Sun Server X2-8 (formerly Sun Fire X4800 M2) Product Notes

Part No: E20818-31
September 2018

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Access to Oracle Support

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

Référence: E20818-31

Accès aux services de support Oracle

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

Contents

Using This Documentation

- **Overview** – Provides late-breaking information, issue status, and product announcements for Oracle's Sun Server X2-8.
- **Audience** – Technicians, system administrators, and authorized service providers.
- **Required knowledge** – Advanced experience troubleshooting and replacing hardware.

Product Documentation Library

Documentation and resources for this product and related products are available at http://docs.oracle.com/cd/E20815_01/index.html.

Feedback

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

Important Operating Notes

This section provides information about critical issues that affect your server. These include:

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Server Security, Software Releases, and Critical Patch Updates	“Server Security, Software Releases, and Critical Patch Updates” on page 12
IMPORTANT - Install Latest OS Updates, Patches, and Firmware	“IMPORTANT - Install Latest OS Updates, Patches, and Firmware” on page 13
Changes to Oracle ILOM TLSv1.1 configuration property	“Changes to TLSv1.1 Configuration Property as of ILOM 4.0.3.x” on page 14
Diagnosing SAS Data Path Failures on Servers Using MegaRAID Disk Controllers	“Diagnosing SAS Data Path Failures on Servers Using MegaRAID Disk Controllers” on page 14
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Information about self-signed SSL certificates	“Resolving Warning Messages for Custom CA and Self-Signed SSL Certificates” on page 16
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For known issues affecting system components, see:

- “Hardware Issues” on page 31
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Note - The Sun Server X2-8 was formerly named the Sun Fire X4800 M2 server. This former name might still appear in the software. The name change does not indicate any change in system features or functionality.

Server Security, Software Releases, and Critical Patch Updates

To ensure continued security of your system, Oracle strongly recommends that you apply the latest Software Releases. Server Software Releases include Oracle ILOM, BIOS, and other firmware updates, often referred to as "patches." Oracle publishes these patches regularly on the My Oracle Support site. Applying these patches helps ensure optimal system performance, security, and stability. You can identify the latest Software Release for your system at: `http://www.oracle.com/technetwork/systems/patches/firmware/release-history-jsp-138416.html`

To download a Software Release, go to My Oracle Support at: `https://support.oracle.com`

Oracle notifies customers about security vulnerability fixes for all its products four times a year through the Critical Patch Update (CPU) program. Customers should review the CPU advisories to ensure that the latest software release updates are applied to their Oracle products. Note that updates for Engineered Systems are specifically published for a specific Engineered Systems product (that is, you need not look at specific updates for individual software components included in your Engineered System). For more information about the Oracle CPU program, go to: `http://www.oracle.com/technetwork/topics/security/alerts-086861.html`

Oracle also recommends that you update to the latest operating system release when it becomes available. Although a minimum operating system release is supported, updating to the latest OS release ensures that you have the most up-to-date software and security patches. To confirm that you have the latest OS release, refer to the Oracle Hardware Compatibility Lists. See "Supported Operating Systems" on page 19.

For details about the current system software update, see: "IMPORTANT - Install Latest OS Updates, Patches, and Firmware" on page 13

▼ IMPORTANT - Install Latest OS Updates, Patches, and Firmware

Some product features are enabled only when the latest versions of operating systems, patches, and firmware are installed. To retain optimal performance, security, and stability, you must install the latest available operating systems, patches, and firmware.

System Software Release 2.2.0 is associated with system firmware version **4.0.4.20**. Newer versions have either a higher number or have a letter added. For example, a later system Software Release might be associated with system firmware 4.0.4.20.a.

To verify that the server firmware version is a minimum of 4.0.4.20 or higher:

1. **Use Oracle ILOM to check your system firmware version.**

   - **From the web interface, click System Information > Summary, then view the System Firmware Version in the General Information table.**

   - **From the CLI, type: `show /System/Firmware` or `version`.**

     For more details, refer to information about viewing system information and inventory in the *Oracle ILOM Administrators Guide for Configuration and Maintenance*, which is available at `https://www.oracle.com/goto/ilom/docs`.

2. **Ensure that the server firmware version is at the minimum required version, shown above, or a subsequent release, if available.**

3. **If the required firmware (or newer) is not installed:**

   a. **Download the firmware from My Oracle Support at: `https://support.oracle.com`**

   b. **Install the downloaded firmware.**

      Refer to the information about performing firmware updates in the *Oracle ILOM Administrators Guide for Configuration and Maintenance*, which is available at `https://www.oracle.com/goto/ilom/docs`. Ensure that you perform the preparatory steps described in that document before updating the firmware.

Note - Occasionally after installing the firmware, the Oracle ILOM web interface cannot display the power state correctly on the power control page. To correct this problem, clear your browser cache before logging in to the Oracle ILOM web interface.

Changes to TLSv1.1 Configuration Property as of ILOM 4.0.3.x

Present Behavior: The Oracle ILOM TLSv1.1 configuration property is Enabled by default.

Future Behavior: The following changes will occur to the TLSv1.1 configuration property sometime after the Oracle ILOM 4.0.3 firmware release:

- First Change: The TLSv1.1 configuration property will default to Disabled in the next minor release of Oracle ILOM.
- Second Change: The TLSv1.1 configuration property will no longer be supported and will be removed from all Oracle ILOM user interfaces in the next major release of Oracle ILOM.

For future updates regarding TLSv1.1 support in Oracle ILOM, refer to latest release information in the `Oracle ILOM Feature Updates and Release Notes for Firmware 4.0.x` at https://docs.oracle.com/cd/E81115_01/index.html.

Diagnosing SAS Data Path Failures on Servers Using MegaRAID Disk Controllers

Important Operating Note

On Oracle x86 servers using MegaRAID disk controllers, Serial Attached SCSI (SAS) data path errors can occur. To triage and isolate a data path problem on the SAS disk controller, disk backplane (DBP), SAS cable, SAS expander, or hard disk drive (HDD), gather and review the events in the disk controller event log. Classify and analyze all failure events reported by the disk controller based on the server SAS topology.

To classify a MegaRAID disk controller event:

- Gather and parse the MegaRAID disk controller event logs either by running the automated sundiag utility or manually using the or `StorCLI` command.
  - For Oracle Exadata Database Machine database or storage cell servers, run the sundiag utility.
  - For Oracle Server X2-8, use the `StorCLI` command.

For example, manually gather and parse the controller event log by using the `StorCLI` command. At the root prompt, type:

```
root# ./storcli64/c0 show events file=event.log
Controller=0
Status=Success
```

Note - Use the existing name of the event log as the name for the disk controller event log. This produces a MegaRAID controller event log with the given file name `event.log`.

To show drive and slot errors separately, at the root prompt, type:

```
root# /opt/MegaRAID/storcli/storcli64 /c0 /eall /sall show errorcounters
Controller=0
Status=Success
Description=Show Drive/Cable Error Counters Succeeded.
```

Error Counters:

Drive	Error Counter for Drive Error	Error Counter for Slot
/c0/e8/s0	0	0
/c0/e8/s1	0	0
/c0/e8/s2	0	0
/c0/e8/s3	0	0
/c0/e8/s4	0	0
/c0/e8/s5	0	0
/c0/e8/s12	0	0
/c0/e8/s13	0	0

These error counters reflect drive or slot errors separately.

The following SCSI sense key errors found in the event log in SAS data path failures indicate a SAS data path fault:

```
B/4B/05 :SERIOUS: DATA OFFSET ERROR
B/4B/03 :SERIOUS: ACK/NAK TIMEOUT
B/47/01 :SERIOUS: DATA PHASE CRC ERROR DETECTED
B/4B/00 :SERIOUS: DATA PHASE ERROR
```

A communication fault between the disk and the host bus adapter causes these errors. The presence of these errors, even on a single disk, means there is a data path issue. The RAID controller, SAS cables, SAS expander, or disk backplane might be causing the interruption to the communication in the path between the RAID controller and the disks.

Oracle Service personnel can find more information about the diagnosis and triage of hard disk and SAS data path failures on x86 servers at the My Oracle Support web site: `https://support.oracle.com`. Refer to the Knowledge Article Doc ID 2161195.1. If there are multiple, simultaneous disk problems on an Exadata server, Oracle Service personnel can refer to Knowledge Article Doc ID 1370640.1.

Deprecation Notice for Oracle ILOM IPMI 2.0 Management Service

Present Behavior: IPMI 2.0 Management Sessions - Enabled (default setting).

Future Behavior: The following IPMI Management Service changes will occur in a future Oracle ILOM firmware release after firmware version 4.0.2.

First IPMI Service Support Change: The default configuration property for IPMI 2.0 Sessions will change from Enabled to Disabled. Clients relying on Oracle ILOM IPMI 2.0 session support by default will no longer be able to communicate with Oracle ILOM.

To enable IPMI communication with Oracle ILOM, perform one of the following:

- Use the Oracle IPMI TLS service and interface. For more information, refer to *IPMI TLS Service and Interface* in the *Oracle ILOM Protocol Management Reference SNMP and IPMI Firmware Release 4.0.x*.

- or -

- Manually enable the configuration property for IPMI 2.0 Session. For details, refer to *IPMI Service Configuration Properties* in the *Oracle ILOM Administrator's Guide for Configuration and Maintenance Firmware Release 4.0.x*.

Second IPMI Service Support Change: Removal of IPMI 2.0 client support.

IPMI 2.0 clients *will no longer be able* to communicate with Oracle ILOM. Clients relying on IPMI communication will need to use the IPMI TLS service and interface. For more information, refer to *IPMI TLS Service and Interface* in the *Oracle ILOM Protocol Management Reference SNMP and IPMI Firmware Release 4.0.x*.

For future updates about IPMI Management Service support in Oracle ILOM, refer to the latest firmware release information published in the *Oracle ILOM Feature Updates and Release Notes Firmware Release 4.0.x*.

Resolving Warning Messages for Custom CA and Self-Signed SSL Certificates

The following information applies to the users of the Oracle ILOM Remote System Console and the Oracle ILOM Remote System Console Plus.

A warning message occurs when the Java client is not properly configured to validate the Secure Sockets Layer (SSL) certificate that is currently being using by Oracle ILOM. This validation behavior applies to Oracle ILOM firmware version 3.2.8 or later for systems using the default self-signed SSL certificate and to Oracle ILOM firmware version 3.2.10 and later for systems using a Custom Certification Authority (CA) SSL certificate.

To resolve the SSL warning message, refer to the applicable sections noted below in the Oracle ILOM Administrator's Guide for Configuration and Maintenance Firmware Release 4.0.x, which is available at: https://www.oracle.com/goto/ilom/docs

- *Warning Messages for Self-Signed SSL Certificate*
- *Resolving Warning Messages for Custom Certification Authority (CA) SSL Certificate*

Oracle ILOM License Information

For Oracle ILOM 4.0.x license information, refer to the *Licensing Information User Manual Oracle ILOM Firmware Release 4.0.x* at: http://docs.oracle.com/cd/E81115_01/index.html

The Sun Server X2-8 with Oracle ILOM 4.0.x uses the Debian software that is also used in Oracle ILOM 3.2.x. For license information, refer to the *Licensing Information User Manual Oracle ILOM Firmware Release 3.2.x* at: https://docs.oracle.com/cd/E37444_01/index.html

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 software. 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.

Supported Software and Firmware

The following topics contain information about software and firmware supported for the Sun Server X2–8:

Supported Operating Systems

The latest supported version of Oracle Solaris for the Sun Server X2-8 is Oracle Solaris 11.3 SRU 32.

For other operating systems, the following Hardware Compatibility Lists (HCLs) identify the latest operating system versions supported on Oracle hardware. To find the latest operating system version supported for the Sun Server X2-8, go to the following sites and search using your server model number:

- Oracle Linux -- `http://linux.oracle.com/pls/apex/f?p=117:1:3991604960223967`
- Oracle VM -- `http://linux.oracle.com/pls/apex/f?p=117:1:3991604960223967`
- Windows -- `http://www.windowsservercatalog.com/`

- VMware ESXi -- http://www.vmware.com/resources/compatibility/search.php/
- Red Hat Enterprise Linux -- https://access.redhat.com/certifications
- SUSE Linux Enterprise Server -- https://www.suse.com/yessearch/Search.jsp

The following operating systems are the minimum supported for your server:

- Oracle Solaris 11.1 and 11.2 (64–bit)
- Oracle Solaris 11 11/11 (64–bit)
- Oracle Solaris 10 8/11
- Oracle Solaris 10 9/10 (64–bit) plus patch 144489–11 or later and with patch 144568–02 or later

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Note - These patches are already included in the preinstalled Oracle Solaris OS.

- Oracle Linux 5.6, 5.7 , 5.8, 5.9, 5.10, 6, 6.1, 6.2, 6.4, 6.5, 6.6, 7.0, and 7.1 (64–bit)
- Oracle Unbreakable Enterprise Kernel for Linux
- Oracle Unbreakable Enterprise Kernel Release 2 for Linux
- Oracle VM 2.2.2, 3.0.2, 3.0.3, 3.1.1, 3.2.1, 3.2.3, 3.3.1 and 3.3.2
- Red Hat Enterprise Linux 5.6, 5.7, 5.8, 5.9, 5.10, 6, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, and 7.1 (64–bit)
- SUSE Linux Enterprise Server (SLES) 11 SP1 and SP2 (64–bit)
- Windows Server 2008 R2 SP1 (64–bit)

  For additional information, see “Windows Server 2008 and Driver Support” on page 58.
- Windows Server 2012 (64–bit)

  For additional information, see “Windows Server 2012 and Driver Support” on page 59.
- VMware ESX/ESXi 4.1 U1, ESXi 4.1 U2, ESXi 5.0, ESXi 5.0 U1, ESXi 5.1, and ESXi 5.5

The following operating systems support 4 TB memory:

- Oracle Solaris 11.2 (64–bit) and above
- Oracle Solaris 11 11/11 (64–bit)
- Oracle Solaris 10 8/11
- Oracle Solaris 10 9/10 with patch 144501–19
- Oracle Linux 5.8, 6.6, 7.1 and above
- Oracle VM 3.2.3 and above
- SUSE Linux Enterprise Server (SLES) 11 SP2 and above
- Red Hat Enterprise Linux 5.8, 6.6, 7.1 and above

- Windows Server 2012 (with system software release 1.1.2 and above)

Supported Firmware

The following tables list the supported firmware versions for the SP, BIOS, NEMs, Pc-Check and CPLD.

Note - To obtain optimal performance, security, and stability, install software release 1.8.0 or newer. Oracle recommends that you always install the latest available firmware.

Software Release	Oracle ILOM (SP) Firmware	BIOS Firmware
1.0	3.0.14.25	15012300
1.1	3.0.16.20	15012800
1.1.1	3.0.16.20	15013200
1.1.2	3.0.16.20.b	15013200
1.2	3.0.16.20.c	15020500
1.2.1	3.0.16.20.d	15020500
1.2.2	3.0.16.20.e	15020500
1.2.3	3.0.16.20.g	15020600
1.3	3.0.16.34	15020800
1.3.1	3.0.16.34.b	15020900
1.4.0	3.2.6.22	15040100
1.4.1	3.2.6.22.a	15040100
1.5.0	3.2.7.22.a	15050100
1.7.0	3.2.9.25	15050300
1.8.0	3.2.10.21	15050300
1.8.1	3.2.10.21.a	15050300
2.0.0	4.0.2.25	15050300
2.0.1	4.0.2.25.b	15060100
2.1.0	4.0.3.23	15060200
2.2.0	4.0.4.20	15.06.02.00

Item	Version
PC-check	6.29s
NEM FPGA	v17
CPLD	7.8

Preinstalled Oracle Operating Systems Available

You can now order your server with optional preinstalled operating system software. The following preinstalled operating systems are available:

- Oracle Solaris 10 or 11 OS
- Oracle Linux 6.3 OS
- Oracle VM 3.2.1

If your server is shipped with this option, refer to the *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide* for configuration instructions.

Oracle Hardware Installation Assistant Might Not Support RHEL 5.6 or Oracle Linux 5.6

Some versions of Oracle Hardware Installation Assistant do not support Red Hat Enterprise Linux 5.6 or Oracle Linux 5.6.

NEM Expander Firmware Upgrade Required

Problems with the NEM firmware can cause various symptoms, including but not limited to:

- System does not boot and displays an FMA fault:

  ```
  sunw-msg-id #SPX86--8002--QQID
  ```

- Partial or no information in sensor data lists, especially in NEM sensors.

To fix these problems, you must update the NEM expander firmware. For details, refer to the Oracle ILOM documentation collection at https://www.oracle.com/goto/ilom/docs.

Included Third Party Technology

This product might be delivered with certain third-party technology that is subject to third-party license terms or notices. Before using this product, please read the third-party notices and licenses applicable to this product:

https://docs.oracle.com/cd/E20815_01/index.html

If you do not have access to the Internet, you may request a written copy of the third-party notices and licenses for this product by writing to:

```
Oracle America, Inc.
Attn: Associate General Counsel
Development and Engineering Legal
500 Oracle Parkway, 10th Floor
Redwood Shores, CA 94065
```

Sun Java Enterprise System

Sun Java Enterprise System (Java ES) is a set of software components that provide services needed to support enterprise-strength applications that are distributed across a network or Internet environment. The Sun Java ES is preloaded on your server.

Oracle Enterprise Manager Ops Center

Oracle Enterprise Manager Ops Center is a highly scalable, unified management platform for physical and virtual environments. Use Oracle Enterprise Manager Ops Center to manage multiplatform x86 and SPARC systems that are distributed throughout a global data center and to integrate these systems with existing toolsets. Oracle Enterprise Manager Ops Center facilitates many aspects of compliance reporting (ITIL) and data center automation, enabling you to manage thousands of systems simultaneously.

MegaRAID Storage Manager (MSM)

MegaRAID Storage Manager (MSM) is a configuration setup application that enables you to configure, monitor, and maintain storage configurations on Integrated RAID controllers. The graphical user interface (GUI) makes it easy for you to create and manage storage configurations. The application is available on the Tools and Drivers CD image on the product download site.

MSM enables you to easily configure the controllers, disk drives, and virtual disks on your system. The configuration wizard greatly simplifies the process of creating disk groups and virtual disks. The configuration wizard guides you through several simple steps to create your storage configurations.

For more information on MSM, see the *x64 Servers Utilities Reference Manual*, which is on the product documentation web site.

SunVTS Bootable Diagnostics CD-ROM

The server is shipped with a bootable diagnostics CD-ROM. This CD-ROM is designed so that the server boots using the Solaris OS on the CD-ROM and starts SunVTS software. Diagnostic tests run and write output to log files that the service technician can use to determine the problem with the server.

For information on SunVTS, refer to *Using SunVTS Diagnostics Software* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Diagnostics Guide*.

Note - Newer releases of SunVTS are known as Oracle VTS.

Oracle Integrated Lights Out Manager

Oracle Integrated Lights Out Manager (Oracle ILOM) is system management firmware that allows you to manage your server when the host system is powered down. This is possible because Oracle ILOM runs on a separate service processor (SP) that is powered by the host system's standby power.

Oracle ILOM Documentation Update

When you update to system software 2.0.0 or newer it automatically updates Oracle ILOM to version 4.0.2.25 or newer.

Note - Oracle recommends you update to system software release 2.1.0 or newer as described in "IMPORTANT - Install Latest OS Updates, Patches, and Firmware" on page 13.

After this update:

- After updating to software 2.0.0 or newer, for information about Oracle ILOM, refer to the Oracle ILOM 4.0 Documentation Collection: `https://www.oracle.com/goto/ilom/docs`).
- For older software release, refer to the Oracle ILOM 3.2 Documentation Collection: `https://www.oracle.com/goto/ilom/docs`
- The information in the *Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Server X2-8 (formerly Sun Fire X4800 M2)* is out of date. Instead, refer to the corresponding Oracle ILOM Documentation Collection.

Oracle ILOM also supports remote access to the host's system console through a network remote keyboard, video and mouse (RKVM). The host's I/O to optical and floppy drives can be redirected to real and virtual drives on the network. This allows a remote user to perform most maintenance operations, including installing an operating system.

Oracle x86 Products Accessibility

This section describes the accessibility features that are part of Oracle x86 hardware, firmware, and related documentation.

Oracle strives to make its products, services, and supporting documentation usable and accessible to the disabled community. To that end, products, services, and documentation include features that make the product accessible to users of assistive technology.

For more information about Oracle's commitment to accessibility, go to:

- http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc

Hardware Accessibility

Oracle x86 hardware has color-coded labels, component touch points, and status indicators (LEDs) that provide information about the system. These labels, touch points, and indicators can be inaccessible features for sight-impaired users. The product HTML documentation provides context and descriptive text available to assistive technologies to aid in interpreting status and understanding the system. System-level descriptions and status indicator interpretation can be found in the product Service Manual. The documentation also provides diagrams and screenshots that do not rely on color. Within the diagrams, callouts indicate the referenced component information. The callout descriptions are mapped within a table. All images and tables in the documentation include descriptive alternative text.

Another method to obtain information about the system is to use the built-in Oracle Integrated Lights Out Manager (ILOM). Oracle ILOM provides a browser-based interface and a command-line interface that support assistive technologies for real-time viewing of system status, indicator interpretation, and system configuration. For details, see "Oracle ILOM Accessibility."

You can access the accessible HTML documentation for Oracle x86 hardware products at:

- http://docs.oracle.com/en/servers/

Oracle ILOM Accessibility

You can use the Oracle Integrated Lights Out Manager (ILOM) browser user interface (BUI) to monitor and manage the server hardware. The Oracle ILOM BUI does not require a special accessibility mode; rather, its accessibility features are always available. The BUI was developed using standard HTML and JavaScript and its features conform to accessibility guidelines.

To navigate a BUI page and select items or enter commands, you can use standard keyboard inputs, such as using the Tab key to go to a selection, or the up and down arrow keys to scroll through the page. You can also make menu selections by using standard keyboard combinations.

For example, using the Oracle ILOM Open Problems BUI page, you can identify faulted memory modules (DIMMs) or processors (CPUs) that would otherwise be identified by a lit LED indicator on the motherboard. Likewise, you can use the Oracle ILOM BUI to monitor the hardware power states that are also indicated by flashing LED indicators on the hardware.

The Oracle ILOM command-line interface (CLI) is an alternative and equivalent way to access the Oracle ILOM BUI features and functionality. Because the operating systems that run on the Oracle server hardware support assistive technologies to read the content of the screen, you can use the CLI as an equivalent means to access the color-based, mouse-based, and other visual-based utilities that are part of the BUI. For example, you can use a keyboard to enter CLI commands to identify faulted hardware components, check system status, and monitor system health.

You can use the Oracle ILOM Remote Console Plus to access both a text-based serial console and a graphics-based video console that enable you to remotely redirect host server system keyboard, video, mouse, and storage devices. Note, however, that the Oracle ILOM Java Remote Console does not support scaling of the video frame within the Java application. You need to use assistive technology to enlarge or reduce the content in the Java Remote Console Plus display.

As an alternative method to using the BIOS Setup Utility to configure BIOS settings, Oracle ILOM provides a set of configurable properties that can help you manage the BIOS configuration parameters on an Oracle x86 server. Using Oracle ILOM, you can:

- Back up a copy of the BIOS configuration parameters to an XML file using the Oracle ILOM BUI.
- Edit the XML file using a standard XML editor. The BIOS XML tags correlate directly to the BIOS screen labels.
- Restore the XML file of the backed up or edited configuration parameters to BIOS.

The BUI and CLI methods for using Oracle ILOM are described in the accessible HTML documentation for Oracel ILOM at:

- https://www.oracle.com/goto/ilom/docs

Oracle Hardware Management Pack Accessibility

Oracle Hardware Management Pack software is a set of command-line interface (CLI) tools. Oracle Hardware Management Pack software does not include product-specific accessibility features. Using a keyboard, you can run the CLI tools as text commands from the operating system of a supported Oracle server. All output is text-based.

Additionally, most Oracle Hardware Management Pack tools support command output to a text log file or XML file, which can be used for text-to-speech conversion. Accessible manual pages (man pages) are available that describe the Hardware Management Pack tools on the system on which those tools are installed.

Installation and uninstallation of Oracle Hardware Management Pack can be performed manually, using text commands entered from the CLI. Assistive technology products such as screen readers, digital speech synthesizers, or magnifiers can be used to read the content of the screen.

Refer to the assistive technology product documentation for information about operating system and command-line interface support.

The CLI tools for using the software are described in the accessible HTML documentation for Hardware Management Pack at:

- https://www.oracle.com/goto/ohmp/docs

BIOS Accessibility

When viewing BIOS output from a terminal using the serial console redirection feature, some terminals do not support function key input. However, BIOS supports the mapping of function keys to Control key sequences when serial redirection is enabled. Descriptions of the function key to Control key sequence mappings are provided in the product documentation, typically within the server Service Manual. You can navigate the BIOS Setup Utility by using either a mouse or keyboard commands.

As an alternative method of configuring BIOS settings using the BIOS Setup Utility screens, Oracle ILOM provides a set of configurable properties that can help you manage the BIOS configuration parameters on an Oracle x86 server. For more information, see "Oracle ILOM Accessibility."

BIOS information and its functions are typically documented in the product Service Manual or Installation Guide.

Documentation Accessibility

Documentation for Oracle hardware is provided in HTML and PDF formats. The HTML documents are accessible using standard operating system controls and assistive technology. PDF documents are also provided; however, PDF is not an accessible format. PDF documents are considered support documents because the PDF content is available in accessible HTML format.

Product documentation provides figures, other types of images, and screenshots that do not rely on color for interpretation. Within the figures, callouts indicate the referenced component information. The callouts are mapped within a table to provide text descriptions of the referenced parts of the figures. In addition, alternative text is provided for all tables and images that provides the context of the information and images.

Note that screen readers might not always correctly read the code examples in the documentation. The conventions for writing code require that closing braces should appear on an otherwise empty line. However, some screen readers might not always read a line of text that consists solely of a bracket or brace.

The documentation might contain links to web sites of other companies and organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these web sites.

You can access the accessible HTML documentation for Oracle x86 products at:

- http://docs.oracle.com/en/servers/

Hardware Issues

The following table lists the current hardware issues.

Current Hardware Issues	Workaround
“System Posts CPU Fault and Fails to Boot on System With Six Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards (22536804)” on page 31	Yes
“NEM0 Failover and Subsequent Replacement Causes Incorrect Fallback Order” on page 32	Yes
“Reset Takes a Long Time and Causes the Server to Power Cycle” on page 33	N/A
“Place the Server in Standby Power Mode When Removing a CMOD” on page 33	N/A
“Update SP Firmware After Replacing a CMOD or SP Module (15465497)” on page 34	Yes
“Do Not Mix Dual-Rank and Quad-Rank DIMMs” on page 34	N/A
“MegaCLI `CfgEachDskRaid0` Command Does Not Work Correctly (CR 7121867)” on page 35	Yes
“When Inserting a CMOD, Simultaneously Rotate Levers Until They Touch the CMOD” on page 35	N/A
“Pc_Check Incorrectly Reports Errors on Network Card Tests (CR 7050075)” on page 36	Yes
“Large Number of ixgbe Interrupts Seen With Sun Dual 10GbE 12 SFP+ PCIe 2.0 FEM Without SFP+ (CR 7003313)” on page 37	N/A
“Disabling of DIMM Pairs When Server Detects Faulty DIMM (CR 7011011)” on page 37	N/A
“LEDs and Logs Incorrectly Indicate That CMOD Has Failed (CR 7033674)” on page 37	Yes
“Flow Control on Serial Port Does Not Work (CR 7014405)” on page 38	Yes

System Posts CPU Fault and Fails to Boot on System With Six Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards (22536804)

A system equipped with six Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards might post CPU faults and fail to boot.

Note - The Sun Server X2-8 supports a maximum of six Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards.

Workaround

1. Access the BIOS Setup Utility.
2. Navigate to RC Settings > QPI and change:

   MMIOH Size per IOH from 2Gb to 4Gb (the default is 2Gb).
3. Navigate to RC Settings > Chipset > NorthBridge Configuration and change:

   PCIE-MMIO-64 Bits Support to Enabled (the default is Disabled).
4. Save your changes and exit the BIOS Setup Utility.
5. Reboot the server.

NEM0 Failover and Subsequent Replacement Causes Incorrect Fallback Order

In a system that is operating normally, NEM0 is the primary, and NEM1 acts as a hot spare.

If NEM0 fails, the failover mechanism causes NEM1 to take over. This is expected behavior.

When you replace NEM0, NEM1 continues to operate as the primary, and NEM0 remains the spare. The system is now configured abnormally.

Note - This should not happen on systems with a Sun Storage 6Gbps SAS-2 RAID Expansion Module equipped with SW 3.0 v2.120.203–1440 10M09 patch 21 or newer.

If this is a problem, use the following workaround to make NEM0 the primary and NEM1 the spare.

Workaround

1. Power down the system.
2. Remove NEM1 while leaving NEM0 in place.
3. Boot the system.

   The system makes NEM0 the primary. There is not yet a hot spare.
4. Insert NEM1.

   NEM1 becomes the hot spare.

Reset Takes a Long Time and Causes the Server to Power Cycle

If you have a pending BIOS upgrade, a routine reset might take longer than expected, and might cause your server to power cycle and reboot several times. This is expected behavior, as it is necessary to power cycle the server to upgrade the BIOS firmware. If the upgrade includes an FPGA update, it can take more than 30 minutes to complete.

If you then reboot the server expecting a routine server reset and instead initiate a (delayed) BIOS upgrade, wait until the upgrade is finished. Do not interrupt the process, as this can result in corrupted firmware and server down time.

A pending BIOS upgrade exists when both conditions are true:

- You update the BIOS and service processor firmware using Oracle ILOM.
- You select the option to Delay BIOS Upgrade.
- The host is powered on.

On older versions of Oracle ILOM, a pending BIOS upgrade does not take place until you power cycle your server.

On newer versions of Oracle ILOM, a pending BIOS upgrade takes place when you reset your system.

Caution - Data corruption and system downtime. Interrupting the firmware upgrade process can corrupt the firmware and render the server inoperable. Do not interrupt the upgrade. Allow the process to finish.

Note - Oracle ILOM and BIOS updates are designed to work together. When you have a pending BIOS upgrade, it is recommended that you install the upgrade by resetting or power cycling your server as soon as possible.

Place the Server in Standby Power Mode When Removing a CMOD

Before removing a CMOD from the chassis, place the server in Standby power mode.

To remove a CMOD, see *How to Remove a CPU Module (CMOD)* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Service Manual*.

To place the server in Standby power mode, see *How to Power Off the Server* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Service Manual*.

Update SP Firmware After Replacing a CMOD or SP Module (15465497)

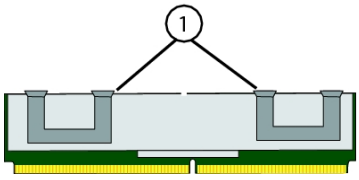
When the replacement of either a CMOD or the service processor results in an incompatibilty between the hardware revision of the component and the firmware version of either the SP or the BIOS, the recommendation is to maintain compatibility with the SP firmware. Therefore, update or downgrade the system firmware package to the version compatible with the SP.

Do Not Mix Dual-Rank and Quad-Rank DIMMs

The Sun Server X2–8 now supports dual-rank and quad-rank 16 GB DIMMs. However, mixing dual-rank DIMMs with quad-rank DIMMs in the same CMOD degrades performance.

- Dual-rank DIMMs (marked 2Rx4) do not include heat spreaders.
- Quad-rank DIMMs are marked 4Rx4 and include heat spreaders. DIMMs with heat spreaders have two U-shaped metal clips on the top of the DIMM.

The following figure shows a DIMM with heat spreaders.



Legend	
1	Heat spreader clips

MegaCLI `CfgEachDskRaid0` Command Does Not Work Correctly (CR 7121867)

The `CfgEachDskRaid0` command has two problems when run in the preboot CLI:

- It assigns newly created logical volumes in apparently random order.
- It sometimes fails to create all volumes.

These problems only occur when the command is run in the preboot environment. Normally, you only configure a single boot volume in the preboot CLI.

Workaround

1. Run the following command to determine your enclosure number:

```
-pdlist -a0 | more
Adapter #0

Enclosure Device ID: 252
Slot Number: 0
```

Note - The typical enclosure number is 252, unless there are more than eight drive slots.

---

2. Use the CfgLdAdd command to build RAID volumes for each disk. For example:

```
-CfgLdAdd -r0[252:0] -a0
-CfgLdAdd -r0[252:1] -a0
-CfgLdAdd -r0[252:2] -a0
-CfgLdAdd -r0[252:3] -a0
```

Note - If your enclosure number is not 252, substitute your enclosure number in these commands.

When Inserting a CMOD, Simultaneously Rotate Levers Until They Touch the CMOD

When you insert a CMOD into the chassis, simultaneously rotate both levers in past the locks until they touch the CMOD before releasing them. It is important that the levers actually touch the CMOD to ensure that the pawl completes the action of seating the CMOD connectors.

Pc_Check Incorrectly Reports Errors on Network Card Tests (CR 7050075)

In systems with eight Combo GbE/8Gb FC Express Module HBA cards and four Sun Dual 10GbE 12 SFP+ PCIe 2.0 cards installed, Pc-Check incorrectly reports errors on Network Card Tests.

As a result, your server can be shipped with a maximum of six Combo GbE/8Gb FC Express Module HBA Cards. If you require more, you can add them later.

When you run Pc-Check:

- In extended mode, the `PCCHECK.JNL` file states that the network controller failed.
- In manual mode, the following display appears:

Workaround

1. Before running Pc-Check, change the SR-IOV setting in BIOS. Change:

   Advanced > I/O Virtualization > SR-IOV > **Enabled**

   To:

   Advanced > I/O Virtualization > SR-IOV > **Disabled**
2. Run Pc-Check.

For additional information, refer to *Performing Pc-Check Diagnostic Tests* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Diagnostics Guide*.

3. Change the BIOS SR-IOV setting back. Change:

   Advanced > I/O Virtualization > SR-IOV > **Disabled**

   To:

   Advanced > I/O Virtualization > SR-IOV > **Enabled**
4. Disable Pc-Check.

Large Number of ixgbe Interrupts Seen With Sun Dual 10GbE 12 SFP+ PCIe 2.0 FEM Without SFP+ (CR 7003313)

You might see multiple link up/link down messages. These messages are harmless and can be ignored.

Disabling of DIMM Pairs When Server Detects Faulty DIMM (CR 7011011)

When the server detects a faulty DIMM in an eight-socket system, it disables the faulty DIMM pair, and it disables other DIMM pairs. This is normal behavior.

Refer to *How to Isolate and Replace Faulty DIMM Pairs* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Diagnostics Guide* for additional information.

LEDs and Logs Incorrectly Indicate That CMOD Has Failed (CR 7033674)

On rare occasions, the system incorrectly indicates that a CMOD has failed. The following messages appear:

- An FMA fault of `fault.chassis.device.fail` for /SYS/BL*x*.
- An event entry of `/SYS/BLx/ERR : Predictive Failure Asserted` in the Oracle ILOM log.
- The system Service Required LED, and the Service Required LED on the CMOD light.

Workaround

If the CMOD appears to be functioning normally, you can fix the problem using the following procedure.

1. To clear the fault messages, perform one of the following:
   - From the Oracle ILOM command line, enter the command:

     `set /SYS/BL`*x*` clear_fault_action=true`

     where *x* is the CMOD number.
   - From the Oracle ILOM GUI:
     - Click the System Information > Components tab.

       The Component Management page appears.
     - In the Component Management page, click the radio button next to the faulted component, then select Clear Faults.
2. After 10 minutes, reset the SP using one of the following methods:
   - From the CLI, enter the `reset /SP` command, or
   - From the GUI.
     - Select Maintenance > Reset SP.
     - Click the Reset button.

Flow Control on Serial Port Does Not Work (CR 7014405)

Setting flow control on the serial port does not work. If you set it for flow control, flow control remains off.

Workaround

Set the desired baud rate as described in the Oracle ILOM documentation.

If characters are missing, or the output is otherwise distorted, reduce the baud rate until the output appears correct.

Oracle Solaris Operating System Issues

The following table lists issues with the Oracle Solaris OS.

Current Oracle Solaris OS Issues	Workaround
“Oracle Solaris Installation Takes a Long Time on Systems With Four or More Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards” on page 40	Yes
“Oracle Solaris OS Requirements” on page 40	N/A
“Patch 144489–11 or Later Is Required on the Oracle Solaris 10 OS” on page 41	Yes
“Hotplugging PCIe Cards With Oracle Solaris 11 OS (CR 7024309)” on page 42	Yes
“Oracle Solaris 11 OS Panics When Rebooting With an SG-XEMFCOE2–Q-SR (CR 7157040 and CR 7095128)” on page 43	No
“Performance Might Be Reduced for Architecture-Aware Applications (CR 7043098)” on page 43	No
“SunVTS CD Panics on Systems With Greater Than 1 TB of Memory (CR 7043192)” on page 43	No
“Panics Occur on Systems With Greater Than 1 TB of Memory (CR 6979638)” on page 44	Yes
“Oracle Solaris 10 9/10 Panics During Install (CR 6992851)” on page 44	Yes
“SunVTS Loopback Tests Might Hang on Intel 10GbE Card (CR 6957932)” on page 45	Yes
“System Might Panic With "unowned mutex" Message (CR 6893274)” on page 45	Not required
“Hotplugging PCIe ExpressModules in Slots 2.0 or 2.1 Might Not Work (CR 6954869)” on page 45	Yes
“Oracle Solaris MSI Interrupts Are Depleted (CR 6669984)” on page 46	Yes
“Systems With Large Memory Configurations Might Hang During Oracle Solaris 11.1 Boot (CR 15903980)” on page 46	Yes

Oracle Solaris Installation Takes a Long Time on Systems With Four or More Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards

If you install Oracle Solaris on a system with four or more Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards, the installation can take much longer than expected.

Note - The Sun Server X2-8 supports a maximum of six Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards.

Workaround

1. Remove the Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards.
2. Complete the Oracle Solaris installation.
3. Reinstall the Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards.

Oracle Solaris OS Requirements

Your server requires Oracle Solaris 10 10/09 with patch 144489–11 or newer or Oracle Solaris 11. Operating the server with older versions of the Oracle Solaris OS, or without the patch, is not supported.

- If the Oracle Solaris OS is preinstalled on your server, it already includes this patch.
- If you are installing a newer version of the Oracle Solaris OS, you do not need to install this patch.
- If you install a version of Oracle Solaris 10 10/09 that does not include this patch, you must add it.

If you are using a JumpStart installation:

- You can add patch 144489-11 or higher to your JumpStart image.
- Your JumpStart installation server must have a 64–bit version of the Oracle Solaris OS. Installing the Oracle Solaris OS from a JumpStart server with a 32–bit version of the Oracle Solaris OS is not supported.

For instructions to install patch 144489–11 (or newer), see “Patch 144489–11 or Later Is Required on the Oracle Solaris 10 OS” on page 41.

Patch 144489–11 or Later Is Required on the Oracle Solaris 10 OS

Patch 144489–11 or later is required for the Oracle Solaris Operating System (OS) 10 for normal operation.

Workaround

If you are installing the Oracle Solaris OS from a JumpStart server, you can add patch 144489–11 to the JumpStart image. If you are installing the Oracle Solaris OS manually, use the following steps:

1. Set the value for x2APIC in BIOS.
   - For four-socket systems, skip this step.

     The option to enable or disable x2APIC in BIOS is not available on four-socket systems.
   - For eight-socket systems with 1 TB or less memory, disable x2APIC in BIOS.
   - For eight-socket systems with more than 1 TB of memory, ensure that x2APIC is enabled in BIOS.

   a. Access the BIOS Setup Utility.

      For more information, refer to *How to Access the BIOS Setup Utility* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Service Manual*.

   b. Select CPU Configuration > x2APIC > (*Enable*|*Disable*).

   c. Save your changes then exit.
2. If your system includes more than 1 TB of memory, remove CMODs 1 and 2 (the middle two CMODs).

   For details, refer to *Adding, Removing, and Installing a CMOD (CRU)* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Service Manual*.

   This reduces the total system memory to 1 TB or less.

Caution - Do not operate the server with empty CMOD slots. If you remove CMODs 1 and 2, you must replace them with CMOD fillers before powering on the server.

Caution - Before removing two or more CMODs from the chassis, mark them with their slot assignments. Always return CMODs to their assigned slots.

3. Install Oracle Solaris 10 9/10.

Refer to *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide for Oracle Solaris Operating System* for details.

4. Install Oracle Solaris patch 144489-11 or higher.
5. Replace the CMODs.

   If you removed the CMODs, for details, refer to *Adding, Removing, and Installing a CMOD (CRU)* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Service Manual*.
6. For eight-socket systems with 1 TB or less, enable x2APIC in BIOS.

   This option is not available for four-socket systems.

   a. Access the BIOS Setup Utility.

      For more information, refer to *How to Access the BIOS Setup Utility* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Service Manual*.
   b. Select CPU Configuration > x2APIC > Enable.
   c. Save your changes then exit.
7. Boot the system.

Hotplugging PCIe Cards With Oracle Solaris 11 OS (CR 7024309)

The service manual includes a task for hotplugging PCIe cards from a server running Oracle Solaris 10 or 11 OS.

Note - Although the procedure in the service manual might state that it is for Oracle Solaris 10 and Oracle Solaris 11 OS, there are additional steps for Oracle Solaris 11 OS.

Workaround

The commands in this procedure temporarily disable the network. Before starting this procedure, you must be connected to the system using either a serial connection, a terminal or emulator connected directly to the host, or using Oracle ILOM RKVM.

1. Check if Automatic NCP is enabled.

   Enter the command:

   ```
   netadm list | grep Automatic
   ```

   If it is enabled, you should see:

   ```
   ncp Automatic online
   ```
2. If Automatic NCP is enabled, switch to manual mode. Enter the command:

```
netadm enable –p ncp DefaultFixed
```

3. Complete the steps in the service manual.

   Prepare a PCIe EM for Hot Plug in Oracle Solaris 10 and Solaris 11 in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Service Manual*

4. When you are done and the new PCIe card is installed, if you disabled Automatic NCP, re-enable it. Use the command:

   ```
   natadm enable –p ncp Automatic
   ```

Oracle Solaris 11 OS Panics When Rebooting With an SG-XEMFCOE2–Q-SR (CR 7157040 and CR 7095128)

Oracle Solaris 11 might panic when booted in a system containing an SG-XEMFCOE2–Q-SR. Example messages include:

```
Mar 28 10:46:11 nsgbj-217-183 ^Mpanic[cpu9]/thread=ffffff0916b24be0:
Mar 28 10:46:11 nsgbj-217-183 genunix: [ID 335743 kern.notice] BAD TRAP:
type=e (#pf Page fault) rp=ffffff003f4f5b20 addr=4 occurred in module "unix"
due to a NULL pointer dereference
Mar 28 10:46:11 nsgbj-217-183 unix: [ID 100000 kern.notice]
```

Workaround

Allow the system to continue. It should reboot successfully.

Performance Might Be Reduced for Architecture-Aware Applications (CR 7043098)

Applications that use NUMA interfaces to run in a specific processor group and use the memory from the region that is closest to that processor group might experience performance degradation. Most applications are not noticeably affected.

SunVTS CD Panics on Systems With Greater Than 1 TB of Memory (CR 7043192)

If you boot SunVTS from the SunVTS CD on a system with greater than 1 TB of memory, it panics, displaying a message similar to the following:

```
module /platform/i86pc/kernel/amd64/unix: text at
[0xfffffffffb800000, 0xfffffffffb8f3b6f] data at 0xfffffffffbc00000
module misc/amd64/krtld: text at [0xfffffffffb8f3b70, 0xfffffffffb928537]
data at 0xfffffffffbc74380 module /kernel/amd64/genunix: text at
[0xfffffffffb928540, 0xfffffffffbb450af] data at 0xfffffffffbc7ea80

panic[cpu0]/thread=fffffffffbc280e0: BOP_ALLOC() failed

fffffffffbc4a890 unix:real_mode_end+3409 ()
fffffffffbc4a920 unix:startup_memlist+be1 ()
fffffffffbc4a930 unix:startup+37 ()
fffffffffbc4a970 genunix:main+3d ()
fffffffffbc4a980 unix:_start+95 ()

trap: Unknown trap type 8 in user mode

panic[cpu0]/thread=fffffffffbc280e0: BAD TRAP: type=d (#gp General protection)
rp=fffffffffbc30c90 addr=0
dump aborted: please record the above information!
```

Note - On newer systems, SunVTS is known as Oracle VTS.

Panics Occur on Systems With Greater Than 1 TB of Memory (CR 6979638)

Panic messages appear during installation on systems equipped with more than 1 TB of memory.

Workaround

Install patch 144489-11 or higher as described in “Patch 144489–11 or Later Is Required on the Oracle Solaris 10 OS” on page 41.

Oracle Solaris 10 9/10 Panics During Install (CR 6992851)

Oracle Solaris 10 9/10 panics during installation. For example, it might display:

```
SunOS Release 5.10 Version Generic_142910-17 64-bit
Copyright (c) 1983, 2010, Oracle and/or its affiliates. All rights reserved.

panic[cpu0]/thread=fffffffffbc28020: BAD TRAP: type=0 (#de Divide error)
```

```
   rp=ffffffffbc4a680 addr=0#de Divide error
pid=0, pc=0xffffffffebe05765, sp=0xffffffffbc4a770, eflags=0x10246
...
```

Workaround

Install patch 144489-11 or higher as described in “Patch 144489–11 or Later Is Required on the Oracle Solaris 10 OS” on page 41.

SunVTS Loopback Tests Might Hang on Intel 10GbE Card (CR 6957932)

While running SunVTS loopback tests, the server might hang when testing an Intel 10GbE Card.

Workaround

Install Oracle Solaris patch 144568-02 or later.

Note - On newer systems, SunVTS is known as Oracle VTS.

System Might Panic With "unowned mutex" Message (CR 6893274)

Under rare conditions, the system might panic and display the message:

```
turnstile_block: unowned mutex
```

This is a known Oracle Solaris OS issue.

Hotplugging PCIe ExpressModules in Slots 2.0 or 2.1 Might Not Work (CR 6954869)

On an eight–socket system, hotplugging PCIe ExpressModules in slots 2.0 or 2.1 might not work.

This is due to a possible shortage of hotplug interrupts on the system.

Workaround

1. Insert these PCIe ExpressModules before booting the system.

Oracle Solaris MSI Interrupts Are Depleted (CR 6669984)

The Oracle Solaris OS might run out of MSI interrupts on eight-socket systems.

Due to a limitation in the number of interrupts that can be assigned in Oracle Solaris 10 9/10, there is a maximum of two MSI-X interrupts available per device function. This might result in lowered performance for some devices.

Workaround

Install patch 144489-11 or higher as described in "Patch 144489–11 or Later Is Required on the Oracle Solaris 10 OS" on page 41.

This fixes the problem in most cases.

Note - After installing the patch, the error message should stop. However, the shortage of interrupts might result in reduced performance for some devices.

Systems With Large Memory Configurations Might Hang During Oracle Solaris 11.1 Boot (CR 15903980)

Systems running Oracle Solaris 11.1 might hang during Solaris boot if:

- The system has more than 384 GB of RAM per socket with hyper-threading enabled in BIOS.

  OR

- The system has more than 192 GB of RAM per socket with hyper-threading disabled in BIOS.

Workaround

Perform one of the following:

- Add the following line to `/etc/system`:

```
set Vm2_init_tile_shift = 38
```

- Or, if you boot the system with `kmdb`, you can enter the following:

```
[0]>Vm2_init_tile_shift/W 0t38
[0]>:c
```

Linux Issues

The following table lists the issues related to the Linux operating system on the Sun Server X2–8.

Current Linux OS Issues	Workaround
“Oracle Linux 7.2 and RHEL 7.2 Installation Fails With AER Error on Systems With Four or More Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards (22686146)” on page 49	Yes
“Linux Requirement to Disable x2APIC” on page 50	N/A
“Multiple Corrected Error Messages After Hotplugging Quad GbE PCIe Gen2 Adapter (CR 7157354)” on page 51	N/A
“False MCE Errors Appear in `/var/log/mcelog` (CR 7104293)” on page 51	N/A
“Xen Hangs During Bootup on RHEL 5.6 and on Oracle Linux 5.6 (CR 7010124)” on page 52	Yes
“Messages Report Failure to Allocate I/O Resources (CR 6984329)” on page 52	Yes
“I/O Does Not Work On SLES11 SP1 With XEN (CR 6965290)” on page 53	Yes
“MSM Install Fails on RHEL 6 (CR 7017469)” on page 53	Yes
“Up to Six Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards Are Supported With Oracle Linux 6.4” on page 53	N/A

Oracle Linux 7.2 and RHEL 7.2 Installation Fails With AER Error on Systems With Four or More Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards (22686146)

Oracle Linux 7.2 or Red Hat Enterprise Linux (RHEL) 7.2 installation might fail with an AER error on a system with four or more Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards.

Note - The Sun Server X2-8 supports a maximum of six Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards.

Workaround

1. Access the BIOS Setup Utility.
2. Navigate to RC Settings > QPI and change:
   MMIOH Size per IOH from 2Gb to 4Gb (the default is 2Gb).
3. Navigate to RC Settings > Chipset > NorthBridge Configuration and change:
   PCIE-MMIO-64 Bits Support to Enabled (the default is Disabled).
4. Save your changes and exit the BIOS Setup Utility.
5. Finish the operating system installation.

Linux Requirement to Disable x2APIC

Your server includes a function called x2APIC, which is enabled by default, but must sometimes be disabled before installing some versions of Linux. The following table shows the versions for which it must be disabled.

Note - You must disable x2APIC before booting Oracle Hardware Installation Assistant. See "Disable x2APIC Before Booting Oracle Hardware Installation Assistant (CR 7112255)" on page 71 for details.

OS	Disable x2APIC?
Oracle Linux 6.0 or later	No
Oracle Linux 5.6 or later	Yes
RHEL 6.0	No
RHEL 5.6	Yes
Oracle VM 2.2.1	Yes
SLES11 SP1	No
SLES11 SP1 with Xen	Yes
Oracle Linux 5.6 with Unbreakable Enterprise Kernel	Disable to install, enable after

▼ Disable x2APIC

1. **Access the BIOS Setup Utility.**
   For more information, refer to *How to Access the BIOS Setup Utility* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Service Manual*.
2. **Select CPU Configuration > x2APIC > Disable.**
3. **Save your changes then exit.**

Multiple Corrected Error Messages After Hotplugging Quad GbE PCIe Gen2 Adapter (CR 7157354)

When you hotplug a Quad GbE PCIe Gen2 Adapter, you might see multiple errors. For example:

```
pcieport 0000:00:05.0: AER: Multiple Corrected error received: id=0028
pciehp 0000:00:05.0:pcie04: pciehp_power_off_slot: SLOTCTRL a8 write cmd 400
pcieport 0000:00:05.0: PCIe Bus Error: severity=Corrected, type=
Physical Layer, id=0028(Receiver ID)
pcieport 0000:00:05.0:   device [8086:340c] error status/mask=00000001/00002000
pcieport 0000:00:05.0:    [ 0] Receiver Error         (First)
```

You can ignore these errors.

False MCE Errors Appear in `/var/log/mcelog` (CR 7104293)

Occasionally, many errors appear in the MCE log, `/var/log/mcelog`. For example:

```
CPU 0 BANK 9 MCG status:
MCi status:
Error enabled
MCA: MEMORY CONTROLLER GEN_CHANNELunspecified_ERR
Transaction: Generic undefined request
STATUS 900000400009008f MCGSTATUS 0
```

- If this is a one-time or an occasional event, you can ignore it. It should not impact performance.
- If the errors persist contact Oracle Services for further review. Open a support case with Oracle Service and reference (Doc ID #1459158.1) for further analysis and evaluation.

Xen Hangs During Bootup on RHEL 5.6 and on Oracle Linux 5.6 (CR 7010124)

On systems with Red Hat Enterprise Linux 5.6 or Oracle Linux 5.6, Xen might hang during bootup with the following messages:

```
(XEN) mtrr: your CPUs had inconsistent MTRRdefType settings
(XEN) mtrr: probably your BIOS does not setup all CPUs.
(XEN) mtrr: corrected configuration.
```

It is also possible that the system will complete Xen but hang on dom1.

Workaround

1. Perform one of the following actions:
   - Append maxcpus=128 to the xen.gz line in `/boot/grub/menu.lst`.

     or
   - Disable hyperthreading in the BIOS Setup Utility.

     If you do this, the server will only be able to use 80 CPUs.

Messages Report Failure to Allocate I/O Resources (CR 6984329)

Messages that report failures to allocate I/O resources might appear in POST and in log files.

For example, you might see:

```
Sep  8 15:50:49 nsg14-28 kernel: PCI: Failed to allocate I/O resource
#2:20@0 for 0000:8d:00.0
Sep  8 15:50:49 nsg14-28 kernel: PCI: Failed to allocate I/O resource
#2:20@0 for 0000:8d:00.1
```

Workaround

BIOS tries to allocate I/O resources. If it is unable to allocate I/O resources successfully, it displays error messages.

The OS might try to allocate I/O resources as well. However if it tries, it fails and generates additional failure messages because it uses the same method as BIOS. However, most drivers can manage this condition.

1. Usually, you can ignore these messages.
2. If you continue to experience I/O resource issues, refer to *I/O and Interrupt Resource Allocation* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide*.

I/O Does Not Work On SLES11 SP1 With XEN (CR 6965290)

When running SUSE Linux Enterprise Server (SLES) 11 SP1, if the number of I/O devices exceeds XEN's number of interrupts, the I/O devices might not work, and the OS might display corresponding error messages. For example:

```
Unable to allocate IRQ
```

Workaround

Add the following to the `/boot/grub/menu.lst` file:

```
extra_guest_irqs=64,2048 nr_irqs=2048
```

MSM Install Fails on RHEL 6 (CR 7017469)

The generic installation of MSM on Red Hat Enterprise Linux (RHEL) 6 might fail because libraries and packages are missing.

Workaround

Read the RHEL README files and product notes. Be certain to match all listed prerequisites.

Up to Six Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards Are Supported With Oracle Linux 6.4

Support for up to six Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards (Oracle part number 4243A) has been added to a Sun Server X2-8 system running Oracle Linux 6.4 (eight socket systems only). The following configuration has been tested:

- Sun Server X2-8, eight socket system with 2TB memory

- Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards in slots: EM0.0, EM0.1, EM1.0, EM2.0, EM3.0, EM3.1 (EM1.1 and EM2.1 left empty)
- System SW 1.2: SP version 3.0.16.20.c_r82507, BIOS 15020500

Sun Server X2-8 systems running versions of Oracle Linux earlier than 6.4, or with only four sockets, only support a maximum of four Sun InfiniBand Dual Port 4x QDR PCIe Low Profile Host Channel Adapter M2 Cards.

Note - Surprise hot removals of this PCIe EM may hang the system. If you need to do a hot removal, press the PCIe EM's Attention button first. Hot insertion then works as expected.

Oracle VM Issues

The following table lists the Oracle VM issues.

Current Oracle VM Issues	Workaround
"Preinstalled Oracle VM Is Available" on page 55	N/A
"Oracle VM Requirement to Disable x2APIC" on page 55	N/A

Preinstalled Oracle VM Is Available

You can now order your server with Oracle VM preinstalled.

If your server is shipped with this option, for initial configuration instructions, refer to *Configuring the Preinstalled Oracle VM Software* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide*.

For additional information, refer to:

http://www.oracle.com/technetwork/documentation/vm-096300.html

Oracle VM Requirement to Disable x2APIC

Your server includes a function called x2APIC, which is enabled by default, but must be disabled before installing Oracle VM 2.2.

However, it must *not* be disabled before installing OVM 3.0. or newer.

Workaround

1. Access the BIOS Setup Utility.
2. Select CPU Configuration > x2APIC > Disable.
3. Save your changes then exit.

Windows Operating System Issues

The following table lists the issues with related to the Windows operating system on the Sun Server X2–8.

Current Windows OS Issues	Workaround
“Windows Requirement to Disable x2APIC” on page 57	N/A
“Windows Server 2008 R2 Does Not Correctly Identify CPUs (CR 6997566)” on page 57	Yes
“NIC Ports Fail With Problem Code 12 (CR 7019043)” on page 58	Yes
“Windows Server 2008 and Driver Support” on page 58	N/A
“Windows Server 2012 and Driver Support” on page 59	N/A

Windows Requirement to Disable x2APIC

Your server includes a function called x2APIC, which is enabled by default, but must be disabled before installing Windows.

Workaround

1. Access the BIOS Setup Utility.
2. Select CPU Configuration > x2APIC > Disable.
3. Save your changes then exit.

Windows Server 2008 R2 Does Not Correctly Identify CPUs (CR 6997566)

Before installing Windows Server 2008 R2 on your server, you must disable x2APIC in BIOS.

Workaround

Disable x2APIC in BIOS as described in "Windows Requirement to Disable x2APIC" on page 57.

NIC Ports Fail With Problem Code 12 (CR 7019043)

NIC ports fail with problem code 12:

```
Code 12
This device cannot find enough free resources that it can use. If you
want to use this device, you will need to disable one of the other devices
on this system. (Code 12)
```

This error can occur if two devices that are installed on your server have been assigned the same I/O ports, the same interrupt, or the same Direct Memory Access channel, either by the BIOS, the operating system, or both. It can also appear if the BIOS did not allocate enough resources to the device.

Workaround

1. Ensure that all devices on your system are assigned unique I/O ports.
2. If that does not clear the problem, refer to *I/O and Interrupt Resource Allocation* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide*.

Windows Server 2008 and Driver Support

The latest Windows Server 2008 platform drivers for the Sun Server X2-8 (formerly Sun Fire X4800 M2) are not available on the ISO image. You can obtain the latest platform drivers and tools using the links listed below.

Note - For QLogic-based PCIe adapters, you need to know the name and product number of your adapter card to find the correct driver.

Drivers:

- Intel Chipset drivers package (64bit): 9.3.0.1026. Go here:

  `http://downloadcenter.intel.com/Detail_Desc.aspx?agr=Y&DwnldID=22460&ProdId=3409&lang=eng`
- Intel NIC drivers package (64bit): 17.4. See:

http://downloadcenter.intel.com/Detail_Desc.aspx?agr=Y&DwnldID=21228&keyword=Intel+PROSet+17.4&DownloadType=Software+Applications&OSFullname=OS+Independent&lang=eng

- QLogic FC Driver (64bit) 9.1.9.47. See:

  http://driverdownloads.qlogic.com/QLogicDriverDownloads_UI/Oracle_Search.aspx

- QLogic 10 GB Ethernet (CNA) Driver (64bit) 1.0.1.12. See:

  http://driverdownloads.qlogic.com/QLogicDriverDownloads_UI/Oracle_Search.aspx

- QLogic FCoE (CNA) Driver (64bit) 9.1.9.36. See:

  http://driverdownloads.qlogic.com/QLogicDriverDownloads_UI/Oracle_Search.aspx

Tools:

- Intel ProSet (Teaming) (64bit): 17.4. See:

  http://downloadcenter.intel.com/Detail_Desc.aspx?agr=Y&DwnldID=21228&keyword=Intel+PROSet+17.4&DownloadType=Software+Applications&OSFullname=OS+Independent&lang=eng

Windows Server 2012 and Driver Support

All Sun Server X2-8 (formerly Sun F*/-ire X4800 M2) platform drivers for Windows Server 2012 are in-box. At the time of this software update, there are no Windows Server 2012 drivers available for the following PCIe add-in cards:

- Sun StorageTek Dual 8 Gb FC Dual 1 GbE HBA in ExpressModule form factor, RoHS-6 compliant, Emulex X-Option
- Sun StorageTek Dual 8 Gb FC Dual 1 GbE HBA in ExpressModule form factor, RoHS-6 compliant, QLogic X-Option
- Sun Storage Dual 10 GbE PCIe FCoE Converged Network Adapter, QLogic and SR optics - SR
- Sun Storage Dual 10 GbE FCoE ExpressModule Converged Network Adapter, QLogic, 2 port and Twinax - LR

ESX Issues

The following table lists the ESX issues.

Current ESX Issues	Workaround
"VMware ESXi 5.x Supports Maximum 2 TB of Memory (CR 15925029)" on page 61	N/A
"Systems Running ESX/ESXi 4.1 and ESXi 5 Support Limited Numbers of NIC Ports (CR 7167547)" on page 61	Yes
"ESX 4.1 Ignores 2 GB of Memory on Systems With 1 TB of Memory (CR 7037903)" on page 62	Yes

VMware ESXi 5.x Supports Maximum 2 TB of Memory (CR 15925029)

VMware ESXi 5.x supports a maximum of 2 TB of system memory. ESXi might not boot if more than 2 TB is installed in the system. ESXi begins to boot, but then reports that only a very small amount of memory is available.

There is no workaround for this issue. Do not install more than 2 TB of system memory when using VMware ESXi 5.x.

Systems Running ESX/ESXi 4.1 and ESXi 5 Support Limited Numbers of NIC Ports (CR 7167547)

The number of ports that can be supported on systems running ESX/ESXi 4.1 and ESXi 5 is limited.

Adding more than the recommended number of ports can cause your system to hang.

Workaround

For the recommended maximum number of NIC ports for your system, refer to VMware knowledge base article 1026483 at:

https://vmware.com

ESX 4.1 Ignores 2 GB of Memory on Systems With 1 TB of Memory (CR 7037903)

Systems running ESX/ESXi 4.1 support a maximum of 1 TB of memory.

After installing ESX 4.1 on a system with 1 TB of memory, the following message appears:

```
TSC: 5998092 cpu0:0)Init: 440: 2048 Mb of memory ignored because the system
exceeded the supported host physical page number of 268435455...
```

Workaround

Refer to VMware knowledge base article 1026483 at:

https://vmware.com

Oracle ILOM Issues

The following table lists the Oracle ILOM issues.

Current Oracle ILOM Issues	Workaround
"Use Oracle ILOM 4.0 Documentation After Updating to Firmware Version 2.0.0 or Newer" on page 63	N/A
"File Transfer Using URI Fails if Target Password Contains Certain Special Characters (25917655)" on page 64	Fixed in System Software Release 1.8.0
"Oracle ILOM SNMP v3 Traps Are Not Delivered After SNMP Engine ID Change (23634048)" on page 64	Yes
"Third-Party Web Scan and Test Tools Cause Sluggish Oracle ILOM Performance (23564626)" on page 65	Yes
"Oracle ILOM Enhancement Allows IPv4 Only, IPv6 Only, or Dual Stack" on page 65	N/A
"Use the Locate Button to Prove Physical Presence (CR 6881237)" on page 67	N/A

Note - Additional information about Oracle ILOM appears in "Important Operating Notes" on page 11.

Use Oracle ILOM 4.0 Documentation After Updating to Firmware Version 2.0.0 or Newer

When you update firmware, it updates Oracle ILOM as well, and earlier documentation collections no longer apply.

- When you update to SW 2.0.0 or newer, refer to the Oracle ILOM 4.0 documentation collection.
- Refer to the Oracle ILOM 3.2 documentation collection for older SW versions.

The Oracle ILOM documentation collections are posted at `https://www.oracle.com/goto/ilom/docs`.

File Transfer Using URI Fails if Target Password Contains Certain Special Characters (25917655)

This issue is fixed in System Software Release 1.8.0.

When using Oracle ILOM to transfer files using a Uniform Resource Identifier (URI), the transfer fails if the target host's password contains any of the following special characters:

```
# ; ?
```

Examples of these transfers include using host storage redirection, and backing up and restoring BIOS and SP configurations.

Workaround

Use a target host password that does not include any of the indicated special characters.

Oracle ILOM SNMP v3 Traps Are Not Delivered After SNMP Engine ID Change (23634048)

If you change the engine ID, create an SNMP v3 user, and configure an alert using that user without waiting approximately 10 seconds between each action, the internal user configuration might be incorrect and traps are missed.

Workaround

Do not create multiple configuration changes without verifying the effect of each configuration change. To prevent misconfigured users and missed traps, insert sleep statements in the script. For example:

```
# change engineID
set /SP/services/snmp engineid=NEWENGINEID
# sleep 10 seconds to give snmp enough time to make the change
sleep 10
# verify engineID
show /SP/services/snmp engineid
# verify SNMPv3 users have been deleted
show /SP/services/snmp/users

# create snmpv3 user
create /SP/services/snmp/users newuser authenticationpassword=...
# sleep 10 seconds to give snmp enough time to make the change
sleep 10
# verify user
```

```
show /SP/services/snmp/users newuser
# do a snmpget with that user to verify it

# configure alert
set /SP/alertmgmt/rules/1 type=snmptrap ...
# sleep 10 seconds to give snmp enough time to make the change
sleep 10
# verify alert
show /SP/alertmgmt/rules/1
set /SP/alertmgmt/rules/1 testrule=true
```

Third-Party Web Scan and Test Tools Cause Sluggish Oracle ILOM Performance (23564626)

Under certain conditions, third-party web scanning and test tools can cause Oracle ILOM to run extremely slowly.

Workaround

Install system software release 1.4.1.

▼ Oracle ILOM Enhancement Allows IPv4 Only, IPv6 Only, or Dual Stack

On systems with system software release 1.3 or newer, Oracle ILOM supports the ability to independently enable or disable IPv4 and IPv6. Also you can now configure a static IPv6 gateway.

1. **Log in to Oracle ILOM as an Administrator.**

   For instructions on how to launch Oracle ILOM from the command line interface (CLI) or web interface, see *Connecting to the Oracle ILOM* in *Sun Fire X4800 Server Installation Guide*.

2. **To modify the SP network settings, perform one of the following:**

   - **From the web interface, perform these steps:**

     a. **Click ILOM Administration > Connectivity > Network.**

b. Modify the settings on the Network Settings page as required.

For further details about how to configure the properties on the Network Setting page, click the *More Details* link.

c. Click Save to save your network property changes in Oracle ILOM.

Note - When you save your network settings, it might end your Oracle ILOM session. If this happens, use the new settings to log in again.

- **From the CLI perform these steps:**

a. To view the assigned IPv4 and IPv6 network settings on the SP, perform the following:

For IPv4, type: **`show /SP/network`**

For IPv6, type: **`show /SP/network/ipv6`**

b. To view the descriptions about each IPv4 and IPv6 network property, perform the following:

For IPv4, type: **`help /SP/network`**

For IPv6, type: **`help /SP/network/ipv6`**

c. To modify the IPv4 and IPv6 network properties on the SP, issue the `set` command.

IPv4 Example:

`set /SP/network state=`*enabled*`|`*disabled* **`pendingipdiscovery=`***static*`|`*dhcp* **`pendingipaddress=`***value* **`pendingipgateway=`***value* **`pendingipnetmask=`***value*

IPv6 Example:

`set /SP/network/ipv6 state=`*enabled*`|`*disabled* **`pending_static_ipaddress=`** *value/subnet_mask_value* **`pending_static_ipgatewayaddress=`** *value*

Note - The `set /SP/network/state = enabled` command does not enable IPv6. To enable IPv6, use either `set /SP/network/ipv6/state = enabled` or (with SW 1.3 or newer), use `set /SP/network/state = ipv6-only`.

- **To commit the IPv4 and IPv6 pending network changes in Oracle ILOM, type:**
  `set /SP/network commitpending=true`

Note - If you are logged in to Oracle ILOM using an Ethernet connection, your connection is terminated when you set `commitpending` to `true`. When this happens, log back in to Oracle ILOM using the new settings.

Use the Locate Button to Prove Physical Presence (CR 6881237)

Certain Oracle ILOM procedures require you to “prove physical presence”. To do this, press the Locate button located on the system front panel.

For details, refer to *Front and Back Features and Components* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide*.

BIOS Issues

The following table lists the BIOS issues.

Current BIOS Issues	Workaround
“Auto Boot Host On Power Loss Control Is Deactivated” on page 69	Yes
“Failed DIMMs Reported as Present (CR 7023549)” on page 69	N/A
“Uncorrectable Errors (UEs) Lost on System Reset or Power-Down (CR 7028423)” on page 70	N/A

Auto Boot Host On Power Loss Control Is Deactivated

The control to Auto Boot Host On Power Loss in the BIOS Setup Utility has been deactivated.

To set Auto Boot Host On Power Loss, use Oracle ILOM instead.

Failed DIMMs Reported as Present (CR 7023549)

When a DIMM fails, the DIMM pair is disabled, and because of the system DIMM architecture, other DIMMs are disabled as well.

The Oracle ILOM PRSNT command reports these inaccurately. For example, 32 GB of DIMMs might be disabled, but only 16 GB are reported as disabled. Also, the faulted pair might be listed as Present.

For example, if D9 or D13 is faulty, in the Oracle ILOM System Monitoring > Sensor Readings tab, you might see:

```
/SYS/BL0/P0/D0/PRSNT  Entity Presence  Present but disabled
/SYS/BL0/P0/D1/PRSNT  Entity Presence  Present but disabled
/SYS/BL0/P0/D4/PRSNT  Entity Presence  Present but disabled
/SYS/BL0/P0/D5/PRSNT  Entity Presence  Present but disabled
```

```
/SYS/BL0/P0/D8/PRSNT  Entity Presence  Present
/SYS/BL0/P0/D9/PRSNT  Entity Presence  Present
/SYS/BL0/P0/D12/PRSNT Entity Presence  Present
/SYS/BL0/P0/D13/PRSNT Entity Presence  Present
```

Note - When the fault is cleared, the system re-enables the DIMM pairs that it had disabled.

Uncorrectable Errors (UEs) Lost on System Reset or Power-Down (CR 7028423)

If your system encounters an error, such as a Windows blue screen, and does not reboot automatically, wait at least five minutes before restarting it. This helps ensure that the error is logged appropriately.

Oracle Hardware Installation Assistant Issues

The following table lists the issues related to Oracle Hardware Installation Assistant on Oracle's Sun Server X2–8.

Current Issues	Workaround
"IPMItool Chassis Policy and Persistent Boot Option Are Not Supported (22695087, 22686277)" on page 71	No
"Disable x2APIC Before Booting Oracle Hardware Installation Assistant (CR 7112255)" on page 71	Yes

IPMItool Chassis Policy and Persistent Boot Option Are Not Supported (22695087, 22686277)

The following IPMItool functions are not supported:

- Set BIOS boot options to "persistent". For example, the following command does not work:

  `ipmitool -H` *sp_ip_address* `-U` *username* `-P` *password* `-I lanplus chassis bootdev bios options=persistent`
- Set chassis policy. For example, the following command does not work:

  `ipmitool -H` *sp_ip_address* `-U` *username* `-P` *password* `-I lanplus chassis policy`

There is no workaround.

Disable x2APIC Before Booting Oracle Hardware Installation Assistant (CR 7112255)

You must disable x2APIC before booting Oracle Hardware Installation Assistant.

Workaround

1. Access the BIOS Setup Utility.

   For more information, refer to *How to Access the BIOS Setup Utility* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Service Manual*.
2. Select CPU Configuration > x2APIC > Disable.
3. Save your changes then exit.
4. When you are done, repeat steps 1 and 2 and select CPU Configuration > x2APIC > Enable.

   On certain Linux systems, you should not re-enable x2APIC. See "Linux Requirement to Disable x2APIC" on page 50 for details.

Documentation Errata

The following table lists the issues related to documentation on Oracle's Sun Server X2–8.

Current Issues	Workaround
"Broken Links in Sun Server X2-8 Documentation Library" on page 73	N/A
"Use Oracle ILOM 4.0 Documentation After Updating to System Software Release 2.0.0 or Newer" on page 74	N/A
"Antistatic Wrist Straps Are Not Included With All CRUs and FRUs" on page 74	N/A
"Select the Correct Rackmounting Hardware Installation Instructions" on page 75	N/A
"Physical Media No Longer Offered" on page 75	Yes

Broken Links in Sun Server X2-8 Documentation Library

The following table lists the broken links in the Sun Server X2-8 documentation library.

Note - The Sun Server X2-8 Documentation Library includes a Sun Server X2-8 HTML Documentation Collection. This collection has the same chapters and content as the individual documents in the following table. Many of the broken links listed below are also broken in the corresponding sections of the Sun Server X2-8 HTML Documentation Collection.

Location	Link Destination	Broken Link	Correct Link
Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide for Windows Operating Systems	*Sun LSI 106x RAID User's Guide*	http://docs.sun.com/app/docs/coll//sf-hba-lsi	http://docs.oracle.com/cd/E19694-01/820-4933-15/index.html
Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide for Linux Operating Systems	Source for syslinux	http://www.kernel.org/pub/linux/utils/boot/syslinux/	https://www.syslinux.org/wiki/index.php?title=Download
Oracle Integrated Lights Out Manager (ILOM) 3.0	Oracle Enterprise Opcenter	http://www.oracle.com/us/products/enterprise-	http://www.oracle.com/technetwork/oem/ops-center/index.html

Location	Link Destination	Broken Link	Correct Link
Supplement for the Sun Server X2-8 (formerly Sun Fire X4800 M2)		manager/opscenter/index.html	
Not specified.	How to Update HBA Firmware in Oracle Hardware Installation Assistant 2.5 User's Guide for x86 Servers.	http://www.oracle.com/pls/topic/lookup?ctx=dsc&id=/app/docs/doc/821-2520#giziw	http://docs.oracle.com/cd/E19593-01/html/821-2520/giziw.html#scrolltoc
Not specified.	My Oracle Support	http://my.oracle.support	https://support.oracle.com

Use Oracle ILOM 4.0 Documentation After Updating to System Software Release 2.0.0 or Newer

When you update the system software, it updates Oracle ILOM as well.

- When you update to system software release 2.0.0 or newer, it updates the server to Oracle ILOM 4.0.2.25 (or newer). For these systems, use the Oracle ILOM 4.0 documentation library.
- When you updated to system software 1.4.0 or newer, it updated the server to Oracle ILOM 3.2.*x*. For these systems, use the Oracle ILOM 3.2 documentation library.
- The Oracle ILOM 3.0 collection no longer applies to your server. .

  Also, the information in the *Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Server X2-8 (formerly Sun Fire X4800 M2)* is out of date. Instead, refer to the Oracle ILOM 3.2 collection.

The Oracle ILOM documentation libraries are located at: https://www.oracle.com/goto/ilom/docs

Antistatic Wrist Straps Are Not Included With All CRUs and FRUs

The service and installation documentation might state that antistatic wrist straps are included with Customer Replaceable Units (CRUs) and Field Replaceable Units (FRUs). This is not always true. Some CRUs and FRUs are shipped without antistatic wrist straps.

Select the Correct Rackmounting Hardware Installation Instructions

Your server might come with one of two sets of rackmounting hardware. These are:

- Standard
- Universal

If you are unsure what rackmounting hardware you have, see *Unpacking the Server and Identifying the Rack Mounting Hardware* in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide*.

The documentation set includes two documents that provide instructions for installing the rackmounting hardware:

- **Installation Guide** (online only)

  The *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide* describes how to install both the universal and the standard rackmounting hardware.
- **Rackmounting Hardware Installation Guide** (printed and online)

  The *Sun Server X2-8 (formerly Sun Fire X4800 M2) Rackmounting Hardware Installation Guide* describes how to install both the universal and the standard rackmounting hardware.

Note - The *Sun Server X2-8 (formerly Sun Fire X4800 M2) Rackmounting Hardware Installation Guide* mistakenly says to use M6 x 16 screws to mount the adapter brackets to the rack rails. Instead, use M6 x 12 screws to mount the adapter brackets to the rack rails, unless the rack has 10–32 threads. Then use the 10–32 shoulder screws.

Physical Media No Longer Offered

Sun Server X2–8 (formerly Sun Fire X4800 M2) Installation Guide and the *Sun Server X2–8 (formerly Sun Fire X4800 M2) Service Manual* state that you can request physical media for software releases. This is no longer offered. To get the latest software release, go to `https://support.oracle.com`.