installation requirements.	“Before You Begin” on page 17
Use media to install Oracle Solaris.	“Installing Oracle Solaris 10 or 11 Operating System on a Single System Using Media” on page 19

Related Information

- [“About Oracle Solaris Operating System Installs” on page 1](#)
- [“Verify the BIOS Factory Defaults” on page 11](#)
- [“Configuring RAID” on page 16](#)

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, see the [Sun Server X3-2 Installation Guide](#), [“Configuring Server Drives for OS Installation” on page 91](#).

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

- The console display options should have been selected and set up prior to performing the installation. For more information about this option and setup instructions, see [“Selecting the Console Display Option” on page 4](#).
- The boot media option should have been selected and set up prior to performing the installation. For more information about this option and setup instructions, see [“Selecting the Boot Media Option” on page 6](#).
- The storage drive to be used as the installation target option should have been determined and set up prior to starting this installation procedure. For more information about the installation target storage drive and setup instructions, see [“Selecting the Installation Target Option” on page 8](#).
- Verify that the BIOS settings are set to the defaults. For instructions on how to verify and, if necessary, set the BIOS settings, see [“Verify the BIOS Factory Defaults” on page 11](#).
- If you are performing a local installation, have the Oracle Solaris installation media available to insert into the attached physical CD/DVD-ROM drive or into the USB port when prompted.
- If you are performing a remote installation, insert the Oracle Solaris installation media into the Oracle ILOM Remote System Console’s CD/DVD-ROM drive. Ensure that you have selected CD-ROM from the Oracle ILOM Remote System Console’s Devices menu.
- If you are using an Oracle Solaris image, ensure that the Oracle Solaris ISO image is accessible from the Oracle ILOM Remote System Console and ensure you have selected CD-ROM Image from the Oracle ILOM Remote System Console Devices menu.
- Gather the Oracle Solaris operating system documentation so that you can use it in conjunction with the instructions provided in this chapter. Oracle Solaris OS documentation is available at:
 - Oracle Solaris 10 documentation:
http://docs.oracle.com/cd/E23823_01/index.html
 - Oracle Solaris 11 11/11 documentation:
http://docs.oracle.com/cd/E23824_01/index.html
 - For Oracle Solaris 11.1:
http://docs.oracle.com/cd/E26502_01/index.html.

Installing Oracle Solaris 10 or 11 Operating System on a Single System Using Media

These topics provide guidelines for installing the Oracle Solaris 10 or 11 OS.

- [“Install Oracle Solaris 10 Using Local or Remote Media” on page 19](#)
- [“Install Oracle Solaris 11 Using Local or Remote Media” on page 21](#)
- [“Requirements for Oracle Solaris 10 or 11 PXE Network Boot” on page 25](#)
- [“Post Installation Tasks for Oracle Solaris” on page 29](#)

Related Information

- [“About Oracle Solaris Operating System Installs” on page 1](#)

▼ Install Oracle Solaris 10 Using Local or Remote Media

The following procedure describes how to boot the Oracle Solaris 10 operating system installation from local or remote media. It assumes that you are booting the installation media from one of the following sources:

- Oracle Solaris 10 1/13 DVD set (internal or external DVD)
- Oracle Solaris 10 1/13 ISO DVD image (network repository)
- Oracle Solaris 10 8/11 DVD set (internal or external DVD)
- Oracle Solaris 10 8/11 ISO DVD image (network repository)

Note – Oracle Solaris 10 8/11 does not support UEFI. Therefore, you must ensure that the BIOS mode is set to legacy before installing Oracle Solaris 10 8/11.

Note – If you are booting the installation media from a PXE environment, refer to [“Requirements for Oracle Solaris 10 or 11 PXE Network Boot” on page 25](#) for instructions.

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

- **For Distribution DVD.** Insert the Oracle Solaris 10 DVD into the local or remote DVD drive.
- **For ISO image.** Ensure that the ISO image is available and that the boot disc image has been selected in the Oracle ILOM Remote System Console application.

For additional information about how to set up the install media, see [“Selecting the Boot Media Option”](#) on page 6.

2. 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 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 and select Reset from the Select Action list box.
- **From the Oracle ILOM CLI on the server SP,** type: **reset /System**

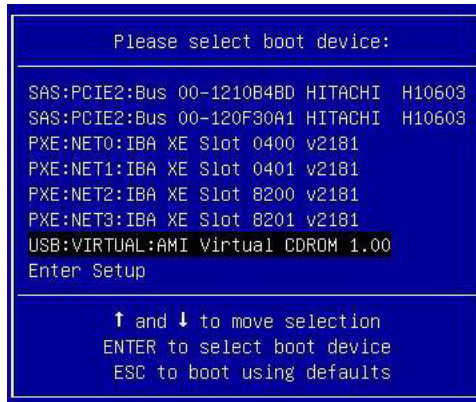
The BIOS screen appears.



Note – The next events occur very quickly; therefore, focused attention is needed for the following steps. Please watch carefully for these messages as they appear on the screen for a brief time.

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

The Please Select Boot Device menu appears.



4. In the Boot Device menu, select either the external or virtual DVD device as the first (temporary) boot device, then press Enter.

In the sample Boot Device menu shown in [Step 3](#), the virtual DVD device is specified as the boot device.

Note – If you are performing the Oracle Solaris installation from a redirected DVD using the Oracle ILOM Remote System Console application, select AMI Virtual CDR0M, which is listed as an option in the Boot Device menu when you install from a redirected DVD.

The GRUB menu appears.

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

For instructions for completing the installation for Oracle Solaris 10 8/11, refer to the Oracle Solaris installation documentation at:

http://docs.oracle.com/cd/E23823_01/index.html

Related Information

- “Requirements for Oracle Solaris 10 or 11 PXE Network Boot” on page 25

▼ Install Oracle Solaris 11 Using Local or Remote Media

The following procedure describes how to boot the Oracle Solaris 11 operating system installation from local or remote media. It assumes that you are booting the installation media from one of the following sources:

- Oracle Solaris 11 11/11 (with SRU 2, or later, required) or 11.1 (or subsequent release) DVD set (internal or external DVD)

- Oracle Solaris 11 11/11 (with SRU 2, or later, required) or 11.1 (or subsequent release) ISO DVD image (network repository)

Note – Before installing Oracle Solaris 11 11/11 on your server, you must update it to include Support Repository Update (SRU) 2, or later. For information on how to add an SRU to the Oracle Solaris 11 11/11, go to:

<http://www.oracle.com/technetwork/server-storage/solaris11/documentation/index.html>

Note – If you are booting the installation media from a PXE environment, refer to “Requirements for Oracle Solaris 10 or 11 PXE Network Boot” on page 25 for instructions.

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

- **For Distribution DVD.** Insert the Oracle Solaris 11 DVD into the local or remote DVD drive.
- **For ISO image.** Ensure that the ISO image is available and that the boot disc image has been selected in the Oracle ILOM Remote System Console application.

For additional information about how to set up the install media, see “Selecting the Boot Media Option” on page 6.

2. 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 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 and select Reset from the Select Action list box.
- **From the Oracle ILOM CLI on the server SP,** type: **reset /System**

The BIOS screen appears.



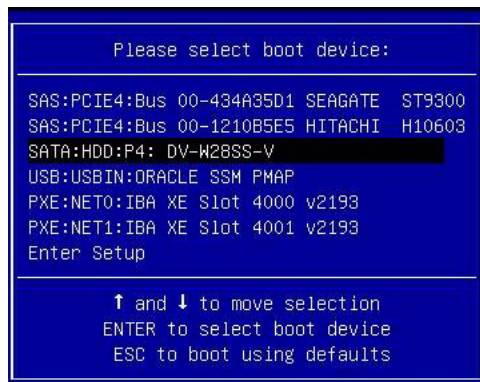
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
BIOS Date: 05/11/2012 11:52:57 Ver: 18021000
Press F2 to run Setup (CTRL+E on serial keyboard)
Press F8 for BBS Popup (CTRL+P on serial keyboard)
Press F12 for network boot (CTRL+N on serial keyboard)
Press F9 to start Oracle System Assistant (CTRL+O on serial keyboard)

Note – The next events occur very quickly; therefore, focused attention is needed for the following steps. Please watch carefully for these messages as they appear on the screen for a brief time.

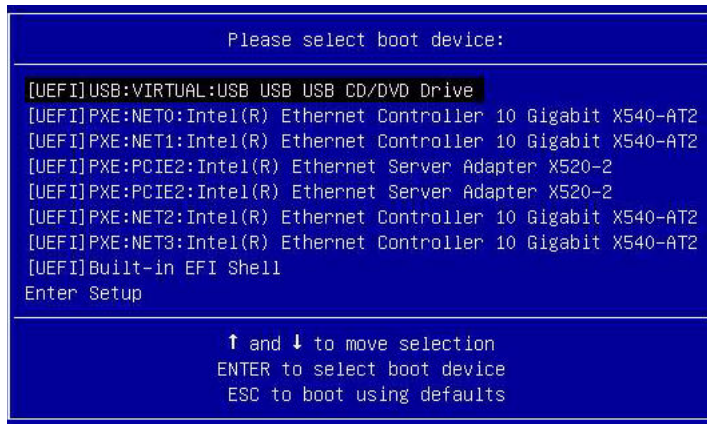
3. In the BIOS screen, press F8 to specify a temporary boot device for the Oracle Solaris OS installation.

The Please Select Boot Device menu appears. The screen that appears will be different depending on whether you have BIOS configured for legacy BIOS mode or UEFI mode.

- For legacy BIOS, the following screen appears:



- For UEFI, the following screen appears:



Note – Your Please Select Boot Device menu options might differ depending on the type of disk controller 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 BIOS mode you elected to use, and then press Enter.

For example:

- If you elected to use the Solaris OS local console delivery method in legacy BIOS mode, select SATA:HDD:P4 DV-W28SS-V from the legacy BIOS screen.
- If you elected to use the Oracle ILOM Remote System Console delivery method in UEFI BIOS mode, select [UEFI]USB:VIRTUAL:USB USB CD/DVD Drive from the UEFI BIOS screen.

The GRUB menu appears.

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

- For instructions for completing the installation for Oracle Solaris 11 11/11, refer to the Oracle Solaris installation documentation at:
http://docs.oracle.com/cd/E23824_01/index.html
- For instructions for completing the installation for Oracle Solaris 11.1, refer to the Oracle Solaris installation documentation at:
http://docs.oracle.com/cd/E26502_01/index.html

Related Information

- “Requirements for Oracle Solaris 10 or 11 PXE Network Boot” on page 25

Requirements for Oracle Solaris 10 or 11 PXE Network Boot

The following requirements must be met prior to starting the Oracle Solaris 10 or 11 PXE boot installation.

Note – JumpStart or Automated Installer can help you eliminate some or most of the manual tasks of setting up the Oracle Solaris operating system for the first time on multiple servers. JumpStart installs Oracle Solaris 10 and earlier versions of the Oracle Solaris OS. Automated Installer installs the Oracle Solaris 11 OS.

- To use PXE to boot the installation media over the network, you should have completed the following tasks:
 - **For Oracle Solaris 10**, ensure that the PXE/boot JumpStart install server is properly setup and accessible to your server on the network. For more information about using a JumpStart image in Oracle Solaris 10 8/11, see *Oracle Solaris 10 8/11 Installation Guide: Custom JumpStart and Advanced Installations* at: http://docs.oracle.com/cd/E23823_01/html/E23802/index.html. For more information about using a JumpStart image in Oracle Solaris 10 1/13, see *Oracle Solaris 10 1/13 Installation Guide: JumpStart Installations* at: http://docs.oracle.com/cd/E26505_01/html/E28039/index.html.
 - **For Oracle Solaris 11**, ensure that the Automated Installer (AI) image install server is setup and accessible to your server over the network. For more information about using Automated Installer, see the Oracle Solaris 11 Information Library, *Transitioning From Oracle Solaris 10 JumpStart to Oracle Solaris 11 Automated Installer* at: http://docs.oracle.com/cd/E23824_01/html/E21799/index.html.
 - Ensure that the Automated Installation install server has the MAC address of the network interface from which the system will PXE boot. As an example, if you want to PXE boot from NET0, you can obtain its 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
```

- The PXE network boot does not work properly over subnets that include multiple DHCP servers. Therefore, you should set up only one DHCP server on the subnet that includes the client system that you want to install.
- Ensure that the Oracle Solaris 10 or 11 installation media is available for PXE boot. For details, see one of the following documents:

For Oracle Solaris 10 8/11, see “Planning to Install Over the Network” in the *Oracle Solaris 10 8/11 Installation Guide: Network-Based Installations* at: http://docs.oracle.com/cd/E23823_01/index.html

For Oracle Solaris 10 1/13, see “Planning to Install Over the Network” in the *Oracle Solaris 10 1/13 Installation Guide: Network-Based Installations* at: http://docs.oracle.com/cd/E26505_01/index.html

For Oracle Solaris 11 11/11, see *Creating a Custom Oracle Solaris 11 Installation Image* at: http://docs.oracle.com/cd/E23824_01/index.html.

For Oracle Solaris 11.1, see *Creating a Custom Oracle Solaris 11.1 Installation Image* at: http://docs.oracle.com/cd/E26502_01/index.html.

- Ensure that the BIOS mode configured on your system is compatible with the Oracle Solaris operating system you are installing. For more details refer to “Switch Between Legacy BIOS and UEFI BIOS Mode” on page 14.

The following procedure describes how to install the Oracle Solaris 10 or 11 Operating System installation from a PXE network environment.

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 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 and select Reset from the Select Action list box.
- **From the Oracle ILOM CLI on server SP**, type: **reset /System**

The BIOS screen appears.



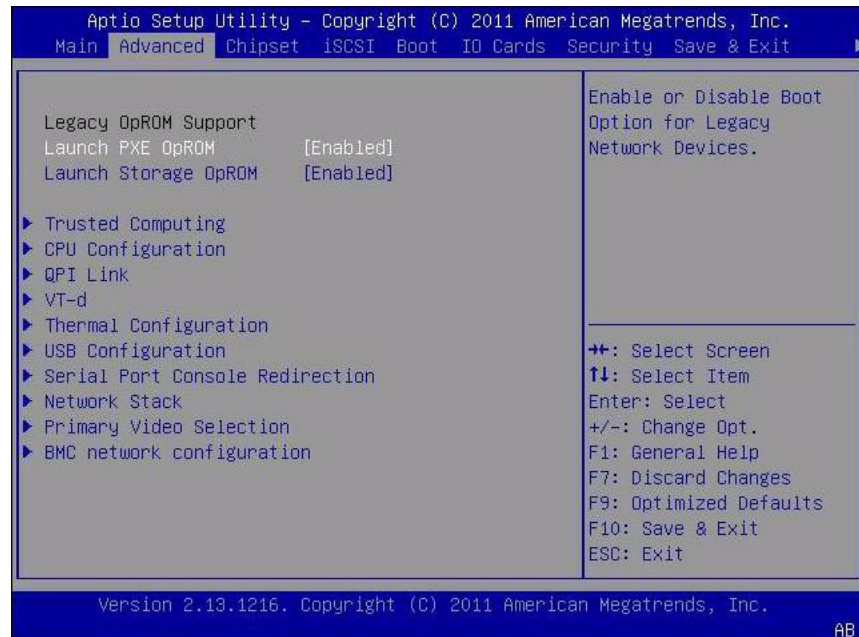
Note – The next events occur very quickly; therefore, focused attention is needed for the following steps. Please watch carefully for these messages as they appear on the screen for a brief time.

2. 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 just in case it was disabled. Once you have verified that PXE boot is enabled, you can omit this step on subsequent PXE boots.

a. Press F2 to access the BIOS Setup Utility.

The BIOS Setup Utility appears.



b. Select Advanced in the top menu bar.

c. Set the Launch PXE OpROM setting to Enabled.

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

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

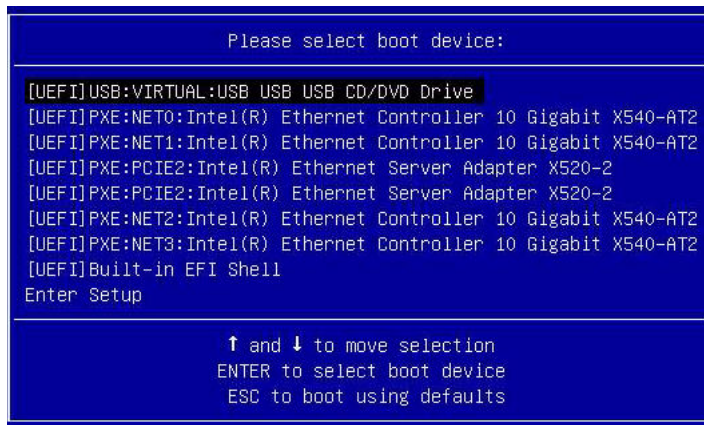
3. In the BIOS screen, press F8 to specify a temporary boot device or press F12 to network boot (PXE).

The Please Select Boot Device menu appears, listing the available boot devices. The screen that appears will be different depending on whether you have BIOS configured for legacy BIOS mode or UEFI mode.

- For legacy BIOS, the following screen appears:



- For UEFI mode, the following screen appears:



Note – Your Please Select Boot Device menu options might differ depending on the type of disk controller installed in your server.

4. 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 install server.

The GRUB menu appears.

5. Follow the on-screen prompts to complete the PXE installation.

For instructions for completing the PXE installation, refer to the following documents:

For Oracle Solaris 10 8/11, see “Planning to Install Over the Network” in the *Oracle Solaris 10 8/11 Installation Guide: Network-Based Installations* at:

http://docs.oracle.com/cd/E23823_01/index.html.

For Oracle Solaris 10 1/13, see “Planning to Install Over the Network” in the *Oracle Solaris 10 1/13 Installation Guide: Network-Based Installations* at:

http://docs.oracle.com/cd/E26505_01/index.html.

For Oracle Solaris 11 11/11, refer to the *Creating a Custom Oracle Solaris 11 Installation Image* at: http://docs.oracle.com/cd/E23824_01/index.html.

For Oracle Solaris 11.1, refer to the *Creating a Custom Oracle Solaris 11.1 Installation Image* at: http://docs.oracle.com/cd/E26502_01/index.html.

6. Proceed to the section “Post Installation Tasks for Oracle Solaris” on page 29 to perform the post Oracle Solaris installation tasks.

Related Information

- “Installing Oracle Solaris 10 or 11 Operating System on a Single System Using Media” on page 19

Post Installation Tasks for Oracle Solaris

After installing and rebooting the Oracle Solaris operating system, review the Oracle Solaris documentation for instructions how to determine if updates are available and how to install them. See the following documentation web sites:

- For Oracle Solaris 10 8/11, go to:
http://docs.oracle.com/cd/E23823_01/index.html
- For Oracle Solaris 10 1/13, go to:
http://docs.oracle.com/cd/E26505_01/index.html
- For Oracle Solaris 11 11/11, go to:
http://docs.oracle.com/cd/E23824_01/index.html
- For Oracle Solaris 11.1, go to:
http://docs.oracle.com/cd/E26502_01/index.html

Getting Server Firmware and Software

This section explains the options for accessing server firmware and software.

Description	Links
Learn about server firmware and software updates.	“Firmware and Software Updates” on page 31
Learn about options for accessing firmware and software.	“Firmware and Software Access Options” on page 32
Review available firmware and software releases.	“Software Releases” on page 33
Learn how to get firmware and software using Oracle System Assistant, My Oracle Support, or Physical Media Request.	“Getting Firmware and Software From MOS or PMR” on page 34
Install firmware and software updates using other methods.	“Installing Updates Using Other Methods” on page 38

Firmware and Software Updates

Firmware and software for your server are updated periodically. These updates are made available as software releases. The software releases are a set of downloadable files (patches) that include all available firmware, software, hardware drivers, tools, and utilities for the server. All these files have been tested together and verified to work with your server.

You should update your server firmware and software as soon as possible after a new software release becomes available. Software releases often include bug fixes, and updating your server ensures that your server has the latest firmware and software.

The ReadMe document that is included with each patch in a software release contains information about the patch, such as what has changed or not changed from the prior software release, as well as bugs that are fixed with the current release.

The product notes that are part of the server documentation identify which server software release is the latest release supported on your server.

Firmware and Software Access Options

Use one of the following options to obtain the latest set of firmware and software for your server:

- **Oracle System Assistant** – Oracle System Assistant is a new factory-installed option for Oracle servers that allows you to easily download and install server firmware and software.

For more information about using Oracle System Assistant, refer to the *Sun Server X3-2 Administration Guide*, “Setting Up Software and Firmware” on page 29.

- **My Oracle Support** – All system firmware and software are available from My Oracle Support at <http://support.oracle.com>.

For more information on what is available on the My Oracle Support web site, see “Software Releases” on page 33.

For instructions on how to download software releases from My Oracle Support, see “Download Firmware and Software Using My Oracle Support” on page 34.

- **Physical Media Request (PMR)** – You can request a DVD that contains any of the downloads (patches) available from My Oracle Support.

For information see, “Request Physical Media (Online)” on page 36.

- **Other Methods** – You can use Oracle Enterprise Manager Ops Center, Oracle Hardware Management Pack, or Oracle ILOM to update your server software and firmware.

For information, see “Installing Updates Using Other Methods” on page 38.

Software Releases

Software releases on My Oracle Support are grouped by product family (such as Sun Fire), then the product (the specific server or blade), and finally the software release version. A software release contains all the updated software or firmware for your server or blade as a set of downloadable files (patches), including firmware, drivers, tools, and utilities, all tested together to be compatible with your server.

Each path is a zip file that contains a ReadMe file and a set of subdirectories containing firmware or software files. The ReadMe file provides details on the components that have changed since the prior software release and bugs that are fixed.

My Oracle Support provides the set of software releases for your server as described in the following table. You can obtain these software releases by downloading the files from My Oracle Support or by submitting to Oracle a physical media request (PMR). Alternatively, you can download the firmware and software for your server using Oracle System Assistant.

Package Name	Description	When to Download This Package
X3-2 (X4170 M3) <i>SWversion</i> – Firmware Pack	All the system firmware, including Oracle ILOM, BIOS, and option card firmware.	You need the latest firmware.
X3-2 (X4170 M3) <i>SWversion</i> – OS Pack	An OS Pack is available for each supported operating system version. Each OS Pack includes a package of all tools, drivers, and utilities for that version of the OS. Software includes Oracle Hardware Management Pack and LSI MegaRAID software. For the Windows OS, this OS Pack also includes Intel Network Teaming and Install Pack.	You need to update OS-specific drivers, tools, or utilities.
X3-2 (X4170 M3) <i>SWversion</i> – All Packs	Includes the Firmware Pack, all OS Packs, and all documents. This pack does not include Oracle VTS or the Oracle System Assistant image.	You need to update a combination of system firmware and OS-specific software.

Package Name	Description	When to Download This Package
X3-2 (X4170 M3) <i>SWversion</i> – Diagnostics	Oracle VTS diagnostics image.	You need the Oracle VTS diagnostics image.
X3-2 (X4170 M3) <i>SWversion</i> – Oracle System Assistant Updater	Oracle System Assistant recovery and ISO update image.	You need to manually recover or update Oracle System Assistant.

Getting Firmware and Software From MOS or PMR

You can use Oracle System Assistant to easily download and use the latest software release. For further information, see [“Setting Up the Server Using Oracle System Assistant” on page 35](#).

You can also obtain updated firmware and software by using My Oracle Support (MOS) or by submitting to Oracle a physical media request (PMR). For information, see:

- [“Download Firmware and Software Using My Oracle Support” on page 34](#)
- [“Requesting Physical Media” on page 35](#)

▼ Download Firmware and Software Using My Oracle Support

1. **Go to the following web site:** <http://support.oracle.com>.
2. **Sign in to My Oracle Support.**
3. **At the top of the page, click the Patches & Updates tab.**
The Patch search pane appears at the right of the screen.
4. **Within the Search tab area, click Product or Family (Advanced Search).**
The Search tab area appears with search fields.
5. **In the Product field, select the product from the drop-down list.**
Alternatively, type a full or partial product name until a match appears, for example, Sun Server X3-2 (formerly Sun Fire X4170 M3).

6. In the Release field, select a software release from the drop-down list.

Expand the list to see all available software releases.

7. Click Search.

The Patch Advanced Search Results screen appears, listing the patches for the software release.

See [“Software Releases” on page 33](#) for a description of the available downloads.

8. To select a patch for a software release, click the patch number next to the software release version

You can use the shift key to select more than one patch).

A pop-up action panel appears. The pop-up panel contains several action options, including the ReadMe, Add to Plan, and Download options. For information about the Add to Plan option, click on the associated drop-down button and select “Why use a plan?”

9. To review the ReadMe file for the patch, click ReadMe.

10. To download the patch for the software release, click Download.

The File Download dialog box appears.

11. In the File Download dialog box, click the patch zip file name.

The patch for the software release downloads.

Requesting Physical Media

If your processes do not allow downloads from Oracle web sites, you can receive the latest software release packages by submitting to Oracle a physical media request (PMR). The preferred method for submitting a PMR is through the My Oracle Support (MOS) web site.

The high-level tasks for submitting a physical media request are described in these sections:

- [“Gathering Information for the Physical Media Request” on page 36](#)
- [“Request Physical Media \(Online\)” on page 36](#)
- [“Request Physical Media \(By Phone\)” on page 38](#)

Gathering Information for the Physical Media Request

You must have a warranty or support contract for your server in order to make a physical media request (PMR).

Before you make the PMR, do the following:

- **Obtain the product name, software release version, and patches required.** It will be easier to make the request if you know the latest software release version and the name of the patches for the software release that you are requesting.
 - *If you have access to My Oracle Support* – Follow the instructions in “[Download Firmware and Software Using My Oracle Support](#)” on page 34 to determine the latest software release version and view available software release packages (patches). After viewing the list of patches, you can navigate away from the Patch Advanced Search Results screen, if you do not want to continue with the download steps.
 - *If you do not have access to My Oracle Support* – Use the information in “[Software Releases](#)” on page 33 to determine which patches for the software release you want, and then request those patches for the latest software release version.
- **Have the shipping information ready.** You will need to provide a contact name, phone number, email address, company name, and shipping address as part of the request.

▼ Request Physical Media (Online)

Gather the information described in “[Gathering Information for the Physical Media Request](#)” on page 36 before making the request.

1. **Go to the My Oracle Support web site:** <http://support.oracle.com>.
2. **Sign in to My Oracle Support.**
3. **Click on the Contact Us link in the upper right corner of the page.**
The Create Service Request: Problem screen appears.
4. **Describe your request as follows:**
 - a. **In the Problem Summary field, type PMR for latest software release.**
 - b. **From the Problem Type drop-down list, select Software & OS Media Requests.**
 - c. **In the Support Identifier field, type the Customer Support Identifier associated with your support contract.**

5. **Skip the Create Service Request: Solutions screen by clicking the Next button in the upper right corner of the screen twice.**

The Create Service Request: More Details screen appears.

6. **Provide more information about your request as follows:**

- a. **In the Additional Information section, answer the questions listed in the following table:**

Question	Your Answer
Is this a physical software media shipment request?	Yes
Which product line does the media request involve?	Sun Products
Are you requesting a required password for a patch download?	No
Are you requesting a patch on CD/DVD?	Yes
If requesting a patch on CD/DVD, please provide the patch number and OS/platform?	Enter the patch number for each download that you want for the software release.
List the product name and version requested for the physical media shipment?	<i>Product Name:</i> Sun Server X4-2 <i>Version:</i> Latest software release number
What is the OS/platform for the requested media?	If you are requesting OS-specific downloads, specify the OS here. If you are requesting system firmware only, enter Generic.
Are any languages required for this shipment?	No

- b. **Fill in the ship-to contact information, which includes a contact name, phone number, email address, company name, and shipping address.**

7. **Click the Next button.**

The Create Service Request: Severity/Contact screen appears.

8. **Enter your contact phone number and preferred method of contact.**

9. **Click the Submit button.**

This completes the physical media request. It can take up to seven business days to receive the physical media.

▼ Request Physical Media (By Phone)

Gather the information described in “[Gathering Information for the Physical Media Request](#)” on page 36 before making the request.

1. **Call Oracle support, using the appropriate number from the Oracle Global Customer Support Contacts Directory at:**

<http://www.oracle.com/us/support/contact-068555.html>

2. **Tell Oracle support that you want to make a physical media request (PMR) for the Sun Server X3-2.**

- If you are able to find the specific software release package and patch number information from My Oracle Support, provide this information to the support representative.
- If you are unable to find the software release package information, request the latest software release package for the Sun Server X3-2.

Installing Updates Using Other Methods

In addition to using Oracle System Assistant and My Oracle Support, you can install updated firmware and software using one of the following methods:

- **Oracle Enterprise Manager Ops Center** – You can use Ops Center Enterprise Controller to automatically download the latest firmware from Oracle, or firmware can be loaded manually into the Enterprise Controller. In either case, Ops Center can install the firmware onto one or more servers, blades, or blade chassis.

For more information, go to:

<http://www.oracle.com/technetwork/oem/ops-center/index.html>.

- **Oracle Hardware Management Pack** – You can use the fwupdate CLI Tool within the Oracle Hardware Management Pack to update firmware within the system.

For more information, refer to the Oracle Hardware Management Pack Documentation Library at: <http://www.oracle.com/goto/OHMP/docs>.

- **Oracle ILOM** – You can use the Oracle ILOM web interface or command-line interface to update Oracle ILOM and BIOS firmware.

For more information, refer to the Oracle Integrated Lights Out Manager (ILOM) 3.1 Documentation Library at:

<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>.

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