

Sun Fire X4470 Server Product Notes



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Using This Documentation

- **Overview** – Provides important operating information, and known and resolved issues for Oracle's Sun Fire X4470 server.
- **Audience** – System administrators, network administrators, and service technicians.
- **Required knowledge** – Advanced understanding of server systems.

Product Documentation Library

Documentation and resources for this product and related products are available at <http://docs.oracle.com/cd/E19694-01/index.html>.

Feedback

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

Sun Fire X4470 Product Notes

These product notes include information about supported software and firmware, new features, and important operating guidelines for the Sun Fire X4470 Server from Oracle.

This document also lists resolved issues and known issues for the server. Each issue is associated with a Bug ID number that is provided as a reference for Oracle Service personnel. When necessary, Service personnel can refer to the Bug ID number to obtain further information.

This document includes the following sections:

- [“Server Security, Software Releases, and Critical Patch Updates” on page 10](#)
- [“IMPORTANT - Install Latest OS Updates, Patches, and Firmware” on page 10](#)
- [“Changes to TLSv1.1 Configuration Property as of ILOM 4.0.3.x” on page 11](#)
- [“Oracle ILOM File Transfer Using URI Fails if Target Password Contains Special Characters \(25917655\)” on page 12](#)
- [“Diagnosing SAS Data Path Failures on Servers Using MegaRAID Disk Controllers” on page 12](#)
- [“Deprecation Notice for Oracle ILOM IPMI 2.0 Management Service” on page 14](#)
- [“Oracle ILOM License Information” on page 15](#)
- [“Resolving Warning Messages for Custom CA and Self-Signed SSL Certificates” on page 15](#)
- [“Supported Operating Systems” on page 15](#)
- [“Supported Firmware and Software” on page 19](#)
- [“Oracle x86 Products Accessibility” on page 26](#)
- [“Known Open Issues” on page 29](#)
- [“Documentation Known Issues” on page 46](#)
- [“Getting Firmware and Software Updates” on page 49](#)

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 15.

For details about the current system software update, see: “[IMPORTANT - Install Latest OS Updates, Patches, and Firmware](#)” on page 10

▼ **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 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>**

For more information, see: “[Getting Firmware and Software Updates](#)” on page 49
 - 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

Important Operating Note

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.

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

This problem is fixed in System Software Release 1.11.0.

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.

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 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 used 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

Supported Operating Systems

This section provides information about supported operating systems. It includes the following sections:

- “Supported Operating Systems” on page 16
- “Supported Operating Systems in Software Releases” on page 16
- “Available Preinstalled Operating Systems” on page 18
- “Oracle Unbreakable Enterprise Kernel for Linux” on page 18

Supported Operating Systems

The latest supported version of Oracle Solaris for your server is Oracle Solaris 11.3 SRU32.

For other operating systems, the following Hardware Compatibility Lists (HCLs) identify the latest supported operating system versions. To find the latest operating system version supported for the Sun Fire X4470, 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 – <https://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/products/server>

Supported Operating Systems in Software Releases

TABLE 1 Supported Operating Systems in Each Software Release

Software Release	Newly Supported Operating Systems
2.2.0	No new operating systems supported
2.1.0	No new operating systems supported
2.0.1	No new operating systems supported
2.0.0	No new operating systems supported.
1.11.0	No new operating systems supported.
1.10.0	No new operating systems supported.
1.9.0	No new operating systems supported.
1.8.0	No new operating systems supported.
1.7.2	No new operating systems supported.
1.7.1	No new operating systems supported.
1.7	Oracle Linux 6.7 and 7.2 Oracle Solaris 11.3 Oracle VM 3.3.3 Red Hat Enterprise Linux (RHEL) 6.7 and 7.2 (64-bit)
1.6.1	No new operating systems supported.
1.6	No new operating systems supported.

Software Release	Newly Supported Operating Systems
1.5.2	Oracle Solaris 11.2 Oracle Linux 7 Oracle VM 3.3.1
1.5.1	Oracle Linux 5.10 and 6.5
1.5	Oracle Linux 5.9 and 6.3 Oracle VM 3.2.1 Solaris 11.1
1.4	Oracle Solaris 10 8/11 Oracle Solaris 11.0.7 Oracle Linux 6.2 (64-bit) Oracle VM 3.0.3 Oracle VM 3.1.1 Red Hat Enterprise Linux (RHEL) 6.2 (64-bit) SUSE Linux Enterprise Server (SLES) 11 SP2 (64-bit) VMware ESX/ESXi 4.1 U2 VMware ESXi 5.0
1.3	Microsoft Windows Server 2008 R2 SP1 Oracle Linux 5.6 (64-bit) Oracle Linux 6.0 (64-bit) Oracle Linux 6.1 (64-bit) SUSE Linux Enterprise Server (SLES) 10 SP4 (64-bit) Red Hat Enterprise Linux (RHEL) 5.6 (64-bit) Red Hat Enterprise Linux (RHEL) 6.0 (64-bit) Red Hat Enterprise Linux (RHEL) 6.1 (64-bit) Oracle Solaris Express 11 Oracle VM 2.2.2 VMware ESX 4.1 U1 VMware ESXi 4.1 U1
1.2	Oracle Unbreakable Enterprise Kernel for Linux 5.5 (64-bit)
1.1	Oracle Solaris 10 09/10

Software Release	Newly Supported Operating Systems
1.0	SUSE Linux Enterprise Server (SLES) 10 SP3 (64-bit)
	SUSE Linux Enterprise Server (SLES) 10 SP1 (64-bit)
1.0	VMware ESX 4.1
	VMware ESXi 4.1
	Oracle Solaris 10 10/9
	Oracle VM 2.2.1
	Oracle Linux 5.5
	VMware ESX 4.0 U1
	VMware ESXi 4.0 U1
	Microsoft Windows Server 2008 R2
	Microsoft Windows Server 2008 SP2
	SUSE Linux Enterprise Server (SLES) 11 (64-bit)
	Red Hat Enterprise Linux Server (RHEL) 5.5 (64-bit)

Available Preinstalled Operating Systems

The following operating system is available as a preinstalled option on the Sun Fire X4470 server. For configuration instructions for this option, refer to the *Sun Fire X4470 Server Installation Guide*.

- Oracle Solaris 10 9/10 operating system.

Oracle Unbreakable Enterprise Kernel for Linux

Release 2 and Release 3 of the Oracle Unbreakable Enterprise Kernel for Linux are supported in Software Release 1.5.2 and later for the Sun Fire X4470.

Oracle Unbreakable Enterprise Kernel Release 2 for Linux: Release 2 is installed by default on Oracle Linux 5.9, 5.10, 6.3, and 6.4, and can be installed on Red Hat Enterprise Linux 5.9, 5.10, and 6.4. Release 2 is based on the 3.0.16 mainline Linux kernel and contains improvements and new features that have been incorporated into mainline Linux since the first version of the kernel.

For the latest information about operating system compatibility and pointers to installation information, see the Oracle Unbreakable Enterprise Kernel Release 2 Release Notes at:

<https://oss.oracle.com/ol6/docs/RELEASE-NOTES-UEK2-en.html>

Oracle Unbreakable Enterprise Kernel Release 3 for Linux: Release 3 is installed by default on Oracle Linux 6.5 and Oracle Linux 7, and can be installed on Oracle Linux 6.4 and Red Hat 6.4 and 6.5. Release 3 is based on the 3.0.x mainline Linux kernel and contains improvements and new features that have been incorporated into mainline Linux since Release 2 of the kernel.

For the latest information about operating system compatibility and pointers to installation information, see the Oracle Unbreakable Enterprise Kernel Release 3 Release Notes at:

<https://oss.oracle.com/ol6/docs/RELEASE-NOTES-UEK3-en.html>

Supported Firmware and Software

The latest Oracle Integrated Lights Out Manager (ILOM) and BIOS firmware are shipped on your Sun Fire X4470 Server. This section identifies the supported Oracle ILOM and BIOS firmware versions. It includes the following sections:

- “Supported Firmware in Software Releases” on page 19
- “Firmware Updates” on page 20
- “Supported Software” on page 20

To view the Oracle ILOM documentation, go to:

<https://www.oracle.com/goto/ilom/docs>

Supported Firmware in Software Releases

Table 2, “Sun Fire X4470 Server Firmware Supported,” on page 19 identifies the Oracle ILOM and BIOS firmware versions for each software release for the server.

TABLE 2 Sun Fire X4470 Server Firmware Supported

Software Release	Oracle ILOM SP Firmware	BIOS Firmware
2.2.0	4.0.4.20	09.06.02.00
2.1.0	4.0.3.23	09.06.02.00
2.0.1	4.0.2.25.b	09.06.01.00
2.0.0	4.0.2.25	09.05.07.00

Software Release	Oracle ILOM SP Firmware	BIOS Firmware
1.11.1	3.2.10.21.a	09.05.07.00
1.11.0	3.2.10.21	09.05.07.00
1.10.0	3.2.9.25	09.05.07.00
1.9.0	3.2.8.21	09.05.07.00
1.8.0	3.2.7.20.a	09.05.07.00
1.7.2	3.2.6.20.b	09.05.05.02
1.7.1	3.2.6.20.z	09.05.05.02
1.7	3.2.6.20	09.05.05.00
1.6.1	3.0.16.30.b	09.05.05.00
1.6	3.0.16.30	09.05.02.01
1.5.2	3.0.16.13.d	09.05.02.00
1.5.1	3.0.16.13.c	09.05.02.00
1.5	3.0.16.13.b	09.05.02.00
1.4	3.0.16.13.a	09.05.01.02 (Bundled in Oracle ILOM) Pc-Check 6.29s (Bundled in Oracle ILOM)
1.3	3.0.16.13	9.4.1.3
1.2.1	3.0.14.10.a	9.3.1.15
1.1	3.0.9.25	9.2.1.15
1.0	3.0.9.10	9.1.25.11

Firmware Updates

If you need to reinstall the Oracle ILOM or BIOS firmware, or obtain updates to the firmware, go to the My Oracle Support web site at:

<https://support.oracle.com>

Supported Software

Supported software for the Sun Fire X4470 Server is available from Oracle. This software includes device drivers, RAID management software, and other utilities for use with your server. You also can obtain the required software or software updates by going to the My Oracle Support web site at:

<https://support.oracle.com>

Downloading an OS or Software Applications

You can download an operating system (OS) or software applications for all licensed Oracle products from Oracle Software Delivery Cloud (formerly called Oracle eDelivery). Software is available in zip and ISO formats, which you can unzip or burn to DVDs, respectively. All of the download links on the Oracle Technology Network (OTN) point to the Software Delivery Cloud, making this site the authoritative source for all Oracle software application downloads. To access Oracle Software Delivery Cloud, go to <https://edelivery.oracle.com>

Supported PCIe Cards

This section includes information about the PCIe cards supported on the Sun Fire X4470 Server. It includes the following information:

- “Quantity and Slot Restrictions” on page 21
- “Minimum Firmware Revisions for PCIe Cards” on page 23
- “Sun Flash Accelerator F20 PCIe Card Requirements” on page 24
- “Internal Sun Storage 6Gb SAS PCIe RAID HBA Requirements” on page 25
- “Sun Storage 10GbE FCoE PCIe Low Profile Dual Port CNA and OS Support” on page 26

Quantity and Slot Restrictions

Table 3, “PCIe Card Quantity and Slot Restrictions,” on page 21 lists the quantity and slot restrictions for PCIe cards supported on the Sun Fire X4470 Server server. The *Maximum Quantity Supported* column indicates the number of cards tested and supported by Oracle.

TABLE 3 PCIe Card Quantity and Slot Restrictions

PCIe Card	Maximum Quantity Supported	Slot Restrictions
Sun Flash Accelerator F20 PCIe Card TA-FAS-S3IE96GB-N XTA-FAS-S3IE96GB-N	4	Supported in slots 9, 4, 8, 7, or 6 only.

PCIe Card	Maximum Quantity Supported	Slot Restrictions
Sun Storage 10GbE FCoE PCIe Low Profile, Dual Port Twin-Ax Converged Network Adapter SG-PCIEFCOE2-Q-TA SG-XPCIEFCOE2-Q-TA	4	Supported in all slots except x4 electrical interface slots (slots 0 and 9).
Sun Storage 10GbE FCoE PCIe Low Profile, Dual Port SR Converged Network Adapter SG-PCIEFCOE2-Q-SR SG-XPCIEFCOE2-Q-SR	4	Supported in all slots except x4 electrical interface slots (slots 0 and 9).
Sun Storage 6Gb SAS PCIe RAID HBA, Internal SGX-SAS6-R-INT-Z SG-SAS6-R-INT-Z	1	Supported in slot 4 only. See “Internal Sun Storage 6Gb SAS PCIe RAID HBA Requirements” on page 25 for more information.
Sun Storage 6Gb SAS PCIe HBA, Internal SGX-SAS6-INT-Z SG-SAS6-INT-Z	1	Supported in slot 2.
Sun Storage 6Gb SAS PCIe HBA, External SGX-SAS6-EXT-Z SG-SAS6-EXT-Z	4	Supported in all slots except x4 electrical interface slots (slots 0 and 9).
8Gb Single FC PCI-Express, QLogic SG-PCIE1FC-QF8-Z SG-XPCIE1FC-QF8-Z	8	Supported in all slots.
8Gb Dual FC PCI-Express, QLogic SG-PCIE2FC-QF8-Z SG-XPCIE2FC-QF8-Z	8	Supported in all slots.
8Gb Single FC PCI-Express, Emulex SG-PCIE1FC-EM8-Z SG-XPCIE1FC-EM8-Z	8	Supported in all slots.
8Gb Dual FC PCIe-Express, Emulex SG-PCIE2FC-EM8-Z SG-XPCIE2FC-EM8-Z	8	Supported in all slots.
Sun PCI-Express Quad Gigabit Ethernet UTP Low Profile Adapter	8	Supported in all slots.

PCIe Card	Maximum Quantity Supported	Slot Restrictions
4446A-Z-N X4446A-Z-N		
Sun Dual 10GbE SFP+ PCIe 2.0 Low Profile Adapter 1109A-Z X1109A-Z	6 (Software Release 1.2.1) 2 (Software Release 1.0 and 1.1)	Supported in all slots except x4 electrical interface slots (slots 0 and 9). Note – Six cards supported as of Software Release 1.2.1. Two cards supported as of Software Releases 1.0 and 1.1.
InfiniBand Quad Data Rate PCIe Adapter X4242A	4	Supported in all slots except x4 electrical interface slots (slots 0 and 9).
InfiniBand Quad Data Rate PCIe Host Channel Adapter 4237A-N X4237A-N	4 (Software Release 1.3) 2 (Software Release 1.0 and 1.1)	Supported in all slots except x4 electrical interface slots (slots 0 and 9). Note – Four cards supported as of Software Release 1.3. Two cards supported as of Software Releases 1.0 and 1.1.

Minimum Firmware Revisions for PCIe Cards

Table 5 lists minimum firmware revisions for PCIe cards.

TABLE 4 PCIe Card Minimum Firmware Revisions

PCIe Card	Minimum Firmware Revision	Included in FRU Revision
8Gb Single FC PCI-Express, QLogic SG-PCIE1FC-QF8-Z SG-XPCIE1FC-QF8-Z 8Gb Dual FC PCI-Express, QLogic SG-PCIE2FC-QF8-Z SG-XPCIE2FC-QF8-Z For more information, go to the Qlogic Oracle Approved Software page	Preload Table v2.5.2	371-4324-02 371-4325-02
InfiniBand Quad Data Rate PCIe Host Channel Adapter 4237A-N X4237A-N	2.7.000	375-3606- 03

PCIe Card	Minimum Firmware Revision	Included in FRU Revision
For more information, go to the Mellanox Firmware for Oracle Sun InfiniBand Products page.		
Sun Storage 6Gb SAS PCIe HBA, Internal SGX-SAS6-INT-Z SG-SAS6-INT-Z	04.05.03.00	375-3640-01 rev. 51

Sun Flash Accelerator F20 PCIe Card Requirements

Review the following sections that describe the Sun Flash Accelerator F20 PCIe Card requirements:

- [“Card Placement and Cooling” on page 24](#)
- [“ESM Replacement Interval” on page 25](#)

Card Placement and Cooling

If you are using the Sun Flash Accelerator F20 PCIe card, your configuration must meet the following requirements for proper installation and cooling:

- Do not connect devices to the internal SAS/SATA ports of the Sun Flash Accelerator F20 PCIe card. The Sun Fire X4470 does not support using this card as an internal host bus adapter (HBA).
- The HBA can be installed only in PCIe slots 9, 4, 8, 7, or 6, in that order of preference (slot 9 is the preferred slot to use for this HBA and slot 6 is acceptable but is the least desirable slot to use).

Note - If you are using a Sun Storage 6Gb SAS PCIe RAID HBA, that HBA must be installed in slot 4; therefore, slot 4 will not be available for the Sun Flash Accelerator F20 PCIe card.

- If you are using the Sun Flash Accelerator F20 PCIe card, you must use the Oracle Integrated Lights Out Manager (ILOM) available with Software Release 1.2.1 or later.
- With this HBA installed only in slots 9 and/or 4, the ambient temperature requirement for the server remains as follows:

- Operating temperature: 5 °C to 35 °C (41 °F to 95 °F)
- Nonoperating temperature: -40 °C to 70 °C (-40 °F to 158 °F)
- With this HBA installed in slot 8, slot 7, or slot 6, the ambient temperature requirement for the server is modified to the following:
 - Operating temperature: 5 °C to 32 °C (41 °F to 89.6 °F)

ESM Replacement Interval

The Sun Flash Accelerator F20 PCIe card contains a component called the energy storage module (ESM) that functions similarly to a battery backup. The ESM plays a critical role protecting data during power outages and enabling optimal card performance. When the ESM is online and functioning properly, the card operates in write-back mode (providing optimal performance). When the ESM is not functioning properly, the card functions in write-through mode. While data is secure in write-through mode, performance is dramatically decreased.

Based on the expected life of the ESM, and to maintain optimal card performance, replace the ESM every three years. If the ESM is not replaced at the recommended service interval, the level of stored energy degrades over time. If there is not enough stored energy to complete a write operation during a power failure, any data stored on the card is at risk of being lost.

Internal Sun Storage 6Gb SAS PCIe RAID HBA Requirements

If you are using the internal Sun Storage 6Gb SAS PCIe RAID host bus adapter (HBA) (SGX-SAS6-R-INT-Z or SG-SAS6-R-INT-Z), your configuration must meet the following requirements for proper battery cooling:

- The HBA must be installed in PCIe slot 4. In slot 4, the battery on the HBA faces an area with greater airflow, which is required for proper battery cooling. Do not move the HBA to slot 2 to allow slot 3 to operate in x16 mode.
- With this HBA installed, the ambient temperature requirement for the server is as follows:
 - Operating temperature: 5 °C to 32 °C (41 °F to 89.6 °F)

Note - In Software Releases prior to Software Release 1.2.1, when this HBA is installed in the server, the Enhanced PCIe Cooling Mode Policy must be enabled in Oracle ILOM. As of Software Release 1.2.1, this Oracle ILOM policy is no longer required.

Sun Storage 10GbE FCoE PCIe Low Profile Dual Port CNA and OS Support

The Windows operating system (OS) is not supported with the Sun Storage 10GbE CFoE PCIe Low Profile Twin-Ax/SR Converged Network Adapter (SG-PCIEFCOE2-Q-TA or SG-XPCIEFCOS2-Q-TA; or SG-PCIEFCOE2-Q-SR or SG-XPCIEFCOE2-Q-SR). Refer to [“Windows Known Issues” on page 45](#) for more information about this known issue.

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 Oracle 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/>

Known Open Issues

This section lists the known open issues, descriptions, and workarounds related to the Sun Fire X4470 Server. It includes the following information:

- [“Hardware Known Issues” on page 30](#)
- [“Firmware Known Issues” on page 30](#)
- [“BIOS Known Issues” on page 32](#)
- [“Oracle ILOM Known Issues” on page 33](#)
- [“Oracle Solaris Known Issues” on page 37](#)

- [“Oracle Linux, SUSE Linux Enterprise Server \(SLES\), Red Hat Enterprise Linux \(RHEL\), and Oracle VM Known Issues” on page 40](#)
- [“Windows Known Issues” on page 45](#)
- [“Documentation Known Issues” on page 46](#)

Hardware Known Issues

TABLE 5 Hardware Known Open Issues

Bug ID	Description
15629239	<p>SMI Link Spare Lane Is Reported as Faulty</p> <p>Issue:</p> <p>The Scalable Memory Interconnect (SMI) link that connects the processor to a memory buffer includes a spare lane in each direction to provide redundancy in the event that one of the other lanes in the link fails. This spare lane will not be used unless one of the other lanes in the link fails. Under certain rare circumstances this spare lane is reported as faulty when booting the system. Oracle ILOM will detect this error and diagnose a <code>fault.memory.intel.branch.spare-lane-failover</code> fault that is attributed to the memory riser to which the lane is routed. The spare lane is provided only for redundancy and there is no impact to normal system operation if the link does not experience an additional lane failure. There is no performance impact associated with this error.</p> <p>Affected Hardware:</p> <ul style="list-style-type: none">■ Sun Fire X4470 Server <p>Workaround:</p> <p>Clear the riser fault and power cycle the system using the following Oracle ILOM command-line interface (CLI) command:</p> <pre>set /SYS/MB/Px/MRy/ clear_fault_action=true</pre> <p>Where Px/MRy identifies the riser the fault was reported against. If the fault recurs, contact your Oracle service representative.</p>

Firmware Known Issues

TABLE 6 Firmware Known Open Issues

Bug ID	Description
15806845	<p>Sun Storage 6Gb SAS PCIe RAID HBA, Internal Card With Software Release 1.2 Does Not Appear in BIOS When Sun Storage 6Gb SAS PCIe RAID HBA, External Card Is Running the HBA Software Release 4.0</p> <p>Issue:</p>

Bug ID	Description
	<p>When the server is running Software Release 1.2, and has the the Sun Storage 6Gb SAS PCIe RAID HBA, Internal card installed, and the Sun Storage 6Gb SAS PCIe RAID HBA, External card has HBA software release 4.0 installed, the internal card's power-on self-test (POST) does not appear when the system boots up.</p> <p>Affected Hardware and Software:</p> <ul style="list-style-type: none"> ■ Sun Storage 6Gb SAS PCIe RAID HBA, Internal card (SGX-SAS6-R-INT-Z or SG-SAS6-R-INT-Z) ■ Sun Storage 6Gb SAS PCIe RAID HBA, External card (SGX-SAS6-R-EXT-Z or SG-SAS6-R-EXT-Z) ■ Release 1.2 <p>Workaround:</p> <p>Upgrade the internal and external cards to HBA software release 4.0.</p>
15807180	<p>LSI MegaRAID Storage Manager 9.0.0 or 11.08.03 Running on Oracle Solaris 10 10/9 Cannot Detect Physical Drives With Sun Storage 6Gb SAS PCIe RAID HBA, Internal Card That Has Been Upgraded to HBA Software Release 4.0</p> <p>Issue:</p> <p>LSI MegaRAID Storage Manager (MSM) running on Oracle Solaris 10 10/9 cannot detect a physical hard disk drive when the Sun Storage 6Gb SAS PCIe RAID HBA, Internal card's firmware has been upgraded to HBA software release 4.0.</p> <p>Affected Hardware, Operating System, and Software:</p> <ul style="list-style-type: none"> ■ Sun Storage 6Gb SAS PCIe RAID HBA, Internal card (SGX-SAS6-R-INT-Z or SG-SAS6-R-INT-Z) ■ Oracle Solaris 10 10/9 ■ Release 1.4 <p>Workaround:</p> <p>There are two workarounds:</p> <ul style="list-style-type: none"> ■ If you need to use MegaRAID Storage Manager (MSM) on Oracle Solaris 10 10/9, do not upgrade the Sun Storage 6Gb SAS PCIe RAID HBA, Internal card's firmware beyond Software Release 1.2. <p>Or</p> <ul style="list-style-type: none"> ■ Upgrade the operating system kernel to Oracle Solaris 10 10/9 or later.

BIOS Known Issues

TABLE 7 BIOS Known Issues

Bug ID	Description
15736079	<p>Amount of Memory Reported by BIOS and System Is Less Than Actual Memory Installed</p> <p>Issue:</p> <p>In the BIOS splash screen and in the main BIOS Setup Utility menu, the system reports 8 MB less memory than installed to account for the Intel architecture's consumption of 8 MB of debug memory.</p> <p>Affected Software:</p> <ul style="list-style-type: none"> ■ Release 1.0 and later <p>Workaround:</p> <p>There is no workaround.</p>
15640750	<p>BIOS Does Not Issue Warm Reset to Work Around TSC Skew</p> <p>Issue:</p> <p>There is a slight chance that the processor Timestamp Counters (TSC) within each socket will not be synchronized when the system boots. Newer operating systems that are capable of utilizing the TSC as a fast high-resolution time source require the TSC to be synchronized across all sockets to utilize the TSC as a time source. If the TSCs are not synchronized across sockets, these newer operating systems will detect this condition and will fall back to a slower legacy time source. This can result in less than optimal performance for applications that make heavy use of the <code>gettimeofday()</code> system call.</p> <p>SUSE Linux Enterprise Server (SLES) 11 SP1 is the only supported operating system affected by this issue.</p> <p>The error message below reported by SLES 11 SP1 indicates the operating system has detected that TSCs are not synchronized across sockets:</p> <pre>[5.166336] checking TSC synchronization [CPU#0 -> CPU#16]: [5.198009] Measured 685 cycles TSC warp between CPUs, turning off TSC clock. [0.016000] Marking TSC unstable due to check_tsc_sync_source failed [2.920006] checking TSC synchronization [CPU#0 -> CPU#17]: [2.924000] Measured 738 cycles TSC warp between CPUs, turning off TSC clock.</pre> <p>Affected Operating System and Software:</p> <ul style="list-style-type: none"> ■ SUSE Linux Enterprise Server (SLES) 11 SP1 ■ Release 1.0 and later <p>Workaround:</p>

Bug ID	Description
	Reboot the server. The TSCs should be properly synchronized following the reboot.

Oracle ILOM Known Issues

Starting with system software release 2.0.0, your system is equipped with Oracle ILOM 4.0.2.25 or newer.

- For information about Oracle ILOM on systems with Oracle ILOM 4.0.2.25 or newer, refer to the **Oracle ILOM 4.0 Documentation Library**.
- For information about Oracle ILOM on systems with Oracle ILOM 3.2.N.N, refer to the **Oracle ILOM 3.2 Documentation Library**.
- For information about Oracle ILOM on systems with Oracle ILOM 3.1.2.50.b or earlier, refer to the **Oracle ILOM 3.0 Documentation Library**.

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

TABLE 8 Oracle ILOM Known Open Issues

Bug ID	Description
23634048	<p>Oracle ILOM SNMP v3 Traps Are Not Delivered After SNMP Engine ID Change</p> <p>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.</p> <p>Workaround:</p> <p>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:</p> <pre># 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</pre>

Bug ID	Description
	<pre>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</pre>
23564626	<p>Third-Party Web Scan and Test Tools Cause Sluggish Oracle ILOM Performance</p> <p>Issue:</p> <p>Under certain conditions, third-party web scanning and test tools can cause Oracle ILOM to run extremely slowly.</p> <p>Affected Software:</p> <p>System software release 1.7.0 and 1.7.1.</p> <p>Workaround:</p> <p>Install system software release 1.7.2 or newer.</p>
21836276	<p>Attempting to Use a CD/DVD Drive as the System Boot Device Might Fail</p> <p>Issue:</p> <p>If you want to set the system boot device to be a CD/DVD drive, and you do so by issuing the <code>set boot_device=cdrom</code> command, you might encounter an error message or a boot failure when performing a system boot from the Oracle ILOM remote console. This issue occurs because, in the Sun Fire X4470 server, the default CD/DVD drive is the one physically installed in the Sun Fire X4770 system. Thus, if you load the image from the remote console, Oracle ILOM creates a new virtual CD drive in the boot list, which is different from the default CD/DVD that is physically located in the system. As a result, an error message is displayed, or the system boot fails.</p> <p>Affected Software:</p> <ul style="list-style-type: none"> ■ Release 1.3, or later <p>Workaround:</p> <p>To initiate a system boot from the Oracle ILOM remote console, use the <code>set /SP/bootlist bootdev=<device_number></code> command instead. The system will boot successfully from the specified device in the command.</p>
15726612	<p>When Flashing a New Oracle ILOM Image, Additional Steps Are Required Due to Service Processor DRAM Expanded to 256 MB</p> <p>Issue:</p> <p>With Software Release 1.3, or later, service processor (SP) DRAM has been expanded from 128 MB to 256 MB. This change in SP DRAM size requires that you perform additional steps when upgrading or downgrading the Oracle ILOM image on the Sun Fire X4470 Server. Note that if you do not perform the steps listed in the workaround, Oracle ILOM will work abnormally and you will encounter unexpected errors.</p> <p>Affected Software:</p> <ul style="list-style-type: none"> ■ Release 1.3, or later

Bug ID	Description
	<p>Workaround:</p> <ol style="list-style-type: none"> 1. Power off the host. 2. Flash the new Oracle ILOM image. 3. Power off the server after the Oracle ILOM image upgrade or downgrade is complete. 4. Wait for at least 10 seconds (delay for some device/capacitors discharge). 5. Power on the server.
15620790	<p>SPrestore Command Is Partially Successful and Reports an Error in the Log</p> <p>Issue:</p> <p>If the serial console is in use, properties related to the serial console cannot be restored and you will receive messages similar to the following:</p> <p>Config restore: Unable to restore property '/SP/serial/host/commitpending'</p> <p>Config restore: Unable to restore property '/SP/serial/external'</p> <p>Because such properties could not be restored, this is a partial failure and, therefore, results in the above message about the partial failure. This is not a defect.</p> <p>Affected Software:</p> <ul style="list-style-type: none"> ■ Release 1.0 and later <p>Workaround:</p> <p>Log out of the serial console and try to run the restore command again.</p>
15624057	<p>BIOS Does Not Get Updated When You Use IPMIflash to Upgrade the Oracle ILOM Service Processor Image</p> <p>Issue:</p> <p>BIOS might not get updated when you use IPMIflash to upgrade the Oracle ILOM service processor (SP) image with the Delay BIOS option enabled. When you power the server off and on quickly, the BIOS image should be updated, but it is not.</p> <p>Affected Operating System and Software:</p> <ul style="list-style-type: none"> ■ Oracle Linux 5.4, and later ■ Release 1.0 and later <p>Workarounds:</p> <p>Use one of the following workarounds:</p> <ul style="list-style-type: none"> ■ If you power off the server using the Power button, wait at least 10 seconds before powering the server back on. <p>or</p> <ul style="list-style-type: none"> ■ Instead of powering the server off and on using the Power button, run a power-cycle command. This will guarantee that BIOS is updated.

Bug ID	Description
	<p>For example, use one of the following commands:</p> <p>Using IPMI: ipmitool power cycle</p> <p>Using the Oracle ILOM web interface: Remote Control → Remote Power Control → Power Cycle</p>
15624521	<p>Unable to Launch Oracle ILOM Remote Console Using JRE 1.6.0 U14, U15, and U16</p> <p>Issue::</p> <p>If you try to launch the Oracle ILOM Remote Console via the web using some builds of Java Runtime Environment (JRE), the system returns the error Unable to Launch the Application.</p> <p>Affected Operating Systems and Software:</p> <ul style="list-style-type: none"> ■ All operating systems using JRE 1.6.0, U14, U15, and U16 ■ Release 1.0 and later <p>Workaround:</p> <p>Upgrade to JRE 1.6.0 U17 or later.</p>
15656571	<p>Erroneous Error Message Is Returned When Serial Port Owner Is Changed</p> <p>Issue:</p> <p>If you use the Configuration → Serial Port tab in the Oracle ILOM web interface to change the serial port owner, changes to the port owner take effect, but the system returns the error Cannot change serial settings - the serial console in use.</p> <p>Affected Software:</p> <ul style="list-style-type: none"> ■ Release 1.0 and later <p>Workaround:</p> <p>Ignore the error message.</p>
15685821	<p>Serial Port Ownership Cannot Be Changed On Serial Console</p> <p>Issue:</p> <p>If you are logged in to Oracle ILOM from the serial console, and you set the serial port owner to host, you cannot set the serial port owner back to SP.</p> <p>Affected Software:</p> <ul style="list-style-type: none"> ■ Release 1.0 and later <p>Workaround:</p> <p>To avoid this problem, ensure that you are not logged in to the serial console, and then change console port ownership using an SSH session.</p> <p>If the problem occurs, you can recover by rebooting the system.</p>

Oracle Solaris Known Issues

TABLE 9 Oracle Solaris Known Open Issues

Bug ID	Description
15764387	<p>Oracle Solaris 10 8/11 System Panics and Reboots After Three Hours of Network Stress</p> <p>Issue:</p> <p>Solaris 10 8/11 might panic and then reboot during an extended time of network stress.</p> <p>Affected Operating System:</p> <ul style="list-style-type: none"> ■ Oracle Solaris 10 8/11 <p>Workaround:</p> <p>Install Patch 147441-08 (or higher version), which is bundled into the Tools and Drivers firmware of Software Release 1.4 and later releases. Run the install shell script to install the related patch.</p>
Unavailable	<p>System Panics at Beginning of Oracle Solaris 10 8/11 Installation Onto a Sun Fire X4470 Server Configured for RAID 10 and With a Sun Storage 6Gb SAS PCIe Internal HBA Card Installed</p> <p>Issue:</p> <p>A system panic might occur during the installation of Oracle Solaris 10 8/11 onto a Sun Fire X4470 configured for RAID 10, when the hard disk drives are connected to an internal Sun Storage 6Gb SAS PCIe HBA, Internal card. The panic is caused by a known issue with the HBA mptsas driver.</p> <p>Affected Hardware and Operating System:</p> <ul style="list-style-type: none"> ■ Sun Storage 6Gb SAS PCIe, Internal HBA (SGX-SAS6-INT-Z or SG-SAS6-INT-Z) ■ Oracle Solaris 10 8/11 <p>Workaround:</p> <p>Apply a mptsas driver Install Time Update (ITU) patch during the operating system installation. The steps to resolve this panic issue are detailed in the ReadMe file for the ITU patch, which can be found in the Oracle Solaris folder in the Tools and Drivers firmware image of Software Release 1.4 and later releases.</p>
15765644	<p>Oracle Solaris 11 11/11 Crash Dumps During Power-Off or Reboot of Sun Fire X4470 Server</p> <p>Issue:</p> <p>Oracle Solaris 11 11/11 panics during power-off or reboot of the system when a Sun Storage 10 GbE FCoE PCIe SR Converged Network Adapter or Sun Storage 10 GbE FCoE PCIe Twin-Ax Converged Network Adapter is installed.</p> <p>Affected Hardware and Operating System:</p> <ul style="list-style-type: none"> ■ Sun Storage 10 GbE FCoE PCIe SR Converged Network Adapter (SG-XPCIEFCOE2-Q-SR or SGPCIEFCOE2-Q-SR) ■ Sun Storage 10 GbE FCoE PCIe Twin-Ax Converged Network Adapter (SG-XPCIEFCOE2-Q-TA or SG-PCIEFCOE2-Q-TA)

Bug ID	Description
	<p>■ Oracle Solaris 11 11/11</p> <p>Workaround:</p> <p>There is no workaround for this issue.</p>
15728845	<p>Intel SpeedStep Function Does Not Work With Oracle Solaris 10 9/10 That Is Running in a System Configured With Two Processors</p> <p>Issue:</p> <p>The Intel SpeedStep functionality does not work on systems running Oracle Solaris 10 9/10 when the server is configured with two processors (CPUs).</p> <p>Affected Operating Systems:</p> <ul style="list-style-type: none"> ■ Oracle Solaris 10 9/10 ■ Oracle Solaris 11 Express <p>Workaround:</p> <p>This issue can be fixed by editing the configuration file <code>/etc/power.conf</code> to change <code>cpupm enable</code> to <code>cpupm enable poll-mode</code>.</p>
15674855	<p>Oracle Solaris Might Run Out of MSI-X Vectors</p> <p>Issue:</p> <p>Oracle Solaris limits the number of MSI-X vectors to 32 per IPL. Network interface cards (NICs) and host bus adapters (HBAs) are all assigned to IPL 6. If there are a large number of adapters in the Sun Fire X4470 Server that use MSI-X for interrupts, you might run out of MSI-X vectors. If this occurs, the system sends a message similar to the following:</p> <pre>Apr 15 23:22:54 ban21uut058spare2 pcplusmp: [ID 475383 kern.warning] WARNING: No interrupt vector: pciex8086,10fb instance 1</pre> <pre>Apr 15 23:22:54 ban21uut058spare2 pcplusmp: [ID 383221 kern.warning] WARNING: Sharing vectors: pciex8086,10fb instance 11 and pciex8086,10fb instance 1</pre> <p>Affected Operating Systems:</p> <ul style="list-style-type: none"> ■ Oracle Solaris 10 8/11 ■ Oracle Solaris 10 9/10 <p>Workaround:</p> <ol style="list-style-type: none"> 1. Download Oracle Solaris patch 146025-01. For Solaris patches, go to: https://support.oracle.com 2. Edit the <code>/etc/system</code> file to add the following line: set pcplusmp:apic_adjipl_option=2 3. Reboot the system.

Bug ID	Description
	<p>If you have difficulty installing Oracle Solaris because of this issue before you apply the workaround above, you can free up MSIs by excluding the driver for the card that is most numerous in the system.</p> <p>For example, the following procedure excludes the 10 Gigabit Ethernet card driver:</p> <ol style="list-style-type: none"> At the GRUB prompt, enter e to edit. Scroll down to <pre>kernel\$ /platform/i86pc/multiboot -B \$ZFS-BOOTFS</pre> Enter e again, and append: <pre>ixgbe-disable=true</pre> <p>The resulting line should be similar to the following:</p> <pre>kernel\$ /platform/i86pc/multiboot -B \$ZFS-BOOTFS,ixgbe-disable=true</pre> <ol style="list-style-type: none"> Press Enter. Enter b to boot the system.
N/A	<p>Fault Management Architecture Support Requires Patch</p> <p>Issue::</p> <p>Oracle Solaris Fault Management Architecture (FMA) support for the Sun Fire X4470 Server requires patch 142901-09 or a later patch.</p> <p>Affected Operating System:</p> <ul style="list-style-type: none"> Oracle Solaris 10 9/10 <p>Note - Oracle Solaris 10 8/11 includes patch 142901-09. If you are using Oracle Solaris 10 8/11, you do not need to complete this workaround.</p> <p>Workaround:</p> <ol style="list-style-type: none"> Download Oracle Solaris patch 142901-09. For Oracle Solaris patches, go to: https://support.oracle.com Follow the patch installation instructions. Before rebooting, run the following commands: <pre>rem_drv intel_nhmex add_drv -i '"pci8086,3438"' intel_nhmex</pre> Reboot the server.

Oracle Linux, SUSE Linux Enterprise Server (SLES), Red Hat Enterprise Linux (RHEL), and Oracle VM Known Issues

TABLE 10 Oracle Linux, SLES, RHEL, and Oracle VM Known Open Issues

Bug ID	Description
	<p>Oracle Linux 5.6 and RHEL 5.6 Fail to Allocate Memory Space on Onboard Intel 82576 Network Interface Card Ports</p> <p>Issue:</p> <p>Oracle Linux 5.6 and RHEL 5.6 display PCI: Failed to allocate mem resource for an onboard Intel 82576 network interface card, which supports the Intel SR-IOV feature. Oracle Linux 5.6 and RHEL 5.6 will then attempt to allocate memory space that is required by Virtual Function exported by Intel's SR-IOV capability.</p> <p>Affected Operating Systems:</p> <ul style="list-style-type: none"> ■ Oracle Linux 5.6 ■ Red Hat Enterprise Linux (RHEL) 5.6 <p>Workaround:</p> <p>First enable SR-IOV support and ARI support features from the Advanced Menu in the BIOS Setup Utility.</p>
15765632	<p>Quad Gigabit Ethernet UTP PCIe and Dual Gigabit Ethernet SFP+ PCIe Option Cards Do Not Work on SLES 10 SP4 XEN</p> <p>Issue:</p> <p>On SLES 10 SP4 XEN, the Sun PCI-Express Quad Gigabit Ethernet Low Profile Adapter (X4446A-Z) and the Sun 10GbE SFP+ PCIe 2.0 Low Profile Adapter (X1109A-Z) do not work normally because of a XEN kernel issue.</p> <p>Affected Operating System:</p> <ul style="list-style-type: none"> ■ SUSE Linux Enterprise Server (SLES) 10 SP4 <p>Workaround:</p> <p>This issue has been fixed in SLES 11 SP1 XEN kernel; however, there is no workaround for this issue in SLES 10 SP4 XEN kernel.</p>
15764667	<p>Oracle VM 3.x.x and SLES 11 SP1 XEN Might Report map irq failed</p> <p>Issue:</p> <p>SLES 11 SP1 XEN and Oracle VM might report map irq failed.</p> <p>Affected Operating Systems:</p> <ul style="list-style-type: none"> ■ Oracle VM 3.x ■ SUSE Linux Enterprise Server (SLES) 11 SP1

Bug ID	Description
	<p>Workaround:</p> <p>Add the following to the kernel line of the GRUB file: <code>extra_guest_irqs=64,2048 nr_irqs=2048</code></p>
15790060	<p>RHEL 6.2 - APEI: Cannot request iomem region <000000007f790800-000000007f790804> for GARs</p> <p>Issue:</p> <p>The following error message of APEI appears in RHEL 6.2 dmesg when the system boots using default kernel parameters:</p> <p>APEI: Can not request iomem region <000000007f790800-000000007f790804> for GARs.</p> <p>This inconsistent description of the APEI ERST feature in ACPI specification 4.x/5.x renders the ERST function of APEI unusable in Linux.</p> <p>Affected Operating System:</p> <ul style="list-style-type: none"> ■ Red Hat Enterprise Linux (RHEL) 6.2 <p>Workaround:</p> <p>Disable ERST of APEI by appending <code>erst_disable</code> to the kernel command line. The following information will be displayed in dmesg:</p> <p>ERST: Error Record Serialization Table (ERST) support is disabled.</p>
15546906	<p>Storage Drive LEDs Are Incorrectly Illuminated When Using ICH10 On-board HBA With SATA Drives</p> <p>Issue:</p> <p>On the Sun Fire X4470 Server without a RAID PCIe card (with on-board ICH10 SATA controller), disk drive Fault and OK-to-Remove LEDs are incorrectly illuminated on hard disk drive slots.</p> <p>Affected Operating System:</p> <ul style="list-style-type: none"> ■ SUSE Linux Enterprise Server (SLES) 11 <p>Workaround:</p> <p>This issue has been addressed with an SLES 11 kernel update available from Novell. Refer to the Novell Documentation <i>Administration Guide</i> for information on obtaining updates using YaST Online Updater or use Novell patch finder at http://download.novell.com/patch/finder/</p>
15584884	<p>PCIe AER Driver Error Log Messages Are Incomplete</p> <p>Issue:</p> <p>The PCIe AER driver in SLES 10 SP3 and SLES 11 might produce excessive log messages that contain incomplete information about hardware errors.</p> <p>Affected Operating Systems:</p> <ul style="list-style-type: none"> ■ SUSE Linux Enterprise Server (SLES) 10 SP3 ■ SUSE Linux Enterprise Server (SLES) 11

Bug ID	Description
	<p>Workaround:</p> <p>For SLES 10 SP3:</p> <p>Add the pci=noaer parameter as a boot argument to the kernel. To add the argument automatically at every boot, edit the GRUB boot loader configuration file <code>/boot/grub/menu.lst</code>. Add pci=noaer to the kernel line of the default boot title. For example:</p> <pre>title SUSE Linux Enterprise Server root (hd0,2) kernel /boot/vmlinuz pci=noaer root=/dev/disk/byid/ata- SEAGATE_ST95000NSSUN500G_0931M110L1_9SP110L1-part3 load_ramdisk=1 noresume showopts initrd /boot/initrd</pre> <p>For SLES 11:</p> <p>This issue has been addressed with an SLES 11 kernel update available from Novell. Refer to the Novell Documentation <i>Administration Guide</i> for information on obtaining updates using YaST Online Updater or use Novell patch finder at http://download.novell.com/patch/finder/</p>
15606277	<p>m1x4_core Driver for InfiniBand Fails to Load or Defaults to Single Pin Interrupt</p> <p>Issue:</p> <p>InfiniBand I/O devices using the <code>m1x4_core</code> driver and MSI-X interrupts might cause the driver to not load or to only load using IO-APIC interrupts.</p> <p>Affected Operating System:</p> <ul style="list-style-type: none"> ■ SUSE Linux Enterprise Server (SLES) 11 <p>Workaround:</p> <p>Install the SLES 11 kernel and OFED package update available from Novell. Refer to the Novell Documentation <i>Administration Guide</i> for information on obtaining updates using YaST Online Updater or use Novell patch finder at http://download.novell.com/patch/finder/</p>
15608084	<p>Error Messages Logged About Loading InfiniBand EHCA Driver</p> <p>Issue:</p> <p>If the OFED package group is installed, the system generates benign error messages about loading the InfiniBand EHCA driver. The errors are logged because the supported InfiniBand I/O device does not use the EHCA driver.</p> <p>Affected Operating System:</p> <ul style="list-style-type: none"> ■ SUSE Linux Enterprise Server (SLES) 11 <p>Workaround:</p>

Bug ID	Description
	Supported InfiniBand devices use the <code>mlx4_core</code> device driver. Ignore the error messages about the EHCA driver or disable attempts to automatically load the EHCA driver by editing the configuration file <code>/etc/infiniband/openib.conf</code> to change EHCA_LOAD=yes to EHCA_LOAD=no .
15608085	<p>SLES 11 Produces Errors in Subnet Manager Start Script</p> <p>Issue:</p> <p>SLES 11 is unable to execute the subnet manager start script <code>opensmd</code>.</p> <p>Affected Operating System:</p> <ul style="list-style-type: none"> ■ SUSE Linux Enterprise Server (SLES) 11 <p>Workaround:</p> <p>This issue has been addressed with an SLES 11 kernel and OFED package update available from Novell. Refer to the Novell Documentation <i>Administration Guide</i> for information on obtaining updates using YaST Online Updater or use Novell patch finder at http://download.novell.com/patch/finder/</p>
15608534	<p>InfiniBand Driver Is Unable to Use MSI-X Interrupts</p> <p>Issue:</p> <p>The InfiniBand driver <code>mlx4_core</code> in SLES 10 SP3 cannot use MSI-X interrupts on systems with a high number of CPUs.</p> <p>Affected Operating System:</p> <ul style="list-style-type: none"> ■ SUSE Linux Enterprise Server (SLES) 10 SP3 <p>Workaround:</p> <p>Load the InfiniBand driver with MSI-X interrupts disabled, using one of the following two methods:</p> <ul style="list-style-type: none"> ■ Issue the following command to load the driver with MSI-X interrupts disabled: <pre>modprobe mlx4_core msi_x=0</pre> <ul style="list-style-type: none"> ■ Add the following line to the file <code>/etc/modprobe.conf.local</code> so that <code>mlx4_core</code> will never use MSI(X) when the driver is loaded: <pre>options mlx4_core msi_x=0</pre>
15625335	<p>SLES 11 Linux Kernel Panics When Attempting to Boot If No Memory or Nonworking Memory Is Installed in CPU 0</p> <p>Issue:</p> <p>The SLES 11 Linux kernel requires that Processor (CPU) 0 has memory installed and that the memory is in working order. If there is no memory for CPU 0, or if the memory for CPU 0 is unusable, the SLES Linux kernel panics at every attempt to boot.</p> <p>Affected Operating System:</p> <ul style="list-style-type: none"> ■ SUSE Linux Enterprise Server (SLES) 11

Bug ID	Description
	<p>Workaround:</p> <p>For best results, update to the latest SLES 11 kernel, which will allow the operating system to boot with no memory in CPU 0 if you have memory installed elsewhere. Refer to the Novell Documentation <i>Administration Guide</i> for information on obtaining updates using YaST Online Updater or use Novell patch finder at http://download.novell.com/patch/finder/</p> <p>Alternatively, you can repopulate the memory slots to ensure that CPU 0 has working memory.</p>
15636521	<p>Oracle Linux 5.x.x, RHEL 5.x.x, and SLES 11 SP1 Allow Only Limited Number of Interrupt Vectors</p> <p>Issue:</p> <p>Certain hardware configurations that include many high bandwidth I/O cards with drivers that use multiple MSI vectors per instance might cause the kernel to run out of interrupts. This situation might result in a long pause or system hang at boot time or I/O devices that are unusable due to driver instances unable to get required interrupts. This situation is especially likely to occur for the Xen Hypervisor and Dom0 with multiple InfiniBand and 10 GbE network cards using SR-IOV, but is also possible on the SMP kernel.</p> <p>Affected Operating Systems:</p> <ul style="list-style-type: none"> ■ Oracle Linux 5.1.0, 5.5, 5.6, 5.7, 5.8, 5.9 ■ Red Hat Enterprise Linux (RHEL) 5.1.0, 5.5, 5.6, 5.7, 5.8, 5.9 ■ SUSE Linux Enterprise Server (SLES) 11 SP1 <p>Workaround:</p> <p>Booting with kernel argument <code>pci=noms</code> will allow the system to boot with no long pause in UDEV and no system hang. The system will, however, be forced to use a single IO-APIC PIN interrupt per function. If you need MSI instead of IO-APIC interrupts, then you might need to use some combination of the following methods to alleviate the problem:</p> <ul style="list-style-type: none"> ■ Blacklist some drivers by adding the module name to the text file <code>/etc/modprobe.d/blacklist</code>. This prevents the module from loading and using the device. ■ Force certain drivers (such as <code>mLx4_core : infiniband</code>) to load last, and take advantage of the code in those drivers that asks for optimal MSI number of vectors and, if those vectors are not available, retries with increasingly smaller number of vectors.
15643599	<p>SLES 11 Does Not Handle MSIs Properly When VT-d Is Enabled in BIOS</p> <p>Issue:</p> <p>If VT-d is enabled in BIOS on a server running SLES 11, all interrupts go to a single processor (CPU).</p> <p>Affected Operating System:</p> <ul style="list-style-type: none"> ■ SUSE Linux Enterprise Server (SLES) 11 <p>Workaround:</p> <ul style="list-style-type: none"> ■ Use SLES 11, but in the <code>/boot/grub/menu</code> file, append nox2apic to the first line.

Windows Known Issues

TABLE 11 Windows Known Open Issues

Bug ID	Description
15736884	<p>LSI MegaRAID Storage Manager 9.00.00 Cannot Find Local LSI HBA With Windows 2008 Installed</p> <p>Issue:</p> <p>After installing LSI MegaRAID Storage Manager (MSM) 9.00.00 software on Windows 2008 SP2, the tool functions but it is unable to find the local LSI HBA.</p> <p>Affected Operating Systems:</p> <ul style="list-style-type: none"> ■ Windows Server 2008 SP2 and R2 <p>Workaround:</p> <p>There is no workaround available. It is expected behavior.</p>
15625192	<p>InfiniBand Driver Is Not Available on the Tools and Drivers firmware</p> <p>Issue:</p> <p>The InfiniBand driver for the InfiniBand option card is not available on the Tools and Drivers firmware.</p> <p>Affected Operating Systems:</p> <ul style="list-style-type: none"> ■ Windows Server 2008 SP2 and R2 <p>Workaround:</p> <p>Download the driver from the following location:</p> <p>http://www.mellanox.com/content/pages.php?pg=software_overview_ib&menu_section=34</p>
15704842	<p>Service Processor Reboot Causes a System Crash on Windows 2008 R2 Systems</p> <p>Issue:</p> <p>A service processor (SP) reboot might cause a system crash on a system that is running the Windows 2008 R2 operating system.</p> <p>Affected Operating System:</p> <ul style="list-style-type: none"> ■ Windows Server 2008 R2 <p>Workaround:</p> <p>Upgrade the onboard Intel 82576 network interface controller (NIC) Windows driver to version 11.4.7.0 or later. The latest Windows drivers are provided with the Tools and Drivers firmware.</p>

Documentation Known Issues

TABLE 12 Documentation Known Open Issues

Bug ID	Description
N/A	<p>When Removing the Motherboard, Remove Memory Risers Before Loosening the Captive Screw</p> <p>Issue:</p> <p>The sequence of actions in the service manual procedure for removing the motherboard is incorrect.</p> <p>http://docs.oracle.com/cd/E19694-01/E21739/z400085f1293257.html#z400085f1293110</p> <p>Step 4 should come before Step 2. Remove the memory risers before loosening the captive screw in the corner near the fans.</p>
None	<p>Refer to the Correct Version of Oracle ILOM Documentation</p> <p>Issue:</p> <p>The versions of Oracle ILOM shipped with system software release 2.0 or newer use a different documentation library.</p> <ul style="list-style-type: none"> ■ Starting with system software release 2.0, refer to the Oracle ILOM 4.0 Documentation Library. ■ Starting with system software release 1.7, refer to the Oracle ILOM 3.2 Documentation Library. ■ For earlier software releases, refer to the Oracle ILOM 3.0 Documentation Library. <p>These libraries are located at https://www.oracle.com/goto/ilom/docs.</p>
None	<p>FMOD Hardware Option Is Not Supported</p> <p>Issue:</p> <p>The original installation and service documentation for the Sun Fire X4470 Server stated that optional flash modules (FMODs) and the associated energy storage module (ESM) and SATA/SAS cable were supported; however, these hardware options are not supported. The English language versions of the installation and service documentation for the Sun Fire X4470 Server has been revised to reflect this change.</p> <p>Removing support for FMODs does not affect the capabilities of the server, because the server's storage drives can also perform the data backup function that the FMODs provided.</p>
None	<p>Incorrect Electrical Specifications in Installation Guide</p> <p>Issue:</p> <p>The <i>Sun Fire X4470 Installation Guide</i> includes incorrect electrical specifications. The correct electrical specifications are as follows:</p> <p>Input</p> <p>Nominal frequencies: 50/60 Hz</p>

Bug ID	Description
	<p>AC operating voltage range: 100-127/200-240 VAC</p> <p>Maximum current AC RMS per power cord: 12A @ 100 VAC / 12A @ 200 VAC</p> <p>Power Dissipation</p> <p>Max power consumption: 1800 W</p> <p>Max heat output: 6143 BTU/hr</p> <p>Volt-Ampere rating: 1837 VA @ 240 VAC, 0.98 P.F</p>
None	<p>Oracle Hardware Installation Assistant Replaces Name for Sun Installation Assistant</p> <p>Issue:</p> <p>In some of the Sun Fire X4470 Server documentation, Oracle Hardware Installation Assistant is referred to as Sun Installation Assistant (SIA). The name change does not affect the features or functionality of the installation tool.</p>
None	<p>HBA Uses BIOS Configuration Utility to Configure RAID Volume</p> <p>Issue:</p> <p>The operating system installation guides for the Sun Fire X4470 Server indicate in the “Getting Started” sections that if you want to include your boot drive as part of a RAID configuration, you must configure a RAID volume on it using the LSI RAID controller setup utility.</p> <p>This is true for the Sun Storage 6Gb SAS PCIe RAID HBA, Internal (SGX-SAS6-R-INT-Z). However, for the Sun Storage 6Gb SAS PCIe HBA, Internal (SGX-SAS6-INT-Z), you use the BIOS Configuration Utility to configure a RAID volume.</p> <p>For instructions on using the BIOS Configuration Utility to configure a RAID volume, see the <i>Sun Storage 6Gb SAS PCIe HBA Internal Installation Guide</i>.</p> <p>This issue affects the following operating system installation guides:</p> <ul style="list-style-type: none"> ■ <i>Sun Fire X4470 Server Installation Guide for Oracle Solaris Operating System</i> ■ <i>Sun Fire X4470 Server Installation Guide for Linux Operating Systems</i> ■ <i>Sun Fire X4470 Server Installation Guide for Windows Operating Systems</i> ■ <i>Sun Fire X4470 Server Installation Guide for Virtual Machine Software</i>
None	<p>Getting Software and Firmware Downloads Procedure Is Updated</p> <p>Issue:</p> <p>The procedure "Getting Software and Firmware Downloads" that is documented in the Preface of the <i>Sun Fire X4470 Server Installation Guide</i> has been updated. For the latest instructions for obtaining firmware and software downloads, see “Getting Firmware and Software Updates” on page 49 in this Product Notes document.</p>
N/A	<p>Antistatic Wrist Straps Are Not Included With All CRUs and FRUs</p> <p>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.</p>

Broken Links in Sun Server X4470 Documentation Library

The following table lists the broken links in the Sun Server X4470 documentation library.<http://docs.oracle.com/cd/E19694-01/index.html>

Location	Link Destination	Broken Link	Correct Link
Throughout the library	Sun Server X4470 product page	http://www.oracle.com/goto/x4470	http://www.oracle.com/us/products/servers-storage/servers/x86/sun-fire-x4470-ds-079894.pdf
<i>Sun Disk Management Overview</i>	Information about disk management for numerous servers	Multiple links to servers' documentation	Find information about your server in one of the following libraries: <ul style="list-style-type: none"> ■ http://www.oracle.com/technetwork/documentation/oracle-x86-servers-190077.html ■ http://docs.oracle.com/cd/E19121-01/index.html
<i>Sun Disk Management Overview</i>	<i>Sun LSI 106x RAID User's Guide</i>	http://docs.sun.com/app/docs/coll/sflsihba	http://docs.oracle.com/cd/E19694-01/820-4933-15/index.html
<i>Sun Fire X4470 Server Installation Guide for Oracle Solaris Operating System</i>	Oracle Solaris documentation library	http://docs.sun.com/app/docs/coll/1236.11?l=en	http://www.oracle.com/technetwork/documentation/solaris-11-192991.html
<i>Sun Fire X4470 Server Installation Guide</i>	Oracle Enterprise Opcenter	http://www.oracle.com/us/products/enterprise-manager/opscenter/index.html	http://www.oracle.com/technetwork/oem/ops-center/index.html
<i>Sun Fire X4470 Server Installation Guide for Linux Operating Systems</i>	SUSE Linux documentation	http://www.novell.com/documentation/suse	https://www.suse.com/documentation/
<i>Sun Fire X4470 Server Installation Guide for Linux Operating Systems</i>	Site to purchase Oracle support	http://www.oracle.com/support/purchase.html	https://support.oracle.com
<i>Sun Fire X4470 Server Installation Guide for Windows Operating Systems</i>	Microsoft's Windows Deployment Services Step-by-Step Guide	http://www.microsoft.com/downloads/details.aspx?familyid=14CA18B1-B433-4F62-8586-B0A2096460EB[amp]displaylang=en	https://technet.microsoft.com/en-us/library/hh831764(v=ws.11).aspx
<i>Sun Fire X4470 Server Installation Guide for Windows Operating Systems</i>	Microsoft's Windows Server 2008 installation documentation	http://www.microsoft.com/windowsserver2008/en/us/product-documentation.aspx	https://www.microsoft.com/en-us/download/details.aspx?id=269

Location	Link Destination	Broken Link	Correct Link
<i>Sun LSI 106x RAID User's Guide</i>	Installer error messages on the Microsoft Developers Network (MSDN) web site	http://msdn.microsoft.com/library/default.asp?url=/library/en-us/msi/setup/windows_installer_error_messages.asp	https://msdn.microsoft.com/en-us/library/windows/desktop/aa372835(v=vs.85).aspx

Getting Firmware and Software Updates

This section explains the options for accessing server firmware and software updates using Oracle Hardware Installation Assistant or My Oracle Support.

Customers are required to install the latest available operating system (OS), patches, and firmware versions for optimal system performance, security, and stability.

Description	Links
Learn about server firmware and software updates.	“Firmware and Software Updates” on page 49
Learn about options for accessing firmware and software.	“Options for Accessing Firmware and Software Updates” on page 50
Review available firmware and software releases.	“Software Releases” on page 50
Learn how to get firmware and software updates using Oracle Hardware Installation Assistant or My Oracle Support.	“Getting Updates From Oracle Hardware Installation Assistant or My Oracle Support” on page 51
Learn how to install firmware and software updates using other methods.	“Installing Updates Using Other Methods” on page 53
Learn how to get support from Oracle.	“Oracle Support” on page 63

Firmware and Software Updates

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

You must update your server firmware and software as soon as possible after a new software release becomes available. Software releases often include bug fixes, and updating your server ensures that your server has the latest firmware and software. These updates will increase your system performance, security, and stability.

The server Product Notes list the current server software release and firmware version that are available. To determine which firmware version is installed on your server, you can use either

the Oracle ILOM web interface or the command-line interface, for Oracle ILOM 3.2.6.20 or newer:

- From the web interface, click System Information → Summary, then view the property value for System Firmware Version in the General Information table.
- From the CLI, at the command prompt, type: `show /System/Firmware`

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

Options for Accessing Firmware and Software Updates

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

- **Oracle Hardware Installation Assistant** – Oracle Hardware Installation Assistant is a factory-installed option for some Oracle x86 servers that enables you to easily download and install the latest software releases.

For information about using Oracle Hardware Installation Assistant, refer to the *Oracle Hardware Installation Assistant 2.5 User's Guide for x86 Servers* at <http://docs.oracle.com/cd/E19593-01/index.html>.
- **My Oracle Support** – All system software releases are available from the My Oracle Support web site at <https://support.oracle.com>.

For information about what is available from the My Oracle Support web site, see “Software Releases” on page 50.
- **Other Methods** – You can use Oracle Enterprise Manager Ops Center, Oracle Hardware Management Pack, or Oracle ILOM to update your server software and firmware.

For information, see “Installing Updates Using Other Methods” on page 53.

Software Releases

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

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

My Oracle Support provides the set of software releases for your server as described in the following table. You can obtain these software releases by downloading the files from My Oracle Support. Alternatively, you can download the same firmware and software to your server using Oracle Hardware Installation Assistant.

TABLE 13 Software Release Packages

Package Name	Description	When to Download This Package
Sun Fire X4470 SW release – BIOS and ILOM (Patch)	Contains all system firmware, including Oracle ILOM, BIOS, and option card firmware.	You need the latest firmware.
Sun Fire X4470 SW release – Tools and Drivers (Patch)	Includes a package of all tools, drivers, and utilities for a specific OS. A Tools and Drivers patch is available for each supported operating system version. Software includes Oracle Hardware Management Pack, LSI MegaRAID software, and any other optional software that Oracle recommends. For the Windows OS, the OS Pack also includes Intel Network Teaming and Install Pack.	You need to update OS-specific tools, drivers, or utilities.
Sun Fire X4470 SW release – Diagnostics (Patch)	Includes Oracle VTS diagnostics image.	You need the Oracle VTS diagnostics image.
Sun Fire X4470 SW release – Oracle Hardware Installation Assistant (Patch)	Includes Oracle Hardware Installation Assistant recovery/update ISO image.	You need to manually recover or update Oracle Hardware Installation Assistant.

Getting Updates From Oracle Hardware Installation Assistant or My Oracle Support

You can use Oracle Hardware Installation Assistant to easily download and then use the latest software release. For further information and download instructions, refer to the *Oracle Hardware Installation Assistant 2.5 User's Guide for x86 Servers* at <http://docs.oracle.com/cd/E19593-01/index.html>.

You can also obtain updated firmware and software from the My Oracle Support web site at <https://support.oracle.com>. For instructions, see “[Download Firmware and Software Updates From My Oracle Support](#)” on page 52.

▼ Download Firmware and Software Updates From My Oracle Support

1. **Go to the My Oracle Support web site:** <https://support.oracle.com>.
2. **Sign in to My Oracle Support.**
3. **At the top of the page, click the Patches & Updates tab.**
The Patch Search pane appears at the right of the screen.
4. **Within the Search tab area, click Product or Family (Advanced).**
The Search tab area appears with search fields.
5. **In the Product field, select the product from the drop-down list.**
Alternatively, type a full or partial product name (for example, Sun Fire X4470) until a match appears.
6. **In the Release field, select a software release from the drop-down list.**
Expand the list to see all available software releases.
7. **Click Search.**
The Patch Advanced Search Results screen appears, listing the patches for the software release.
See “[Software Releases](#)” on page 50 for a description of the available software releases.
8. **To select a patch for a software release, click the patch number next to the software release version.**
You can use the Shift key to select more than one patch.
A pop-up action panel appears. The panel contains several action options, including the ReadMe, Download, and Add to Plan options. For information about the Add to Plan option, click the associated button and select “Why use a plan?”.
9. **To review the ReadMe file for this patch, click ReadMe.**
10. **To download the patch for the software release, click Download.**

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

The patch for the software release downloads.

Installing Updates Using Other Methods

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

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

For information, go to:

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

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

For information, refer to the Oracle Hardware Management Pack Documentation Library at:

<https://www.oracle.com/goto/ohmp/docs>

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



Caution - If you use Oracle ILOM to update to system software release 1.7, do not use a file on the local server. Instead use a file on a server supporting one of the following protocols: TFTP, FTP, HTTP, or HTTPS. For subsequent updates (for example software release 1.7.2 or 1.8.0) you can use any supported method.

For information on Oracle ILOM, refer to Oracle ILOM documentation library at: <https://www.oracle.com/goto/ilom/docs>

Oracle Support

If you need help getting firmware or software updates, or downloading a complete software application, you can call Oracle Support. Use the appropriate number from the Oracle Global Customer Support Contacts Directory at:

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

