Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide for Oracle® Solaris Operating System
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Using This Documentation

This section provides product information, documentation and feedback links, and a document change history.

- “Sun Server X2-8 Name Change” on page 5
- “Product Downloads” on page 5
- “Documentation and Feedback” on page 6
- “About This Documentation” on page 7
- “Change History” on page 7

Sun Server X2-8 Name Change

The Sun Server X2-8 was formerly named the Sun Fire X4800 M2 server. This former name might still appear in the product. The name change does not indicate any change in system features or functionality.

The new name identifies the following:

- X identifies an x86 product.
- The first number, 2, identifies the generation of the server.
- The second number, 8, identifies the number of processors.

Product Downloads

You can find downloads for all Oracle x86 servers and server modules (blades) on Support (MOS). On MOS you can find two type of downloads:

- Software release bundles specific to the rackmount server, server module, modular system (blade chassis), or NEM. These software release bundles include Oracle ILOM, Oracle Hardware Installation Assistant and other platform software and firmware.
- Standalone software common across multiple types of hardware. This includes the Hardware Management Pack and Hardware Management Connectors.
Get Software and Firmware Downloads

3. At the top of the page, click the Patches and Updates tab.
4. In the Patch Search box, click Product or Family (Advanced Search).
5. In the Product?is field, type a full or partial product name, for example, Sun Server X2-8 until a list of matches is displayed and select the product of interest.
6. In the Release?ispull-down list, click the Down arrow.
7. In the window that appears, click the triangle (>) by the product folder icon to show the choices and then select the release of interest and click Close.
8. In the Patches Search box, click Search.
   A list of product downloads (listed as patches) appears.
9. Select the Patch name of interest, for example, 12684585, for the Sun Server X2-8 1.0 Firmware.
10. In the right-side pane that appears, click Download.

Documentation and Feedback

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<td>Sun Server X2-8</td>
<td><a href="http://docs.oracle.com/">http://docs.oracle.com/</a></td>
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<td>cd/E20815_01/index.html</td>
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<td>Oracle ILOM 3.0</td>
<td><a href="http://www.oracle.com/">http://www.oracle.com/</a></td>
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<td></td>
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</tr>
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Provide feedback on this documentation at: http://www.oracle.com/goto/docfeedback.
About This Documentation

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

You can get a PDF that includes all information about a particular topic subject (such as
hardware installation or product notes) by clicking the PDF button on the top of the page.

Change History

The following lists the release history of this documentation set:

- July 2011 – Initial publication.
- October 2011 – Revised for SW1.1.
- January 2012 – Revised for SW1.2.
- April 2012 – Revised to add preinstalled Oracle VM, and additional rack mounting
  instructions.
- June 2012 – Revised to add the preinstalled Solaris 11 operating system.
- July 2012 – Revised to change name and to add 32 Gb DIMMs.
Introduction to Oracle Solaris OS Installation

This document provides information about installing the Oracle Solaris 10 8/11 OS or the Oracle Solaris 11 OS on your server, and points to the Oracle Solaris documentation for installation.

**Note** – The Sun Server X2-8 was formerly named the Sun Fire X4800 M2 server. This former name might still appear in the product. The name change does not indicate any change in system features or functionality.

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<td>Identify your logical and physical network ports.</td>
<td>“Identifying Logical and Physical Network Interface Names for Solaris OS Installation” on page 31</td>
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Preparing for OS Installation

Before you begin to install the Solaris OS, certain tasks must be completed. Choose the following tasks, depending on whether an OS is already installed on the server's drive, or if the drives are new and have no previous partitions.

- If your server's boot hard disk has an operating system installed other than Solaris, you might need to erase it in order to prepare it for Solaris. See "How to Erase Your Boot Hard Disk" on page 11.
- If your server did not come with preinstalled Solaris, you must create a logical drive using the server HBA software. If you do not, the Solaris installation program cannot see the server's disk drives. See "Creating a Virtual Disk" on page 13.
- If you are going to install your OS on a disk that is part of a RAID array, you must configure the RAID array before installing your OS. For details, see "Creating a Virtual Disk" on page 13 and your server's disk management documentation collection.

▼ How to Erase Your Boot Hard Disk

Before You Begin

If your server's boot disk has a pre-existing operating system you no longer want, you can erase it as described in this section.

Obtain a copy of the Tools and Drivers CD before starting this procedure.

Caution – This procedure erases all data from the hard drive. Back up data before starting this procedure.

1  Back up any data on the hard drive.

2  Access the Tools and Drivers CD from the remote console (JavaRConsole).
   Refer to "Communicating With Oracle ILOM and the System Console" in Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide.

3  Boot the system from the Tools and Drivers CD.
   The tools and drivers main menu appears.
4 Select Erase Primary Boot Hard Disk from the main menu.
   This selection erases all partitions currently on the primary hard drive except for the diagnostic partition. If the diagnostic partition is present, it is not erased.

Next Steps  “Creating a Virtual Disk” on page 13.
Creating a Virtual Disk

Before installing the operating system, you must create a virtual disk on your server. To create this virtual disk, you must interrupt the server’s boot-up process by pressing Control-H when the LSI banner appears.

Creating a virtual disk erases the contents of the disk.

Note – Virtual disks can also be created from the MegaRAID software (which is installed through the supplemental drivers on the Tools and Drivers DVD), but should not be used for installing the operating system.

See “How to Create a Virtual Disk” on page 13.

▼ How to Create a Virtual Disk

This procedure creates a virtual disk where you can install the OS. It uses Manual Configuration to create a virtual drive using only one hard drive.

This is only one of many possible RAID configurations. To install a different RAID configuration, refer to the SGX-SAS6-R-REM-Z: Software User’s Guide, available at: http://wwwlsi.com/sep/Pages/oracle/sg_x_sas6-r-rem-z.aspx

1 Log into the Oracle ILOM using the IP address of the service processor (SP) module.

2 If you are using a Windows Remote installation, switch the mouse mode to Relative; select KVMS —> Mouse Mode —> Relative —> then select Save.

   a. Click the KVMS tab.

   b. Select Relative from the Mouse Mode drop-down menu.

   c. Click the Redirection tab.

      The Launch Redirection screen appears.
3  Reboot your system and wait for the LSI banner. When the devices appear in the banner page, press the Control-H key combination.
   The Adapter Selection screen appears.

4  In the Adapter Selection screen, click Start.

5  In the MegaRaid BIOS Config Utility Virtual Configuration screen, select Configuration Wizard.
The MegaRAID BIOS Config Utility Virtual Configuration Wizard screen appears.

6 Click Configuration Wizard to start the virtual disk configuration wizard.
7 Select New Configuration, and click Next.

The Select Configuration window appears.

8 Select Manual Configuration and click Next.

Automatic Configuration creates a single virtual drive that combines all the hard drives on your system into a single virtual drive with all data striped across all the drives.

The rest of this procedure uses Manual Configuration to create a virtual drive using only one hard drive. This is only one of many RAID options. To configure different RAID options, refer to SGX-SAS6-R-REM-Z: Software User’s Guide available at http://www.lsi.com/sep/Pages/oracle/sg_x_sas6-r-rem-z.aspx.
9 If a confirmation window appears, click Yes.

The MegaRAID BIOS Config Utility Config Wizard – Drive Group Definition screen appears, showing the drives in the system and the drive groups.

10 Select a disk drive to add to an array, and click Add To Array button.
11 Click Accept DG to create the drive group.

You can now view Drive Group 0.

12 Click Next.

Note – You can undo the drive group selection by clicking the Reclaim button.
Creating a Virtual Disk

The drive group appears in the Span Definition window.

13 Click Add to SPAN.
Creating a Virtual Disk

The drive group appears in the span.

14  **Click Next.**

The Virtual Drive Definition screen appears.
15  Set the RAID level and configurations you want for your virtual drive, and click Accept.

For more information about configuring RAID, refer to your server’s disk management documentation.

The system prompts you to confirm Write Back with BBU mode.

16  Click Yes.
The Config Wizard—Virtual Drive Definition window appears.

17 Click Next.

The Preview screen appears.
18 Verify that the virtual drive includes Drive Group 0.
   The example graphic shows a single virtual drive using the Manual Configuration option, then click Accept.

19 Click Yes to save the Configuration.
The prompt appears: All data on Virtual Drives will be lost. Want to Initialize?

Click Yes to initialize.

The Virtual Drives list appears.
21 Click Home.

The MegaRaid BIOS Config Utility Virtual Configuration screen appears.

![MegaRaid BIOS Config Utility Virtual Configuration](image)

22 Click Exit.

The system reboots.

**See Also**  “Installing Solaris OS ” on page 27
Installing Solaris OS

This section provides information required to install the Solaris operating system. It includes:

- “Solaris OS Installation Task Map” on page 27
- “Choosing an Installation Method” on page 28
- “Obtaining Solaris 11 Documentation” on page 30
- “Obtaining Solaris 10 Documentation” on page 31
- “Identifying Logical and Physical Network Interface Names for Solaris OS Installation” on page 31

Solaris OS Installation Task Map

The following table provides a task map for installing Solaris 10 8/11 or Solaris 11 on a Sun Server X2-8.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set up your server.</td>
<td>Install your server hardware and configure the service processor.</td>
<td><em>Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide</em></td>
</tr>
<tr>
<td>Review the Sun Server X2-8 Product Notes.</td>
<td>The Product Notes contain late-breaking news about the Solaris OS software and patches.</td>
<td><em>Sun Server X2-8 (formerly Sun Fire X4800 M2) Product Notes</em></td>
</tr>
<tr>
<td>Choose an installation method.</td>
<td>Choose an installation method and locate the installation instructions.</td>
<td>“Choosing an Installation Method” on page 28</td>
</tr>
<tr>
<td>Locate the Solaris OS installation documentation.</td>
<td>The Solaris OS documentation included with your software contains most of what you need to know about installation.</td>
<td>Refer to “Obtaining Solaris 10 Documentation” on page 31 or “Obtaining Solaris 11 Documentation” on page 30</td>
</tr>
<tr>
<td>Identify the logical names and the physical names of each network interface.</td>
<td>During the OS installation, you need to provide the logical names (assigned by the OS) and the physical name (MAC address) of each network interface.</td>
<td>“Identifying Logical and Physical Network Interface Names for Solaris OS Installation” on page 31</td>
</tr>
</tbody>
</table>
Choosing an Installation Method

Task | Description | Instructions
--- | --- | ---
Install any required OS patches. | Check for the latest OS patches. | [http://support.oracle.com](http://support.oracle.com)

**Note** – To get full Solaris FMA (Fault Management Architecture) capability for your server with Solaris 10 9/10 OS, you must install patch 144489-11 (or later) after the installation of the OS. This is not required for Solaris 10/11 or for Solaris 11.

Choosing an Installation Method

**Caution** – The Sun Server X2-8 supports only 64-bit Solaris installations. 32-bit installations are not supported.

The Sun Server X2-8 supports the following Solaris OS installation methods:

- Boot from the preinstalled Solaris image on the hard drive as described in “Setting Up the Preinstalled Solaris Operating System” in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide*.

- Install on one server from DVD or CD-ROM media interactively with the Solaris installation program. Solaris 11 can also be installed from a USB device.

  For Solaris 10, the Solaris installation program on the Solaris 10 OS DVD or CD can be run with a graphical user interface (GUI) or as an interactive text installer. The Solaris Device Configuration Assistant is included in the Solaris installation program.

  For Solaris 11, use the Solaris installation program on the LiveCD or a LiveUSB media. These can be run with a GUI or with an interactive user interface.

- Install on one server or several servers over the network with Preboot Execution Environment (PXE) technology and the following installation methods:

  For Solaris 10:
  - Solaris installation program over the network from remote DVD or CD images
  - JumpStart installation
  - Installation using a serial console

  For Solaris 11:
  - Automated install
  - Automated install using a custom manifest
  - Serial console
Note – The Solaris OS provides additional programs for installation, such as booting over a wide area network (WAN), but your server supports only those methods listed in this document.

The following table describes installation methods available for installing the Solaris OS.

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boot Solaris from the preinstalled image.</td>
<td>Depending on your configuration, a Solaris OS image might be preinstalled on a hard drive.</td>
<td>&quot;Setting Up the Preinstalled Solaris Operating System” in Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide</td>
</tr>
<tr>
<td>Install from DVD or CD-ROM media.</td>
<td>Use the Solaris installation program on the CD or DVD media to install one server interactively.</td>
<td>Follow the instructions for x86 installation.</td>
</tr>
<tr>
<td>Install from the network by using PXE.</td>
<td>You need to use PXE to install the Solaris OS over the network when there is a need for automated installation.</td>
<td>Follow the instructions for an x86 PXE installation.</td>
</tr>
</tbody>
</table>

Caution – When you install the Solaris 10 OS from a PXE server, the netboot environment must be configured to use the 64-bit kernel. You can do this by changing the PXE boot menu to include `amd64` on the kernel and module lines. For details, refer to the installation and jumpstart documentation in the Oracle Solaris 10 8/11 Information Library.

- For Solaris 10, refer to the PXE installation instructions in the Oracle Solaris 10 8/11 Information Library.
- For Solaris 11, refer to Installing Using an Install Server in Installing Oracle Solaris 11 Systems.
<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
<th>Instructions</th>
</tr>
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<tbody>
<tr>
<td>Use serial console to install Solaris OS</td>
<td>Use a serial console to install the Solaris OS in a PXE-based network installation.</td>
<td>Follow the instructions for an x86 PXE installation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>■ For Solaris 10, refer to the Oracle Solaris 10 8/11 Installation Guide: Custom JumpStart and Advanced Installations in the Oracle Solaris 10 8/11 Information Library.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>■ For Solaris 11, refer to Installing Using an Install Server in Installing Oracle Solaris 11 Systems.</td>
</tr>
<tr>
<td>Boot the Solaris OS on your server without</td>
<td>Boot the Solaris OS on your server without a hard drive. Use this method with a PXE-based network installation.</td>
<td>Follow the instructions for an x86 PXE installation.</td>
</tr>
<tr>
<td>a hard drive</td>
<td></td>
<td>■ For Solaris 10, refer to the Oracle Solaris 10 8/11 Information Library.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>■ For Solaris 11, refer to Installing Oracle Solaris 11 Systems.</td>
</tr>
</tbody>
</table>

See also:
- “Obtaining Solaris 10 Documentation” on page 31
- “Obtaining Solaris 11 Documentation” on page 30
- “Identifying Logical and Physical Network Interface Names for Solaris OS Installation” on page 31

## Obtaining Solaris 11 Documentation

Use the following links to obtain Solaris 11 documentation. Make sure to follow instructions specific to x86 systems where they are specified.

- For general information and a list of new features in Solaris 11 2010.11, refer to Oracle Solaris 11 Information Library.
- For information about installing Solaris 11, refer to Installing Oracle Solaris 11 Systems.
- For information about using an automated install server, refer to Installing Using an Install Server.
Obtaining Solaris 10 Documentation

Solaris 10 OS documentation is available from the web at the following locations. Make sure to follow instructions specific to x86 systems, where they are specified:

- For Solaris 10 documentation, including installation and administration guides, information about upgrading your system, and troubleshooting, refer to Oracle Solaris 10 8/11 Information Library.
- Refer to the Sun Server X2-8 (formerly Sun Fire X4800 M2) Product Notes for patch and other late-breaking information. Patches and instructions are available from http://support.oracle.com.

Solaris 10 documentation is also available on the Solaris Documentation DVD included with your Solaris OS software.

Identifying Logical and Physical Network Interface Names for Solaris OS Installation

When you are configuring an operating system for a networked server, you might need to provide the logical name (assigned by the OS) and the physical name (MAC address) of each network interface. This topic shows you how to get this information.

▼ How to Identify Logical and Physical Network Interface Names

Use this procedure to display information about MAC addresses and network interfaces, including their logical and physical names (MAC addresses).

1. In the Install Type menu, select Option (6) Single User Shell, and press Enter.

Note – Alternatively, you can run these commands from a command shell.

If a message appears about mounting an OS instance, select q. You should not mount any OS instance.
The message "Starting Shell" appears. See the following figure.

---

2 At the command prompt (#), type the following command to plumb all network interfaces.

```
# ifconfig -a plumb
```

**Note** – The plumb process might take some time.

3 At the command prompt, type the following command.

```
# ifconfig -a
```
The output of Solaris named interfaces and MAC addresses appears. For example:

```
# ifconfig -a | more
e100g0: flags=0x000082<BRDRCST,MULTICAST,IPv6> mtu 1500 index 2
    inet 192.168.1.1 netmask 255.255.255.0 metric 20
    ether 0:14:4f:c:a1:ee

e100g1: flags=0x000082<BRDRCST,MULTICAST,IPv6> mtu 1500 index 3
    inet 192.168.1.2 netmask 255.255.255.0 metric 20
    ether 0:14:4f:c:a1:ef

#...
```

In the sample output:

- The `e100g#` entry in the first column refers to the Solaris logical named interface. This first column in the output identifies the logical names assigned by Solaris to the network interfaces.
- The `ether #:#:#:#:#:#` entry in the second column (third row) refers to the physical MAC address name of the network port.

For example:

The physical MAC address for the Solaris named network interface is `e100g0` is `0:14:4f:c:a1:ee`.

4 Save this information to a file, or write it down.

5 When you are done, to start the system configuration script, type `sys-unconfig(1M)` at the command line.

This command restores the system configuration to the factory defaults.

Caution – The `sys-unconfig(1M)` command halts the system and restores the factory settings. Do not run this command unless you are ready to reconfigure your system.
For example:

```
# sys-unconfig
WARNING
This program will unconfigure your system. It will cause it
to revert to a "blank" system - it will not have a name or know
about other systems or networks.
This program will also halt the system.
Do you want to continue (y/n) ?
```

The system reboots and the configuration script starts.