

Sun Server X4-2L Product Notes

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Using This Documentation

- **Overview** – Lists known, open, and resolved issues, and provides information about supported software, firmware, and important operating guidelines for the Sun Server X4-2L
- **Audience:** System administrators, network administrators, and service technicians.
- **Required knowledge:** Users with an advanced understanding of server systems

Product Documentation Library

Documentation and resources for this product and related products are available at <https://www.oracle.com/goto/x4-2l/docs>.

Feedback

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

Sun Server X4-2L Product Notes

The most up-to-date information about the server is available in the server documentation library at: <https://www.oracle.com/goto/x4-2l/docs>

This document provides the following information.

Description	Links
Review supported firmware.	“Supported Firmware” on page 9
Review supported hardware.	“Supported Hardware” on page 10
Review server update information.	“Server Update Information” on page 10
Review supported operating systems.	“Supported Operating Systems” on page 10
Review important operating notes.	“Important Operating Notes” on page 12
Review supported server management tools.	“Server Management Tools” on page 25
Review supported PCIe cards.	“Supported PCIe Cards” on page 37
Review resolved issues.	“Resolved Issues” on page 40
Review open issues.	“Open Issues” on page 47

Supported Firmware

Some product features are enabled only when the latest versions of patches or firmware are installed. You are required to install the latest software version for optimal performance, security, and stability. For details, see [“Important – Install Latest OS Updates, Patches, and Firmware” on page 14](#).

You can find detailed information about supported firmware releases here:

- [Latest Firmware Releases for Oracle X86 Servers](#)
- [Firmware Downloads and Release History for Oracle Systems](#)

Additional information about tools, drivers, component firmware versions, and bug fixes is available in the software release Readme file. For access to the Readme file, see [“Server Update Information” on page 10](#).

Supported Hardware

You can find detailed information about supported hardware in these Sun Server X4-2L documents:

- “About Server Features and Components” in the *Sun Server X4-2L Installation Guide*
- “About the Sun Server X4-2L” in the *Sun Server X4-2L Service Manual*

Within those documents, you can find information about supported hardware for these and other components:

- Processors
- Memory
- Storage drives
- Host bus adapters

Related Information

- [“Supported PCIe Cards” on page 37](#)

Server Update Information

Server updates are available to maintain support, add enhancements, or correct issues. Updates can include new versions of firmware (BIOS and Oracle ILOM SP), new releases of tools and drivers, and updates to any other packaged software components. When an update is released, the changes are described in the ReadMe file for the update, which is available at the following sources:

- In Oracle System Assistant, by clicking the Help button on the System Information page.
- On My Oracle Support at <https://support.oracle.com>.
- With any server software package downloaded from My Oracle Support.

Supported Operating Systems

The minimum supported Oracle Solaris version is Solaris 11.1 with the latest SRU. The latest supported Oracle Solaris version is Solaris 11.3 with the latest SRU.

For other operating systems, the following table shows the minimum supported operating systems, and provides links to Hardware Compatibility Lists (HCLs) or third-party operating

system certification information. 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 Sun Server X4-2L, go to the following sites and search using your server model number:

- Oracle Linux—<https://linux.oracle.com/pls/apex/f?p=117:1:3991604960223967>
- Oracle VM—<https://linux.oracle.com/pls/apex/f?p=117:1:3991604960223967>
- Windows—<https://www.windowsservercatalog.com/>
- VMware ESXi—<https://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 table lists the latest supported operating systems and virtual machine software. Supported operating systems and software are cumulative with each release; that is, later software releases contain all components of earlier software releases.

Platform Software Release	Latest Supported Operating Systems
2.1.0	<ul style="list-style-type: none"> ■ Oracle Linux 6.9, 6.10, and 7.5 for x86 (64-bit) with the Oracle Unbreakable Enterprise Kernel Release 5 for Linux ■ Oracle VM 3.4.5
2.0.2	No changes to supported operating systems or virtual machine software.
2.0	No changes to supported operating systems or virtual machine software.
1.8	No changes to supported operating systems or virtual machine software.
1.7	No changes to supported operating systems or virtual machine software.
1.6	No changes to supported operating systems or virtual machine software.
1.5	VMware ESXi 6.0 Update 2
1.4	<ul style="list-style-type: none"> ■ Oracle Solaris 11.3 ■ Oracle Linux 6.8 and 7.2 for x86 (64-bit) with the Oracle Unbreakable Enterprise Kernel Release 4 for Linux ■ Oracle VM 3.4
1.3.3	No changes to supported operating systems or virtual machine software.
1.3.1	No changes to supported operating systems or virtual machine software.
1.3	No changes to supported operating systems or virtual machine software.
1.2	<ul style="list-style-type: none"> ■ Oracle Solaris 11.1 and 11.2 ■ Oracle Linux 6.5 and 7.0 for x86 (64-bit) with the Oracle Unbreakable Enterprise Kernel Release 3 for Linux or the Red Hat Compatible Kernel ■ Oracle VM 3.2 and 3.3 ■ Red Hat Enterprise Linux 5.9, 5.10, 6.4, 6.5, and 7.0 for x86 (64-bit) ■ SUSE Linux Enterprise Server 11 SP2 and SP3 (64-bit)

Platform Software Release	Latest Supported Operating Systems
	<ul style="list-style-type: none">■ VMware ESXi 5.0 Update 2 and Update 3, 5.1 Update 1 and Update 2, 5.5, and 5.5 Update 1
1.1	<ul style="list-style-type: none">■ Oracle Linux 5.9, 5.10, and 6.4 for x86 (64-bit) with the Oracle Unbreakable Enterprise Kernel Release 2 for Linux or the Red Hat Compatible Kernel■ Oracle Linux 6.5 for x86 (64-bit) with the Oracle Unbreakable Enterprise Kernel Release 3 for Linux or the Red Hat Compatible Kernel■ Red Hat Enterprise Linux 5.9, 5.10, 6.4, and 6.5 for x86 (64-bit)■ VMware ESXi 5.0 Update 2 and Update 3, 5.1 Update 1, and 5.5■ Windows Server 2012 R2
1.0.1	SUSE Linux Enterprise Server 11 SP2 and SP3 (64-bit)
1.0	<ul style="list-style-type: none">■ Oracle Solaris 10 1/13■ Oracle Solaris 11.1■ Oracle Linux 6.3 for x86 (64-bit) with the Oracle Unbreakable Enterprise Kernel Release 2 for Linux■ Oracle Linux 5.9 and 6.4 for x86 (64-bit) with the Oracle Unbreakable Enterprise Kernel Release 2 for Linux or the Red Hat Compatible Kernel■ Oracle VM 3.2■ Red Hat Enterprise Linux 5.9 and 6.4 for x86 (64-bit)■ SUSE Linux Enterprise Server 11 SP2 (64-bit)■ VMware ESXi 5.0 Update 2 and 5.1 Update 1■ Windows Server 2008 SP2■ Windows Server 2008 R2 SP1■ Windows Server 2012

Related Information

- [“Oracle Solaris 10 1/13 Required Patches” on page 22](#)
- [“Preinstalled Oracle VM Server and Oracle VM Manager Compatibility Requirements” on page 23](#)
- [“Supported Operating System Limitations” on page 23](#)

Important Operating Notes

This section includes important operating information and requirements for the Sun Server X4-2L.

- [“Software and Critical Patch Updates” on page 13](#)
- [“Oracle ILOM Important Operating Notes” on page 15](#)
- [“Operating System Important Operating Notes” on page 21](#)
- [“Hardware Important Operating Notes” on page 25](#)

Software and Critical Patch Updates

- [“Update Your System to the Latest Software Release” on page 13](#)
- [“Server Security, Software Releases, and Critical Patch Updates” on page 13](#)

Update Your System to the Latest Software Release

It is highly recommended that you update your system to the latest software release before you use the system. Software releases often include bug fixes, and updating ensures that your server software is compatible with the latest server firmware and other component firmware and software.

You can get the latest available system BIOS, Oracle Integrated Lights Out Manager (ILOM), firmware, and drivers from Oracle by performing the Get Updates task in Oracle System Assistant. An Internet connection is required. For instructions on how to use the Get Updates task, see the *Oracle X4 Series Servers Administration Guide* at <https://www.oracle.com/goto/x86admindia/docs>.

You can also download the latest firmware and software updates from My Oracle Support at <https://support.oracle.com>. For information about downloading firmware and software from My Oracle Support, see “Getting Server Firmware and Software Updates” in the *Sun Server X4-2L Installation Guide*.

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 will help 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 will be 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 will ensure 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 10.

For details about the current system software update, see “Important – Install Latest OS Updates, Patches, and Firmware” on page 14

▼ Important – Install Latest OS Updates, Patches, and Firmware

System software release 2.1.0 is associated with the Oracle ILOM firmware version 4.0.4.22, as well as the latest OS support updates and patches. Newer Oracle ILOM firmware versions have a higher number or a letter added. For example, the system firmware version property in Oracle ILOM might be associated with 4.0.4.22.a.

Some product features are enabled only when the latest versions of patches and firmware are installed. To retain optimal system performance, security, and stability, you must install the latest operating system, patches, and firmware. For further information, see “Getting Server Firmware and Software Updates” in the *Sun Server X4-2L Installation Guide*.

To verify that the Oracle firmware version is a minimum of 4.0.4.22 or newer, follow these steps:

1. **Use Oracle ILOM to check the system firmware version.**
 - From the web interface, click System Information → Summary, then view the property information for the System Firmware Version in the General Information table.
 - From the CLI, at the command prompt (->) type: `show /System/Firmware`
For more details, refer to information about viewing system information and inventory in your server administration guide, which is available at <https://www.oracle.com/goto/x86admindiag/docs>.
2. **Ensure that the firmware version is at the minimum required version, noted above, or a subsequent release, if available.**
3. **If the required firmware version (or newer) is not installed:**

- a. **Download the firmware from My Oracle Support at <https://support.oracle.com>. For more information, see “[Server Update Information](#)” on page 10.**
- 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.

Oracle ILOM Important Operating Notes

- “[Changes to TLSv1.1 Configuration Property as of ILOM 4.0.3.x](#)” on page 15
- “[Deprecation Notice for IPMI 2.0 Management Service](#)” on page 16
- “[New Default Self-Signed SSL Certificate and Additional Security Checks \(as of 3.2.8.x\)](#)” on page 16
- “[Oracle ILOM License Information](#)” on page 17
- “[BIOS Update – Important Power Management Operating Notes](#)” on page 17
- “[Enhanced IP Connectivity Settings Available in Oracle ILOM](#)” on page 18
- “[Operational Changes for UEFI BIOS Configuration](#)” on page 20
- “[Ensuring Successful File Transfers from Oracle ILOM](#)” on page 21

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.

Deprecation Notice for 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 no longer will 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 information about IPMI Management Service support in Oracle ILOM, refer to the latest firmware release information in the *Oracle ILOM Feature Updates and Release Notes for Firmware 4.0.x*. To access these documents, go to <https://www.oracle.com/goto/ilom/docs>.

New Default Self-Signed SSL Certificate and Additional Security Checks (as of 3.2.8.x)

As of Oracle ILOM firmware 3.2 8.x, a unique self-signed default SSL certificate and fingerprint are provided by Oracle ILOM. When the newer version of the default SSL certificate is in use, Oracle ILOM performs additional certificate checks to validate the SSL certificate.

Impact to Customer Configuration

When updating earlier Oracle ILOM firmware versions to 3.2.8 or later, users connecting to Oracle ILOM through the web interface will need to accept a newer version of the default SSL self-signed certificate that is provided by Oracle ILOM.

Resolving SSL Warning Messages

If the Java client is not properly configured to validate the uploaded SSL certificate (default-Oracle-provided or customer-provided SSL certificate), Oracle ILOM remote KVM console users might experience a warning message.

For additional information about configuring an SSL certificate or resolving an SSL certificate warning message, see:

- "Improve Security by Using a Trusted SSL Certificate and Private Key" in the *Oracle ILOM Security Guide For Firmware Releases 3.x and 4.x*
- "Regenerate Self-Signed Default SSL Certificate Issued By Oracle" in the *Oracle ILOM Security Guide For Firmware Releases 3.x and 4.x*
- "Resolving Warning Messages for Self-Signed SSL Certificate " in the *Oracle ILOM Administrator's Guide for Configuration and Maintenance Firmware Release 4.0.x*
- "Resolving Warning Messages for Custom Certification Authority (CA) SSL Certificate" in the *Oracle ILOM Administrator's Guide for Configuration and Maintenance Firmware Release 4.0.x*

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: https://docs.oracle.com/cd/E81115_01/index.html

The Sun Server X4-2L 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.

BIOS Update – Important Power Management Operating Notes

- [“Reset Takes a Long Time and Causes the Server to Power Cycle” on page 17](#)

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

If you have a pending BIOS upgrade, a routine reset takes longer than expected and causes 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 as long as 26 minutes to complete.

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.



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.

For details, refer to “Update the BIOS and Service Processor Firmware (Oracle ILOM)” in *Oracle X4 Series Servers Administration Guide*.

Enhanced IP Connectivity Settings Available in Oracle ILOM

As of Oracle ILOM firmware version 3.2.4 (or SW release 1.3.1), Oracle ILOM supports the ability to independently enable or disable the property States for IPv4 and IPv6 network connectivity. In addition, a new static IPv6 gateway property is available for configuration.

▼ Access Enhanced IP Connectivity Settings in Oracle ILOM

To access these enhanced network settings in Oracle ILOM, refer to the following procedure.

1. Log in to Oracle ILOM as an Administrator.

For instructions on how launch Oracle ILOM from the web interface or command-line interface (CLI), see the *Sun Server X4-2L 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 - All user sessions on the SP are terminated upon saving the IP network property changes. To log back in to Oracle ILOM, use the newly assigned service processor IP address.

■ **From the CLI interface, 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_staticipaddress=
value|subnet_mask_value pending_static_ipgatewayaddress=value
```

Note - A dual-stack network connection is enabled when both the IPv4 and IPv6 State properties are set to enabled. By default, the Oracle ILOM configuration that comes with the server has network settings enabled for a dual stack (IPv4 and IPv6) network connection. If the IPv4 State property is enabled (`/SP/network state=enabled`) and the IPv6 State property is disabled (`/sp/network/ipv6 state=disabled`), Oracle ILOM will support an IPv4-only network connection.

- d. **To commit the IPv4 and IPv6 pending network changes in Oracle ILOM, type:**

```
set /SP/network commitpending=true
```

Note - All user sessions on the SP are terminated upon committing the IP network property changes. To log back in to Oracle ILOM, use the newly assigned service processor IP address.

Operational Changes for UEFI BIOS Configuration

Note - Server Platform Software Enhancement: As of Platform Software Release 1.2, the UEFI Configuration Synchronization option has been removed from the BIOS Advanced menu. Therefore, the user can no longer control the point at which Oracle ILOM synchronizes the UEFI configuration. UEFI configuration synchronization is now handled by the server platform software, so user actions are no longer required.

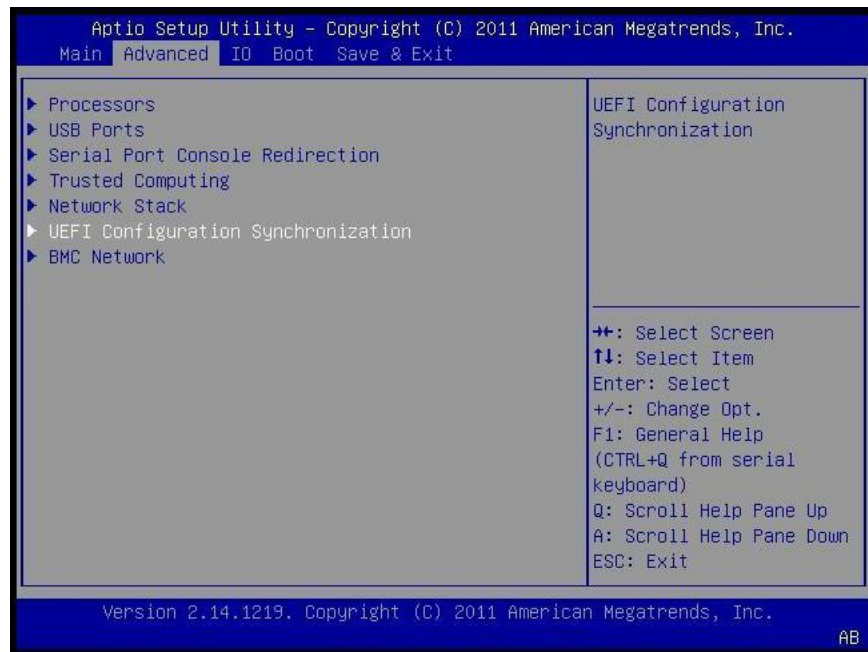
The process of synchronizing UEFI configuration between BIOS and Oracle ILOM has been modified to allow users to enable Late UEFI Configuration Synchronization (Synchronization Late). When enabled, Synchronization Late allows Oracle ILOM to attempt to synchronize the BIOS configuration either immediately before BIOS passes control to the host OS, or after saving and exiting from the BIOS Setup Utility.

There are two ways to enable or disable Synchronization Late:

- Use the new normal-mode BIOS setup parameter in the UEFI Config XML file. The parameter provides the following information:

```
<UEFI_Configuration_Synchronization>
<!--Synchronization Late-->
<!--Description: If enabled, Synchronization will occur at the end of post.-->
<!--Possible Values: "Disabled", "Enabled"-->
<Synchronization_Late>Enabled</Synchronization_Late>
```

- Log in to Oracle ILOM Remote Console or connect your monitor directly to a system to access the BIOS Setup Utility. In the BIOS Setup Utility, click the Advanced tab and scroll down to UEFI Configuration Synchronization. Press Enter to open the UEFI Configuration Synchronization menu.



Synchronization Late is enabled by default. Press Enter to enable or disable Synchronization Late. Save and Exit the BIOS Setup Utility.

Ensuring Successful File Transfers from Oracle ILOM

Do not use the # ; and ? special characters in the password of a target host. If the target host password includes these special characters, file transfers fail from Oracle ILOM to the target host when using Uniform Resource Identifier (URI) to perform the file transfer. Examples of these file transfers include using host storage redirection, and backing up and restoring BIOS and SP configurations. To ensure successful file transfers between Oracle ILOM and a target host, remove these special characters from the target host password.

Operating System Important Operating Notes

- [“Downloading an OS or Software Applications” on page 22](#)
- [“Segfaults Might Occur on Servers Running 64-bit Linux Operating Systems” on page 22](#)
- [“Oracle Solaris 10 1/13 Required Patches” on page 22](#)

- [“Oracle Solaris 10 1/13 Does Not Support PCI Subsystem Settings Option Enabled in the BIOS Setup Utility IO Menu” on page 23](#)
- [“Preinstalled Oracle VM Server and Oracle VM Manager Compatibility Requirements” on page 23](#)
- [“Supported Operating System Limitations” on page 23](#)
- [“Server Management Tools” on page 25](#)

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 downloads. See also [“Physical Media Requests Are No Longer Supported” on page 81](#). To access Oracle Software Delivery Cloud, go to <https://edelivery.oracle.com>.

Segfaults Might Occur on Servers Running 64-bit Linux Operating Systems

Servers running 64-bit Linux operating systems with Advanced Vector Extensions (AVX) processor support might experience segmentation faults (segfaults) when loading applications such as the Oracle Database or other Oracle Middleware products.

To avoid these unpredictable segfaults, you should ensure that the `glibc` package on your system is version `glibc-2.12-1.47.0.2.el6_2.12.x86_64`, or later.

You can obtain an updated `glibc` package from the Oracle Public Yum repository.

Oracle Solaris 10 1/13 Required Patches

After installing Oracle Solaris 10 1/13 on the server, you should install the patches listed in the following table.

TABLE 1 Required Patches for Oracle Solaris 10 1/13

Required Patches	CRs Fixed	Descriptions
150179-01	15755801, 15807688	This patch provides support for the Intel Xeon E5-2600 V2 series processor.

Required Patches	CRs Fixed	Descriptions
150385-01	15786384	This patch fixes a system hang issue when running a <code>hcts conn5_net</code> test.
148678-01	16384609	This patch fixes a kernel panic issue when booting the Oracle Solaris operating system.

Oracle Solaris 10 1/13 Does Not Support PCI Subsystem Settings Option Enabled in the BIOS Setup Utility IO Menu

The IO menu PCI Subsystem Settings 64-bit PCIe MMIO option in the BIOS Setup Utility is enabled by default. If you are installing Oracle Solaris 10 1/13 on the server, you must disable this option before you do the install; otherwise, some PCIe cards do not work properly.

Preinstalled Oracle VM Server and Oracle VM Manager Compatibility Requirements

If you use the Oracle VM Server software that is preinstalled on your system, you must ensure that it is compatible with the version of Oracle VM Manager that you use to manage your Oracle VM infrastructure. If necessary to achieve compatibility, upgrade your Oracle VM Server or Oracle VM Manager so that they are the same version.

For information about upgrading the Oracle VM software, see the *Oracle VM Installation and Upgrade Guide*. The Oracle VM documentation is available at the following web site: <http://www.oracle.com/technetwork/documentation/vm-096300.html>

Supported Operating System Limitations

This section provides information about limitations and recommendations for the supported operating systems when the Sun Server X4-2L is configured with 4-terabyte (4-TB) 7200-RPM 3.5-inch SAS hard disk drives (HDDs) and either the SGX-SAS6-INT-Z HBA or the SGX-SAS6-**R**-INT-Z HBA (Sun Storage 6 Gb SAS PCIe RAID internal HBA).

If your server configuration includes 4-TB 3.5-inch SAS drives and rear 2.5-inch drives, you can use the following operating systems or later without installation or boot drive limitations. You also can use the smaller capacity rear 2.5-inch drives for your installation and boot image.

- Oracle Linux 5.9 and 5.10
- RHEL 5.9 and 5.10
- Oracle VM 3.x

The following table lists 4-TB drive boot support minimum operating system limitations and recommendations when the system is configured with either the SGX-SAS6-INT-Z HBA or the SGX-SAS6-R-INT-Z HBA.

TABLE 2 Limitations and Recommendations for 4-TB Install and Boot Support

Operating System (Minimum)	With SGX-SAS6-INT-Z HBA		With SGX-SAS6-R-INT-Z HBA	
	Legacy Boot	UEFI Boot	Legacy Boot	UEFI Boot
Oracle Solaris 10	2 TB used, 2 TB unusable	Not applicable	Use a virtual drive that is less than 2 TB	Not applicable
Oracle Solaris 11.1 and 11.2	Recommended	Recommended	Recommended	Recommended
Oracle Linux 6.3, 6.4 and 6.5	Use a boot partition that is less than 2 TB	Recommended	Use a boot partition that is less than 2 TB	Recommended
RHEL 6.4 and 6.5				
Oracle Linux 5.9 and 5.10	Not applicable	Not applicable	Use a boot partition that is less than 2 TB	Not applicable
RHEL 5.9 and 5.10				
SLES 11 SP2 and SP3	Use a boot partition that is less than 2 TB	Recommended	Use a boot partition that is less than 2 TB	Recommended
Windows Server 2008 SP2/R2 SP1	2 TB used, 2 TB unusable	Recommended	Use a virtual drive that is less than 2 TB (LSI MegaRaid SAS2 Driver is required for Windows 2008 SP2, which is available on Oracle System Assistant)	Recommended
Windows Server 2012/2012 R2	2 TB used, 2 TB unusable	Recommended	Use a virtual drive that is less than 2 TB	Recommended
Oracle VM 3.2 and 3.3	Not applicable	Not applicable	Use virtual drive that is less than 2 TB	Not applicable
VMware ESXi 5.0 Update 2 and Update 3	Recommended	Recommended	Recommended	Recommended
ESXi 5.1 Update 1 and Update 2				
ESXi 5.5 and ESXi 5.5 Update 1				

The following table lists limitations for the preinstalled operating systems that use 4-TB boot drives when the system is configured with either the SGX-SAS6-INT-Z or the SGX-SAS6-R-INT-Z host bus adapter (HBA).

TABLE 3 Preinstalled Operating System Support for 4-TB Drives

Operating System	With SGX-SAS6-INT-Z HBA or SGX-SAS6-R-INT-Z HBA	
	Legacy Boot	UEFI Boot
Oracle VM 3.x	Not supported	Not supported

Server Management Tools

There are three sets of single system management tools for your server:

- Oracle Integrated Lights Out Manager (ILOM): For information, refer to the Oracle Integrated Lights Out Manager (ILOM) 3.2 Documentation Library at: <https://www.oracle.com/goto/ilom/docs>
- Oracle System Assistant: For information, refer to instructions for setting up the server using Oracle System Assistant in the *Oracle X4 Series Servers Administration Guide* at <https://www.oracle.com/goto/x86admindiaag/docs>
- Oracle Hardware Management Pack: For information, refer to the Oracle Hardware Management Pack Documentation Library at: <https://www.oracle.com/goto/ohmp/docs>

In addition, the following software is available to manage multiple systems in a data center:

- Oracle Enterprise Manager Ops Center: For information, refer to the product information page at: <http://www.oracle.com/technetwork/oem/ops-center/index.html>

Hardware Important Operating Notes

- “Diagnosing SAS Data Path Failures on Servers Using MegaRAID Disk Controllers” on page 26
- “Remove Storage Drive Cage When Servicing the Motherboard Assembly” on page 27
- “Avoid Overwriting the Embedded Oracle System Assistant USB Flash Drive” on page 30
- “Install System Battery Incorrect Position” on page 31
- “Install AC Power Cables and Slide-Rails” on page 32
- “Remove and Replace a Fan Module Within 20 Seconds” on page 33
- “MAC Address Mapping to Ethernet Ports” on page 34
- “Failure of a Single Server Fan Module Might Impact Performance” on page 34
- “Rear-Mounted HDD Naming When Using Oracle Solaris” on page 34
- “Inspect Grounding Strap on 3.5-inch HDD Bracket Before Installing HDDs” on page 35
- “Battery Module” on page 36
- “Connect AC Power Cables Before Installing Slide-Rails in Sun Rack II 1042” on page 37
- “Single-Processor to Dual-Processor Upgrade Is Not Supported” on page 37

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 Sun Server X4-2L, 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

Drive	Error Counter for Drive Error	Error Counter for Slot
/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.

Remove Storage Drive Cage When Servicing the Motherboard Assembly

In the *Sun Server X4-2L Service Manual*, the removal and installation procedures for "Servicing the Motherboard Assembly" do not include the steps for removing the storage drive cage. If the Sun Server X4-2L has a cable retaining clip on the right side of the chassis, you need to remove the storage drive cage prior to removing the motherboard assembly. Removing the storage drive cage enables the motherboard assembly to slide far enough forward to clear the single clip on the right side of the chassis, when facing the drives. You then need to replace the storage drive cage to reinstall the motherboard assembly.

▼ Remove the Storage Drive Cage and Motherboard Assembly

Refer to the *Sun Server X4-2L Service Manual* at https://docs.oracle.com/cd/E36974_01/pdf/E38158.pdf when performing this procedure.

To remove the storage drive cage and motherboard assembly, follow these steps:

1. **Refer to the procedure "Remove the Motherboard Assembly" in the Service Manual on page 144.**

Read all Cautions that are documented in the Service Manual for this procedure before performing these steps.

2. **Complete Step 1 through Step 6 in the procedure "Remove the Motherboard Assembly" in the Service Manual.**

3. **Remove all of the storage drives from the storage drive cage.**

See the procedure "Remove a Storage Drive" on page 49 in the Service Manual.

4. **Disconnect the cables from the storage drive backplane(s).**

Disconnect the disk backplane LED cable, the SAS/SATA cable(s), the power cable(s), and the DVD power cable (eight-drive systems only).

- For eight-drive and twelve-drive systems, see Step 3 in the procedure "Remove the Storage Drive Backplane for Eight-Drive and Twelve-Drive Systems" on page 119 in the Service Manual.
- For twenty-four drive systems, see Step 3 in the procedure "Remove the Storage Drive Backplane for Twenty-Four Drive Systems" on page 123 in the Service Manual.

5. **Depending on your server's storage drive configuration, do one of the following:**

- **If your server is configured with twenty-four 2.5-inch drives, release the disk cage assembly:**

- a. **Remove the server fan assembly door.**

See the procedure "Remove the Fan Assembly Door From a Server With 2.5-Inch Drives" on page 44 in the Service Manual.

- b. **Remove the four No. 2 Phillips screws (two on each side of the chassis) that secure the storage drive cage to the server chassis.**

Save the four screws. You will need them when you replace the storage drive cage and motherboard assembly.

- **If your server is configured with twelve 3.5-inch drives or eight 2.5-inch drives, release the disk cage assembly:**

- a. **Remove the six No. 2 Phillips screws (three on each side of the chassis) that secure the storage drive cage to the server chassis.**

Save the six screws. You will need them when you replace the storage drive cage and motherboard assembly.

6. **Slide the storage drive cage forward to disengage the standoffs in the base of the chassis and carefully lift the storage drive cage forward and out of the chassis.**
7. **Slide the motherboard assembly forward far enough to clear the single clip on the right side of the chassis, then lift the motherboard assembly up and out of the chassis.**

See Step 7 in the procedure "Remove the Motherboard Assembly" on page 144 in the Service Manual.

8. **Continue with Step 8 in the procedure "Remove the Motherboard Assembly" on page 144 in the *Sun Server X4-2L Service Manual* to complete the motherboard removal procedure.**

▼ **Replace the Storage Drive Cage and Motherboard Assembly**

Refer to the *Sun Server X4-2L Service Manual* at https://docs.oracle.com/cd/E36974_01/pdf/E38158.pdf when performing this procedure.

To reinstall the storage drive cage and motherboard assembly, follow these steps:

1. **Refer to the procedure "Install the Motherboard Assembly" on page 152 in the Service Manual.**

Read all Cautions that are documented in the Service Manual for this procedure before performing these steps.

2. **Slide the motherboard back into the chassis. Ensure that the motherboard clears the single clip on the right side of the chassis.**

See Step 2 in the procedure "Install the Motherboard Assembly" on page 152 in the Service Manual. Tilt the motherboard to the right side to fit under the power supply assembly, level the motherboard and place it into the server chassis, then slide it to the rear of the server to engage the standoffs.

3. **Slide the disk cage back into the chassis and apply pressure to the front of the cage to engage the standoffs in the base of the chassis.**

Ensure that the bottom front edge of the chassis engages into the front slot(s) on the front bottom edge of the storage drive cage.

4. Depending on your server's storage drive configuration, do one of the following:

■ **If your server is configured with twenty-four 2.5-inch drives, replace the disk cage assembly:**

a. **Replace the four No. 2 Phillips screws (two on each side of the chassis) that secure the disk cage assembly to the server chassis.**

b. **Install the server fan assembly door.**

See "Install the Fan Assembly Door" on page 161 in the Service Manual.

■ **If your server is configured with twelve 3.5-inch eight drives or eight 2.5-inch drives, replace the disk cage assembly:**

a. **Replace the six No. 2 Phillips screws (three on each side of the chassis) that secure the storage drive cage to the server chassis.**

5. Reconnect the cables to the storage drive backplane(s).

Reconnect the disk backplane LED cable, the SAS/SATA cable(s), the power cable(s), and the DVD power cable (eight-drive systems only).

■ For eight-drive and twelve-drive systems, see Step 3 in the procedure "Install the Storage Drive Backplane for Eight-Drive and Twelve-Drive Systems" on page 122 in the Service Manual.

■ For twenty-four drive systems, see Step 3 in the procedure "Install the Storage Drive Backplane for Twenty-Four Drive Systems" on page 126 in the Service Manual.

6. Complete Step 3 through Step 8 in the procedure "Install the Motherboard Assembly" on page 152 in the *Sun Server X4-2L Service Manual*.

Avoid Overwriting the Embedded Oracle System Assistant USB Flash Drive

Sun Server X4-2L systems that have the Oracle System Assistant USB flash drive are (for the purposes of installing a Linux operating system or virtual machine software), multi-storage drive systems, even if they have only one hard-disk drive (HDD) or solid-state drive (SSD). The Oracle System Assistant USB flash drive looks like an ordinary disk to the installer.

During operating system (OS) installations, you must not accept the default disk layout presented by the installer without carefully reviewing the devices used for disk partitions. If you accept the default disk partitions suggested by the OS installer without reviewing or correcting the device selections, you might overwrite the Oracle System Assistant USB flash drive and incur other system software issues.

This is more likely to happen in Oracle Linux 6.x and 7 or Red Hat Enterprise Linux (RHEL) 6.x and 7 based installations in Unified Extensible Firmware Interface (UEFI) mode, because the installer recognizes the USB flash drive as a valid Efi System Partition (ESP boot partition) and attempts to use the Oracle System Assistant USB flash drive to boot the OS in many of the default disk configurations. Always select the disk partitioning options that allow you to review the disk layout.

- For details on creating a custom layout or modifying the default layout, see https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-diskpartitioning-x86.html.
- For details on the disk partitioning setup, see https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-diskpartsetup-x86.html.

For more information, see the following sections in the software installation guides:

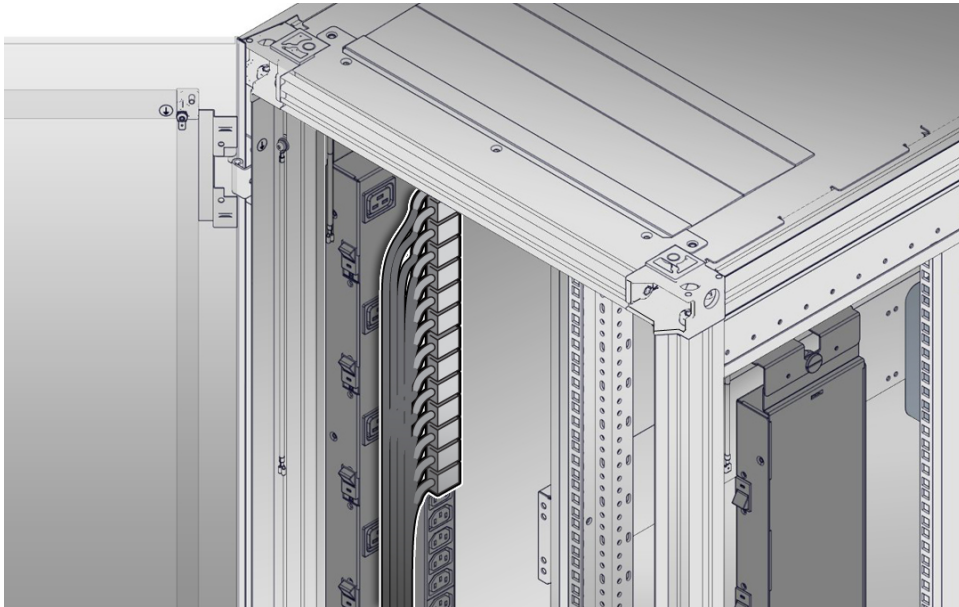
- For Linux operating systems, see “Installation Target Options” in the *Sun Server X4-2L Installation Guide for Linux Operating Systems*.
- For Oracle VM, see “Installation Target Options” in the *Sun Server X4-2L Installation Guide for Oracle VM*.
- For VMware ESXi, see “Installation Target Options” in the *Sun Server X4-2L Installation Guide for VMware ESXi*.

Install System Battery Incorrect Position

In the *Sun Server X4-2L Service Manual*, the illustration of removing the system battery in the procedure “Remove the Battery” on page 97 shows the negative side of the battery facing the chassis wall. This illustration of the battery is incorrect. The correct position of the battery, which the illustration should depict, is for the positive (+) side of the battery to face the chassis wall in the Sun Server X4-2L.

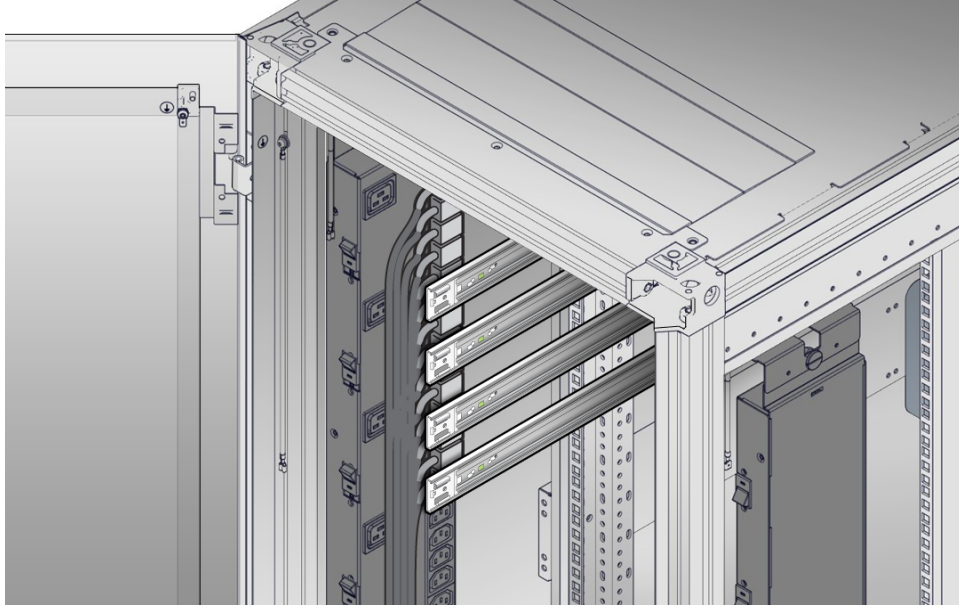
▼ Install AC Power Cables and Slide-Rails

1. Prior to installing the slide-rails into the rack, install right-angle AC power cables into the left-side and right-side PDU electrical sockets for the servers you are going to rack mount.



2. Install the slide-rails into the rack.

See "Attach Tool-less Slide-Rail Assemblies" in *Sun Server X4-2L Installation Guide*.



3. Continue to install servers into the rack.

See "Install the Server Into the Slide-Rail Assemblies" in *Sun Server X4-2L Installation Guide* and "Install the First-Generation Cable Management Arm" in *Sun Server X4-2L Installation Guide*.

Remove and Replace a Fan Module Within 20 Seconds

When removing and replacing a server fan module, you must complete the entire removal and replacement procedure within 20 seconds in order to maintain adequate cooling within the system. In anticipation of this time limit, prior to starting the replacement procedure, obtain the replacement fan module and verify that the new fan module is ready for installation.

Fan modules are hot-swappable components, with N+1 fan redundancy. The Sun Server X4-2 40mm fan module contains two complete counter-rotating fan pairs (four rotors total) and the chassis holds four fan modules. The Sun Server X4-2L fan module uses a single 80mm counter-rotating fan pair (two rotors total) and the chassis holds four fan modules. Even if only one fan is faulted within the fan module, the Oracle ILOM service processor detects that four fans in the Sun Server X4-2, or two fans in the Sun Server X4-2L, have failed to spin while the fan module

is being removed for replacement. If replacing the fan module takes longer than 20 seconds, Oracle ILOM automatically shuts down the system in order to prevent thermal damage to the system. This is expected behavior.

MAC Address Mapping to Ethernet Ports

A system serial label that displays the MAC ID (and the associated barcode) for the server is attached to the top, front-left side of the Sun Server X4-2L server disk cage bezel.

This MAC ID (and barcode) corresponds to a hexadecimal (base 16) MAC address for a sequence of six consecutive MAC addresses. These six MAC addresses correspond to the server's network ports as shown in the following table.

Base MAC Address	Corresponding Ethernet Port
"base" + 0	NET 0
"base" + 1	NET 1
"base" + 2	NET 2
"base" + 3	NET 3
"base" + 4	SP (NET MGT)
"base" + 5	Used only when Network Controller-Sideband Interface (NC-SI) sideband management is configured.

Failure of a Single Server Fan Module Might Impact Performance

If a single server fan module fails and the server's operating temperature rises above 30 degrees C (86 degrees F), the performance of the server's processors might be reduced.

Rear-Mounted HDD Naming When Using Oracle Solaris

When using the Oracle Solaris `crinfo` command to display hard disk drive (HDD) information for the Sun Server X4-2L, the rear-mounted hard disk drives (HDDs) are displayed as follows:

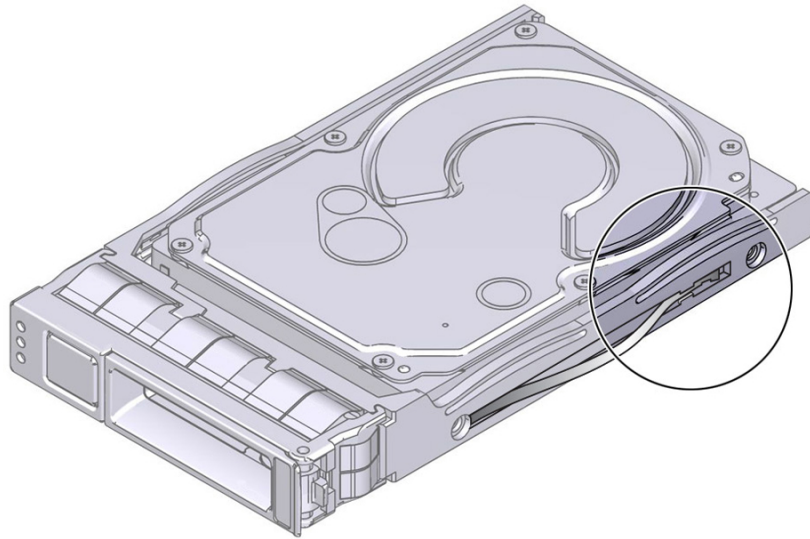
- In the 12+2 HDD configuration, the rear-mounted HDDs are displayed as HDD12 and HDD13.
- In the 24+2 HDD configuration, the rear-mounted HDDs are displayed as HDD24 and HDD25.

Inspect Grounding Strap on 3.5-inch HDD Bracket Before Installing HDDs

The 3.5-inch hard disk drive (HDD) bracket that is used in the Sun Server X4-2L incorporates a spring-loaded metal grounding strap, which is located on the right side of the HDD bracket. A deflection in the grounding strap can cause the strap to catch on the server disk cage, which can further damage the grounding strap. Once damaged, the grounding strap cannot be repaired and the HDD bracket must be replaced.

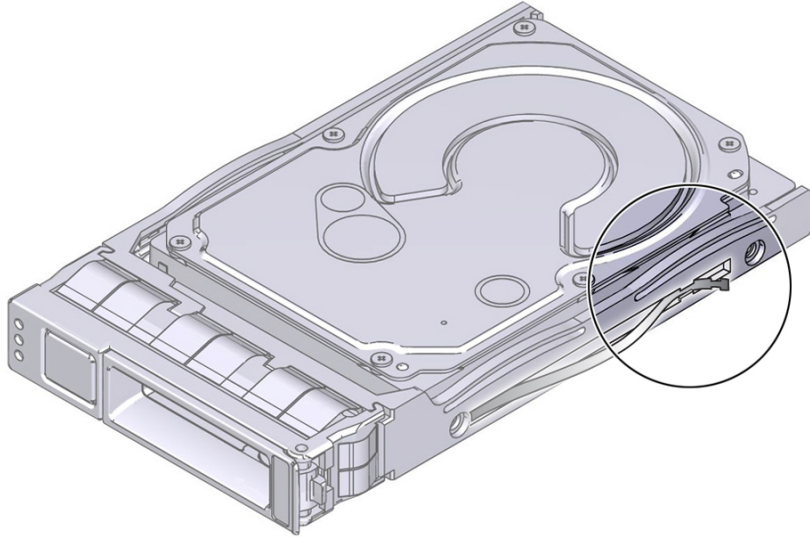
Before installing a 3.5-inch HDD into your system, visually inspect the grounding strap to ensure that the end of the strap is seated correctly in the HDD bracket. See the following figure for an example of a grounding strap that is seated correctly.

FIGURE 1 Grounding Strap Seated Correctly in the HDD Bracket



If the grounding strap is not seated correctly, or is protruding past the outer edge of the HDD bracket, the HDD bracket should be replaced. See the following figure for an example of a grounding strap that is not seated correctly.

FIGURE 2 Grounding Strap Not Seated Correctly in the HDD Bracket



Battery Module

In Oracle Engineered Systems, rear storage drive 1 might be populated with a remote battery module for the host bus adapter (HBA) card.



Caution - The battery module is not a customer-replaceable unit (CRU) and should not be removed or replaced by customers. The battery module should be removed or replaced only by Oracle Service personnel.

The battery module is hot-pluggable and provides the backup power subsystem for the Sun Storage 6 Gb SAS PCIe RAID internal HBA: SG-SAS6-R-INT-Z. It enables Oracle Service personnel to replace the battery at the end of its service life without requiring the server to be powered off.

Connect AC Power Cables Before Installing Slide-Rails in Sun Rack II 1042

Right-angle AC power cables must be installed before slide-rails when installing the Sun Server X4-2L into a Sun Rack II 1042 (1000-mm) system rack. The standard rail kit tool-less slide-rails impede access to the 15kVA and 22kVA Power Distribution Unit (PDU) electrical sockets in the 1000-mm rack. If you use the standard AC power cables and then install the slide-rails into the rack, you will be unable to disconnect or remove the AC power cables.

Note - This procedure applies only to server installations within the Sun Rack II 1042 (1000-mm) system rack. You do not have to perform this procedure if you are installing the servers into the Sun Rack II 1242 (1200-mm) system rack.

You must use the following 2-meter right-angle AC power cable for this procedure:

- 7079727 - Pwrcord, Jmpr, Bulk, SR2, 2m, C14RA, 10A, C13

Perform this procedure in conjunction with the instructions provided in "Installing the Server Into a Rack" in *Sun Server X4-2L Installation Guide*.

Single-Processor to Dual-Processor Upgrade Is Not Supported

Oracle does not support a single-processor to dual-processor upgrade on the Sun Server X4-2L. Oracle does not provide a single-processor to dual-processor upgrade kit for the server.

Supported PCIe Cards

This section includes information about the PCIe cards that are supported on the Sun Server X4-2L.

The following table lists the quantity and slot restrictions for PCIe cards supported on the Sun Server X4-2L. The Maximum Quantity Supported column indicates the number of cards tested and supported by Oracle.

Note - PCIe slots 1, 2, and 3 are nonfunctional in single-processor systems. PCIe cards that are supported in slots 1 through 5 in dual-processor systems are only supported in slots 4 and 5 in single-processor systems.

TABLE 4 PCIe Cards Supported, Quantity Supported, and Slot Restrictions

PCIe Card	Maximum Quantity Supported	Slot Restrictions
Sun Storage 6 Gb SAS PCIe RAID HBA, Internal SGX-SAS6-R-INT-Z (orderable option) SG-SAS6-R-INT-Z (for factory installation)	1	Supported in slot 6 only.
Sun Storage 6 Gb SAS PCIe HBA, Internal SGX-SAS6-INT-Z (orderable option) SG-SAS6-INT-Z (for factory installation)	1	Supported in slot 6 only.
Sun Storage 6 Gb SAS PCIe HBA, External SGX-SAS6-EXT-Z (orderable option for non-European countries)	4	Supported in slots 1, 2, 3, 4, and 5.
7105387 (orderable option for European countries)		
SG-SAS6-EXT-Z (for factory installation)		
StorageTek 8 Gb FC PCIe HBA Dual Port QLogic	5	Supported in slots 1, 2, 3, 4, and 5.
SG-XPCIE2FC-QF8-N (orderable option)		
SG-PCIE2FC-QF8-Z (for factory installation)		
StorageTek 8 Gb FC PCIe HBA Dual Port Emulex SG-XPCIE2FC-EM8-N (orderable option)	5	Supported in slots 1, 2, 3, 4, and 5.
SG-PCIE2FC-EM8-Z (for factory installation)		
Sun Storage Dual 16 Gb Fibre Channel PCIe Universal HBA, QLogic	5	Supported in slots 1, 2, 3, 4, and 5.
7101674 (orderable option)		
7101673 (for factory installation)		
Sun Storage Dual 16 Gb Fibre Channel PCIe Universal HBA, Emulex	5	Supported in slots 1, 2, 3, 4, and 5.
7101684 (orderable option)		
7101683 (for factory installation)		
Sun Storage 16 Gb FC Short Wave Optics, QLogic	5	Supported in slots 1, 2, 3, 4, and 5.
7101676 (orderable option)		
7101675 (for factory installation)		
Note - This PCIe card is supported by Oracle VM 3.3, however, this card is not supported by Oracle VM 3.2.		
Sun Storage 16 Gb FC Long Wave Optics, QLogic	5	Supported in slots 1, 2, 3, 4, and 5.
7101680		
Note - This PCIe card is supported by Oracle VM 3.3, however, this card is not supported by Oracle VM 3.2.		
Sun Storage 10 Gb FCoE Short Range Optics, QLogic	5	Supported in slots 1, 2, 3, 4, and 5.
7101678 (orderable option)		

PCIe Card	Maximum Quantity Supported	Slot Restrictions
7101677 (for factory installation) Note - This PCIe card is supported by Oracle VM 3.3, however, this card is not supported by Oracle VM 3.2.		
Sun Storage 16 Gb FC Short Wave Optics, Emulex	5	Supported in slots 1, 2, 3, 4, and 5.
7101686 (orderable option)		
7101685 (for factory installation)		
Sun Storage 10 Gb FCoE Short Range Optics, Emulex	5	Supported in slots 1, 2, 3, 4, and 5.
7101688 (orderable option)		
7101687 (for factory installation)		
Sun Dual Port QDR InfiniBand Host Channel Adapter for PCIeExpress Gen 3	4	Supported in slots 1, 2, 3, and 5.
7104074 (orderable option)		
7104073 (for factory integration) Note - This PCIe card is supported by Oracle VM 3.3, however, the maximum quantity supported is 2. Oracle VM 3.2, Windows Server, VMware ESXi, and SUSE Linux Enterprise Server are supported only with Oracle Virtual Network.		
Sun Dual 10GbE SFP+ PCIe 2.0 Low Profile Adapter (incorporates the Intel 82599 10 Gigabit Ethernet controller) 1109A-Z (orderable option) X1109A-Z (for factory installation)	4	Supported in slots 1, 2, 3, 4, and 5.
Sun Dual Port GbE PCIe 2.0 Low Profile Adapter, MMF	4	Supported in slots 1, 2, 3, 4, and 5.
7100481 (orderable option)		
7100482 (for factory installation)		
Sun Quad Port GbE PCIe 2.0 Low Profile Adapter, UTP	4	Supported in slots 1, 2, 3, 4, and 5.
7100477 (orderable option)		
7100479 (for factory installation)		
Sun Dual Port 10 GbE PCIe 2.0 Low Profile Adapter, Base-T	4	Supported in slots 1, 2, 3, 4, and 5.
7100488 (orderable option)		
7100563 (for factory installation)		
Flash Accelerator PCIe F80 Card: 800GB, eMLC	4	Supported in slots 1, 2, 4, and 5.
7107092 (orderable option)		
7107091 (for factory installation)		

PCIe Card	Maximum Quantity Supported	Slot Restrictions
Note - This card is supported only on Oracle Linux 5.9 and 6.4 with UEK2, Oracle Linux 6.5 and 7.0 with UEK3, and Oracle Solaris 10 1/13, 11.1 and 11.2. Only Legacy BIOS Boot Mode is supported; UEFI Boot Mode is not supported.		

Resolved Issues

Comprehensive information about the server is available in the server documentation library at: <https://www.oracle.com/goto/x4-2l/docs>.

Note - Where applicable, the following resolved issues tables list the resolved issues by the Bug ID number (the identification number assigned by the current Oracle BugDB bug tracking system) and the Change Request number (the identification number assigned by the previous bug tracking system).

The following sections list and describe issues that have been resolved.

Unsupported Hardware Device error appears when using the recovery ISO file

BugID: CR 16590407

Issue:

When using software version 1.0 of the Oracle System Assistant recovery ISO file, the following message appears: UNSUPPORTED HARDWARE DEVICE: CPU family 6 model > 59.

Affected software:

- Platform software releases 1.0, 1.0.1, and 1.1

Fixed in:

- Platform software release 1.2

When using the InfiniBand PCIe card with Oracle UEK2, if the BIOS options VT-d and SR-IOV are enabled and the kernel boot argument `intel_iommu` is set to `on`, low IPoIB throughput results

BugID: CR 17168826

Issue:

When the BIOS options VT-d and SR-IOV are enabled (the default settings) and the kernel boot argument `intel_iommu` is set to `on`, low IP-over-InfiniBand (IPoIB) throughput results when using the Sun Dual Port QDR InfiniBand Host Channel Adapter for PCIExpress Gen 3 PCIe card (7104074) with the Oracle Unbreakable Enterprise Kernel Release 2 (UEK2) for Linux.

Affected hardware and software:

- Sun Dual Port QDR InfiniBand Host Channel Adapter for PCIExpress Gen 3 PCIe card (7104074)
- Oracle Unbreakable Enterprise Kernel Release 2 for Linux
- Platform software releases 1.0, 1.0.1, and 1.1

Fixed in:

- Platform software release 1.2

GRUB boot loader can only boot from the first eight hard drives in a system

BugID: 15788976 (formerly CR 7165568)

Issue:

Some versions of the GRUB boot loader can only boot from the first eight hard drives in a system. It is possible to install the operating system (OS) and boot loader to a drive that is ninth or higher in the list of drives connected to host bus adapters (HBAs) with Option ROMs enabled. However, when the system is rebooted after the OS installation, the GRUB boot loader hangs at the GRUB prompt, and does not execute disk I/O operations to load the OS from the disk drive.

Affected software:

- Oracle Linux 6.3 and 6.4, using Unified Extensible Firmware Interface (UEFI) mode or Legacy (non-UEFI) BIOS mode
- Red Hat Enterprise Linux (RHEL) 6.4, using UEFI mode or Legacy BIOS mode
- SUSE Linux Enterprise Server (SLES) 11 SP2 and SP3, using Legacy BIOS mode
- Oracle Linux 5.9 using Legacy BIOS mode
- RHEL 5.9 using Legacy BIOS mode
- Oracle VM 3.2 using Legacy BIOS mode
- Platform software releases 1.0, 1.0.1, and 1.1

Fixed in:

- Platform software release 1.2

Workaround from previous software releases:

Depending on your operating system and your BIOS configuration, choose one of the following solutions.

Solution 1 (Supporting all operating systems and either Legacy BIOS or UEFI BIOS configurations):

1. Rearrange the disk drives and reinstall the operating system and boot loader to any one of the first eight disk drives in the system. This method might require you to enter the BIOS Setup Utility and disable the Option ROMs of HBAs that are connected to disk drives that are not used for system boot.

For information on entering the BIOS Setup Utility and changing Option ROM settings of HBAs, see instructions for configuring Option ROM Settings in the *Oracle X4 Series Servers Administration Guide* at <https://www.oracle.com/goto/x86admindiag/docs>.

BugID: 15788976 (formerly CR 7165568) (*Continued*)

Workaround 2:

Solution 2 (Supporting Oracle Linux 6.3 and 6.4 and RHEL 6.4 in a Legacy BIOS configuration):

This procedure details the process of updating the GRUB RPM of the OS, and reinstalling GRUB to the MBR of the disk drive from a rescue environment. For more information on updating the GRUB MBR boot code from a rescue environment, see https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/ap-rescuemode.html#Rescue_Mode-x86

Before you begin, you need to obtain the Oracle Linux 6.2 or RHEL 6.2 installation media as appropriate.

1. Boot the system from the Oracle Linux 6.3 or 6.4 or RHEL 6.4 installation boot media.
2. From the installation prompt, type **linux rescue** to enter the rescue environment.
3. Create a directory for the installation media.

```
mkdir /mnt/cd
```

4. Mount the installation media.

```
mount -o ro /dev/sr0 /mnt/cd
```

```
cp /mnt/cd/Packages/grub-0.97-75*rpm /mnt/sysimage
```

5. Enter change root environment on the root partition.

```
chroot /mnt/sysimage
```

```
yum localupdate /grub-0.97-75*rpm || rpm -Uvh /grub-0.97-75*rpm
```

6. Reinstall the GRUB boot loader.

```
/sbin/grub-install bootpart
```

where *bootpart* is the boot partition (typically, */dev/sda*).

7. Review the */boot/grub/grub.conf* file, as additional entries might be needed for GRUB to control additional operating systems.

8. Reboot the system.

```
> reset /System
```

BugID: 15788976 (formerly CR 7165568) (*Continued*)

Workaround 3:

Solution 3 (Supporting Oracle Linux 6.3 and 6.4 and RHEL 6.4 in a UEFI BIOS configuration):

This procedure details the process of updating the *grub.efi* binary by updating the GRUB RPM to the latest version from a rescue environment. For more information on updating the GRUB RPM from a rescue environment, see https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/ap-rescuemode.html#Rescue_Mode-x86.

Before you begin, you need to obtain the Oracle Linux 6.3 or 6.4 or RHEL 6.4 installation media as appropriate.

1. Boot the system from the Oracle Linux 6.2 or RHEL 6.2 installation boot media as appropriate.
2. From the UEFI boot loader menu, type **linux rescue** to enter the rescue environment.

3. Mount the installation media.

```
mount -o ro /dev/sr0 /mnt/cd
```

```
cp /mnt/cd/Packages/grub-0.97-75*rpm /mnt/sysimage
```

4. Create a directory for the installation media.

```
mkdir /mnt/cd
```

5. Enter change root environment on the root partition.

```
chroot /mnt/sysimage
```

```
yum localupdate /grub-0.97-75*rpm || rpm -Uvh /grub-0.97-75*rpm
```

6. Exit the root environment.

```
chroot env
```

7. Exit rescue mode.

8. Reboot the system.

```
> reset /System
```

StorageTek 8 Gb FC PCIe HBA Dual Port Emulex HBA card is not supported with the Oracle Solaris 11.1 operating system

CR: None

Issue:

StorageTek 8 Gb FC PCIe HBA Dual Port Emulex (SG-PCIE2FC-EM8-Z and SG-XPCIE2FC-EM8-N) host bus adapter (HBA) card is not supported with the Oracle Solaris 11.1 operating system.

Affected hardware and software:

- StorageTek 8 Gb FC PCIe HBA Dual Port Emulex (SG-PCIE2FC-EM8-Z and SG-XPCIE2FC-EM8-N)
- Oracle Solaris 11.1
- Platform software releases 1.0 and 1.0.1

Fixed in:

- Platform software release 1.1
- Oracle Solaris 11.1.13.6.0

Oracle Server Hardware Management Agent does not start successfully on Red Hat Enterprise Linux (RHEL) 6.4

BugID: CR 16975947

Issue:

Oracle Server Hardware Management Agent (hwmgmt) does not start successfully on RHEL 6.4 after Oracle Hardware Management Pack is installed. The service does not start normally and the user cannot acquire the correct system information using Oracle Integrated Lights Out Manager (ILOM).

Affected software:

- Oracle Hardware Management Pack
- Red Hat Enterprise Linux (RHEL) 6.4
- Platform software releases 1.0 and 1.0.1

Fixed in:

- Oracle Hardware Management Pack 2.2.8

32-GB LRDIMMs are not be available for customer order when the server is initially released

CR: None

Issue:

The 32-GB memory modules (LRDIMMs) are not be available for customer order until after the initial release of the server. Only the 8-GB and 16-GB RDIMMs are available for customer order at initial release.

Affected hardware and software:

- 32-GB LRDIMMs
- Platform software release 1.0

Fixed in:

- The 32-GB LRDIMMs are available for order as of platform software release 1.0.1.

When using Oracle ILOM Remote Console with the Oracle Solaris 10 1/13 operating system, the system appears to hang and does not accept keyboard input

BugID: CR 16353003

Issue:

When using Oracle ILOM Remote Console with the Oracle Solaris 10 1/13 OS, the system appears to hang in the final stages of shutting down. The Remote Console displays the prompt “Press any key to reboot,” but the console does not accept any keyboard input in response to the message. This issue can occur when the Remote Console eeprom variable `console` is set to text and when entering the following system administration commands:

- `sys-unconfig`
- `init 0`
- `uadmin 1 0`
- `uadmin 1 6`
- `uadmin 2 0`
- `shutdown -i 0`
- `halt`

Affected software:

- Oracle Solaris 10 1/13
- Platform software releases 1.0, 1.0.1, and 1.1

Fixed in:

- Platform software release 1.2

Note - A fix for this issue is available in patch 150401-12 for Oracle Solaris 10 Update 11, and Oracle Solaris 11.1 with SRU 19.6 or later releases. To download the patch, go to the My Oracle Support web site at <https://support.oracle.com>.

Open Issues

Comprehensive information about the server is available in the server documentation library at: <https://www.oracle.com/goto/x4-2l/docs>

Open issues are grouped by categories and presented in tables in the following sections:

Note - The open issues tables list the issues by the Bug ID number (the identification number assigned by the current Oracle BugDB bug tracking system) and the Change Request number (the identification number assigned by the previous bug tracking system).

- “Hardware Open Issues” on page 47
- “Oracle System Assistant Open Issues” on page 56
- “Oracle Solaris Operating System Open Issues” on page 60
- “Linux Operating Systems and Virtual Machine Open Issues” on page 63
- “Windows Operating System Open Issues” on page 78
- “Documentation Open Issues” on page 79

Related Information

- “Server Update Information” on page 10
- “Important Operating Notes” on page 12

Hardware Open Issues

Oracle ILOM SNMP v3 traps are not delivered after SNMP engine ID change

Bug ID 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.

Affected hardware and software:

- Oracle ILOM 3.1 and 3.2.4

- Platform software releases 1.0 and later.

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
```

MegaRAID mouse pointer does not work on Oracle ILOM Remote Console

BugID: 15584702 (formerly CR 6875309)

Issue:

When using the Oracle ILOM Remote Console (with the mouse mode set to Absolute) on a server with a Sun Storage 6 Gb SAS PCIe RAID HBA Internal option card installed, if you boot the system and press Ctrl+H to enter the LSI MegaRAID BIOS Utility, the mouse pointer only moves vertically and horizontally on the left and top sides of the utility.

Affected hardware and software:

- Sun Storage 6 Gb SAS PCIe RAID HBA Internal (SGX-SAS6-R-INT-Z and SG-SAS6-R-INT-Z)
- Platform software releases 1.0 and later.

Workaround:

In the Oracle ILOM Remote Console, change the mouse mode setting from Absolute (the default) to Relative mode.

For instructions for setting Oracle ILOM Remote Console to Relative mode, see the Oracle ILOM 3.2 Documentation Library at: <https://www.oracle.com/goto/ilom/docs>

UEFI configuration settings might be lost when transitioning between UEFI BIOS and Legacy BIOS modes

BugID: 15736328 (formerly CR 7080526)

Issue:

Unified Extensible Firmware Interface (UEFI) boot priority list settings might be lost when transitioning between UEFI BIOS and Legacy BIOS modes. This issue might occur if you need to run system diagnostics using the Pc-Check utility, which only runs in the Legacy BIOS mode. UEFI configuration settings should be saved prior to switching between UEFI BIOS and Legacy BIOS.

Affected software:

- Platform software releases 1.0 and later.

Workaround:

Use the Oracle ILOM BIOS Configuration Backup and Restore feature to save configuration settings prior to transitioning between the BIOS modes. Then restore the BIOS configuration settings after transitioning back to UEFI mode. For more information and procedures for saving UEFI configuration settings, refer to the *Oracle ILOM Administrator's Guide for Configuration and Maintenance Firmware Release 3.2.x* in the Oracle Integrated Lights Out Manager (ILOM) 3.2 Documentation Library at: <https://www.oracle.com/goto/ilom/docs>

BIOS might not respond to a USB keyboard and/or mouse that is connected directly to the server

BugID: 15735895 (formerly CR 7079855)

Issue:

On rare occasions, when a USB keyboard and/or mouse is directly connected to the host, the keyboard and/or mouse might not be recognized by BIOS. This problem is indicated by a failure of BIOS to respond to key presses during the time the BIOS splash screen is displayed.

Affected software:

- Platform software releases 1.0 and later.

Workaround:

Reboot the host. If the problem persists after two or three system reboots, contact your authorized Oracle service provider for assistance.

Oracle ILOM BIOS Configuration Backup and Restore feature should not report “Partial Restore” status

BugID: 15790853 (formerly CR 7167796)

Issue:

Any time an Oracle ILOM Unified Extensible Firmware Interface (UEFI) BIOS configuration is loaded, the configuration file might contain inactive parameters, that is, parameters that are no longer valid for the current version of the BIOS, or typographical errors. This can result in the failure of one or more parameters to load. When this occurs, the Oracle ILOM `/System/BIOS/Config/restore_status` parameter, which provides the user with the status of the last attempted configuration load, reports that the load was partially successful. The value of `/System/BIOS/Config/restore_status` parameter does not change until a subsequent load of an Oracle ILOM UEFI BIOS configuration occurs.

Affected software:

- Oracle ILOM 3.1 and 3.2.4
- Platform software releases 1.0 and later.

Workaround:

1. Using a text editor, create an XML file with the following contents:

```
<BIOS>
```

```
</BIOS>
```

2. Save the file to any XML file name.

For purposes of this example, the file name used is `bios_no_op_config.xml`

3. To load the configuration, enter the following Oracle ILOM command:

```
% load -source <URL location>/bios_no_op_config.xml /System/BIOS/Config
```

4. If host power is on, enter the following command to reset the host:

```
% reset /System
```

Emulex HBA: UEFI “Add Boot Device” hangs when invoked if “Scan Fibre Devices” is not run first

BugID: 15785186 (formerly CR 7160984)

Issue:

Note - This problem only occurs on Emulex HBAs running UEFIBoot version 4.12a.15 firmware. If you are running a different version of the HBA firmware, you do not experience this issue.

At the UEFI Driver control HII menu for the Emulex host bus adapter (HBA), with Set Boot From San to enabled, if you run the Add Boot Device function, you see the Please Wait message for approximately 3 to 5 seconds, and then the system hangs. You must reset the server to clear the condition.

However, if you run the Scan Fibre Devices function first, and then you run the Add Boot Device function, the Add Boot Device function works correctly. The hang condition only occurs if the Add Boot Device function is run first.

Affected software:

- Sun StorageTek 8 Gb FC PCIe HBA Dual Port Emulex, with EFIBoot version 4.12a.15 firmware (SG-PCIE2FC-EM8-Z and SG-XPCIE2FC-EM8-N)
- Platform software releases 1.0 and later.

Workaround:

To recover from this hang condition, enter the following command to reset the server:

```
> reset /System
```

On single-processor systems, some Oracle ILOM web interface System Information screens show an incorrect number of Ethernet ports and PCIe ports available for use

BugID: 15803551, 15803553 (formerly CR 7183782, 7183789)

Issue:

On single-processor systems, Ethernet ports NET 2 and NET3, and PCIe slots 1, 2, and 3 are not supported. However, the following Oracle Integrated Lights Out Manager (ILOM) web interface screens incorrectly show these ports as available for use.

- The ILOM System Information → Summary screen and the System Information → Networking screen show the number of supported Ethernet NICs (Network Interface Controllers) as 4 when actually only two Ethernet NICs (NET 0 and NET 1) are supported and available for use.
- The Oracle ILOM System Information → PCI Devices screen shows the Maximum Add-on Devices as 6, when actually only three PCIe slots (slots 4, 5, and 6) are supported and available for use. This screen also shows the number of On-board Devices (NICs) as 4, when actually only NET 0 and NET 1 are supported and available for use.

Affected hardware and software:

- Single-processor systems
- Oracle ILOM 3.1 and 3.2.4
- Platform software releases 1.0 and later.

Workaround:

None.

On single-processor systems, some Oracle ILOM CLI commands and web interface System Information screens show an incorrect number of supported DIMM sockets

BugID: 15803564 (formerly CR 7183799)

Issue:

For the Oracle Integrated Lights Out Manager (ILOM) command-line interface (CLI), the `show /System/memory` command incorrectly returns `max DIMMs = 16`, when the maximum number of supported DIMMs on a single-processor system is 8.

Additionally, if a DIMM is mistakenly installed in a socket associated with the processor 1 (P1) socket, the following Oracle ILOM CLI commands identifies the misconfiguration by showing the DIMM associated with P1, even though P1 is not actually present in the system. However, the DIMM is not usable by the system.

- `> show /System/Memory/DIMMs`

- > `show /System/Memory/DIMMs/DIMM_n`, where *n* can be any number from 8 through 15
- > `show /SP/powermgmt/powerconf/memory`
- > `show /SP/powermgmt/powerconf/memory/MB_P1_D0`

For the Oracle ILOM web interface, the System Information → Summary screen and the System Information → Memory screen incorrectly show the maximum number of supported DIMMs as 16, when the maximum number of supported DIMMs on a single-processor system is 8.

Affected hardware and software:

- Single-processor systems
- Oracle ILOM 3.1 and 3.2.4
- Platform software releases 1.0 and later.

Workaround:

None.

Unable to obtain DHCP lease at boot time with Red Hat Enterprise Linux operating systems

BugID: 16014346

Issue:

For configurations in which the auto-negotiation process takes more than five seconds, the boot script might fail with the following message:

```
ethX:failed. No link present. Check cable?
```

Affected software:

- Red Hat Enterprise Linux 6.4 running Oracle Unbreakable Enterprise Kernel Release 2 for Linux
- Red Hat Enterprise Linux 6.5 running Oracle Unbreakable Enterprise Kernel Release 3 for Linux
- Platform software releases 1.0 and later.

Workaround:

If this error message appears, even though the presence of a link can be confirmed using the `ethtool ethX` command, try this setting: `LINKDELAY=5` in `/etc/sysconfig/network-scripts/ifcfg-ethX`.

Note - Link time can take up to 30 seconds. Adjust the LINKDELAY value accordingly.

The server might reboot after removing the Physical Function (PF) device driver when the Virtual Function (VF) device driver is active in the guest.

Alternatively, you can use NetworkManager to configure the interfaces, which avoids the set timeout. For configuration instructions for using NetworkManager, refer to the documentation provided with your operating system distribution.

After installing an operating system using PXE or a Linux ISO image, the system might fail to assign an IP address to the network port that was used to preform the install

BugID: 15944904

Issue:

After you install an operating system using a Preboot eXecution Environment (PXE) or a Linux ISO image, the host might fail to assign an IP address to the network interface port (NET 0-3) the first time you log in to the operating system.

Affected software:

- Platform software releases 1.0 and later.

Workaround:

Add the line LINKDELAY=10 in the ifcfg-ethX file located in the /etc/sysconfig/network-scripts/ directory.

Using any operating system tools or utilities to manage (create, modify, or delete) UEFI Boot variables might result in the loss of a boot variable needed to start the operating system

BugID: 15818528

Issue:

During operating system installations in Unified Extensible Firmware Interface (UEFI) mode, operating system installers create the UEFI Boot variables to be used in BIOS menus to select the operating system to boot. To avoid potential loss of a boot variable created by the operating

system installer, you should not use any operating system tools or utilities to manage (create, modify, or delete) these boot variables. Loss of a boot variable precludes users from being able to boot the operating system.

Affected software:

- All supported UEFI capable operating systems
- Platform software releases 1.0 and later.

Workaround:

If a UEFI Boot variable is lost, reinstall the operating system so as to create a new UEFI Boot variable.

When running an Emulex HBA in UEFI BIOS Boot Mode, the “Add Boot Device” command causes the system to hang

BugID: 18272567

Issue:

When you use the BIOS Setup Utility menu to access UEFI Driver Control → Oracle Sun Storage 16Gb Fibre Channel LP → Add Boot Device, the system hangs.

Note - This issue only occurs on Emulex host bus adapters (HBAs) running in UEFI BIOS Boot Mode. If you are running the Emulex HBAs in Legacy BIOS Boot Mode, you do not experience this issue.

Affected hardware and software:

- Sun Storage 10 Gb FCoE Short Range Optics, Emulex (7101687 and 7101688)
- Sun Storage 16 Gb FC Short Wave Optics, Emulex (7101685 and 7101686)
- Platform software releases 1.0 and later.

Workaround:

When you use the BIOS Setup Utility menu, enter this command first: UEFI Driver Control → Oracle Sun Storage 16Gb Fibre Channel LP → Scan for Fibre Devices.

Rebooting the service processor (SP) while the server's host is rebooting might cause the BIOS hang

BugID: 16346073

Issue:

If you try to reboot the service processor (SP) while the host is rebooting, the server's BIOS might hang.

Affected hardware and software:

- Platform software releases 1.0 and later.

Workaround:

Do not reboot the server's SP and host simultaneously.

Oracle System Assistant Open Issues

Virtual Ethernet device is reported as “Not Installed” in Microsoft Windows Server

BugID: 15765750, 17971455

Issue:

During a Windows operating system installation, if the user does not install the Oracle Hardware Management Pack, the Device Manager reports that the virtual Ethernet device is not installed.

Affected software:

- Windows Server 2008 SP2
- Windows Server 2008 R2 SP1
- Windows Server 2012 and 2012 R2
- Platform software releases 1.0 and later.

Workaround:

- To obtain this driver, install Oracle Hardware Management Pack, which is available as a supplemental tool on Oracle System Assistant (default).
- To disable this device and prevent it from appearing in the Windows Device Manager, use the `ilomconfig disable interconnect` command. If you have not installed Oracle Hardware Management Pack, you need to install it in order to get the `ilomconfig` CLI tool.

Alternatively, you can disable this device using the Oracle Integrated Lights Out Manager (ILOM) web interface.

'Path too Long' errors might occur when unzipping Windows downloads

BugID: 15758199 (formerly CR 7116803)

Issue:

When unzipping a downloaded Windows package from My Oracle Support (MOS) using the default Windows Server 2008/2008 R2 compression utility, errors might occur stating that the path is too long. Path length is determined by the Windows operating system.

The maximum path, which includes drive letter, colon, backslash, name components separated by backslashes, and a terminating null character, is defined as 260 characters. Depending on the directory level at which the package is unzipped or the tool used to unzip the package, the maximum path length could be exceeded.

Affected software:

- Platform software releases 1.0 and later.

Workarounds:

Use a third-party compression utility. Unlike the default Windows compression utility, some third-party utilities allow for longer maximum path lengths.

Oracle System Assistant does not allow a user with only the admin role (a) privilege to update the Oracle ILOM service processor firmware

BugID: 15783011 (formerly CR 7158471)

Issue:

When updating the Oracle Integrated Lights Out Manager (ILOM) service processor (SP) firmware using Oracle System Assistant, a login prompt appears. To perform the firmware update, you must log in as a user who is either an Administrator, or as a user with advanced (a) role privileges.

Affected software:

- Platform software releases 1.0 and later.

Workaround:

This is not a defect. This is expected behavior.

For instructions on how to use Oracle System Assistant to update the Oracle ILOM service processor firmware, see the *Oracle X4 Series Servers Administration Guide* at <https://www.oracle.com/goto/x86admindiag/docs>.

When using Oracle System Assistant to perform a SLES 11 OS-assisted install, password and network prompts might appear

BugID: 15783347 (formerly CR 7158820)

When using Oracle System Assistant to install SUSE Linux Enterprise Server (SLES) 11, a root password prompt might appear. The method by which the install volume was created (either by Oracle System Assistant or by LSI WebBIOS) determines whether a password prompt appears. If the install volume was created using Oracle System Assistant (RAID Configuration task), the password prompt does not appear. If the install volume was created using LSI WebBIOS, the password and network prompts appear.

Affected software:

- SUSE Linux Enterprise Server (SLES) 11 SP2 and SP3
- Platform software releases 1.0 and later.

Workaround:

When the password prompt appears, type the following password: **changeme**

Note - For additional information, see the Oracle System Assistant Help.

Oracle System Assistant produces an error when you attempt to update multiple 1.2 TB HDDs or 4 TB HDDs

BugID: 18944217, 19659654

Issue:

When you attempt to update multiple 1.2 TB or 4 TB hard disk drives (HDDs) using the Oracle System Assistant Update Firmware task, an error message indicates the name of the device and states, "ERROR: Firmware download failed for component."

Affected hardware and software:

- 1.2 TB HDDs
- 4 TB HDDs
- Platform software releases 1.2 and later.

Workaround:

Despite the error message, the disks have been updated. You can safely ignore the message.

Oracle Hardware Management Agent for Windows does not start automatically after you have installed it using Oracle System Assistant

BugID: 19224214

Issue:

When you use Oracle System Assistant to install the Oracle Hardware Management Agent for Windows 2008 R2 SP1 or Windows 2012 R2, and you set the Startup Type to Automatic, the agent does not start automatically after the operating system (OS) has loaded.

Affected software:

- Windows 2008 R2 SP1
- Windows 2012 R2
- Platform software releases 1.2 and later.

Workaround:

To enable the Oracle Hardware Management Agent to start automatically after the OS has loaded, set the Startup Type for the agent to Automatic (delayed). To change the Startup Type, perform the following steps:

1. In Windows, navigate to the Control Panel.
2. Select Administrative Tools.
3. Select Services.
4. In the Services menu, select the Oracle Hardware Management Agent.

5. In the Application Information Properties dialog box, select Automatic (delayed) from the Startup Type drop down list.
6. Click OK.

Oracle Hardware Management Agent (hwmgmt) for SLES 11 SP3, Oracle VM 3.3.1, or Oracle Linux 6.x does not start automatically after you have installed it using Oracle System Assistant

BugID: 19390355

Issue:

When you use Oracle System Assistant to install the Oracle Hardware Management Agent (hwmgmt) for SUSE Linux Enterprise Server 11 SP3, Oracle VM 3.3.1, or Oracle Linux 6.x, hwmgmt does not start automatically after the operating system (OS) has loaded.

Affected software:

- SUSE Linux Enterprise Server (SLES) 11 SP3
- Oracle VM 3.3.1
- Oracle Linux 6.x
- Platform software releases 1.2 and later.

Workaround:

To configure hwmgmt to start automatically after the OS has loaded, log into the host as a root user, and then issue the following command:

```
# service hwmgmt start  
  
chkconfig hwmgmt on
```

Oracle Solaris Operating System Open Issues

During system boot, a warning message might appear on the console

BugID: 15777292 (formerly CR 7151581)

Issue:

During system boot, WARNING: npe1: no ranges property might appear on the console.

Affected software:

- Oracle Solaris 10 1/13 and 11.1
- Platform software releases 1.0 and later.

Workaround:

This message is benign and can be ignored.

Oracle Solaris 11 Preinstall might encounter a five-minute delay during the first boot

None

Issue:

Customers using the Oracle Solaris 11 Preinstall option might encounter a five-minute delay during first boot. During this delay the system is configuring the ilomconfig-interconnect service. This only occurs on first boot; the system boots normally on subsequent restarts.

Customers monitoring the system's first boot from the system console observe the system reaching this stage in the boot-up and pause for approximately five minutes and display the following warning:

```
SunOS Release 5.11 Version 11.0 64-bit
```

```
Copyright (c) 1983, 2011, Oracle and/or its affiliates. All rights reserved.
```

```
WARNING: npe1: no ranges property
```

Please note that this issue is not related to the WARNING: npe1: no ranges property message, which is a separate issue documented in Bug ID 15777292.

Affected software:

- Oracle Solaris 11.1 and 11.2
- Platform software releases 1.0 and later.

Workaround:

Wait for the ilomconfig-interconnect service to complete its configuration.

Preinstalled Oracle Solaris 11.1 operating system must be upgraded with SRU 11 before the FMA 2 HA feature can be used on a server that has a 2.7-GHz, 12-core, 130W processor installed

BugID: 17243186

Issue:

If the server has the 2.7-GHz, 12-core, 130W processor and you want to use the 2 Home Agent (HA) feature of the Fault Management Architecture (FMA), you must upgrade the preinstalled Oracle Solaris 11.1 operating system with Support Repository Update (SRU) 11 before using the operating system.

Affected hardware and software:

- Server with 2.7-GHz, 12-core, 130W processor installed
- Preinstalled Oracle Solaris 11.1 operating system
- Platform software releases 1.0 and later.

Workaround:

None.

Oracle Solaris 11.1 or 11.2 operating system does not power off

BugID: 16816951

Issue:

Oracle Solaris 11 operating system with the Gnome Power Manager (GPM) desktop package does not power off using the Oracle Integrated Lights Out Manager (ILOM) web interface or command-line interface (CLI).

Affected software:

- Oracle Solaris 11.1 and 11.2

- Platform software releases 1.0 and later.

Workaround:

Note - This workaround should be used only for Oracle Solaris 11.1. No workaround is available for Oracle Solaris 11.2.

Execute the Gnome Power Manager (GPM) service with the verbose option.

1. In `/usr/share/dbus-1/services/gnome-power-manager.service`, change `Exec=/usr/bin/gnome-power-manager --verbose`
2. Select System → Preferences → Startup Applications from the gnome panel's menu list.
3. Select Power Manager → Edit, and change the command to `gnome-power-manager --verbose`.

Linux Operating Systems and Virtual Machine Open Issues

Network port name and onboard NIC port name are not accurate after system reboots

Bug ID 22849478

Issue:

When installing Oracle Linux 7.x or Red Hat Enterprise Linux 7.x using Oracle System Assistant, the network port name is named “ethX,” based on the Legacy naming policy. If the server is configured with one to four Sun Quad Port GbE PCIe 2.0 Low Profile Adapter UTP cards (7100477), the port name for this card and the onboard NIC might become inaccurate after the system reboots. For example, if the onboard NIC0 is named “eth0” and the Low Profile Adapter UTP card port0 is named “eth8” at first boot, after a few reboots, the onboard NIC0 might become named “eth8” and the Low Profile Adapter UTP card port0 might become named “eth0.” The name might change again after more reboots. A similar issue can occur on the other onboard NIC and Low Profile Adapter UTP card port.

Affected software:

- Oracle Linux 7.x

- Red Hat Enterprise Linux 7.x
- Platform software release 1.5 and later.

Workaround:

Change the kernel parameter from `net.ifnames=0` to `net.ifnames=1` to keep the consistent network device naming policy enabled. Do this in the kernel parameter according to the Legacy BIOS mode or UEFI mode you are using:

- For Legacy BIOS mode, change the kernel parameter in `/boot/grub2/grub.cfg`
- For UEFI mode, change the kernel parameter in `/boot/efi/EFI/redhat/grub.cfg`

When this change is made, the network naming will follow consistent network device naming policy and the issue will be resolved.

VMware ESXi 5.0 Update 2 virtual machine software does not support network connections when using the onboard network interface controller (NIC) unless an ixgbe driver or a compatible network interface card is installed

BugID: None

Issue:

The driver needed for the 10 Gigabit Ethernet (10GbE) Controller (X540) as used in the Sun Server X4-2L is not available in the general availability release of VMware ESXi 5.0 Update 2.

Affected software:

- VMware ESXi 5.0 Update 2 and Update 3
- Platform software releases 1.0 and later.

Note - This issue does not affect VMware ESXi 5.1 Update 1 or 5.5.

Workarounds:

Perform either of the following tasks:

- Add the required driver to the ESXi 5.0 Update 2 installation ISO image.
- Install a PCIe network interface controller (NIC) card in the server that is compatible with the standard download ESXi 5.0 Update 2 ISO image.

For instructions for performing the above tasks, see “Configuring the VMware ESXi Software or the Server Hardware to Support Network Connections” in the *Sun Server X4-2L Installation Guide for VMware ESXi*.

When the operating system boots and loads the mpt2sas driver, errors might appear in dmesg

BugID: 15824191 (formerly CR 7205850)

Issue:

When the operating system boots and initializes the mpt2sas driver, several AER (application error reporting) errors might appear in dmesg. dmesg displays the content of the Linux system message buffer.

Affected software:

- Oracle VM 3.1.1
- SUSE Linux Enterprise Server (SLES) 11 SP2 and SP3
- Platform software releases 1.0 and later.

Workaround:

None. These errors are harmless and can be safely ignored.

If you use the preinstalled Oracle VM 3.2 software on a server that has 26 storage drives, the Oracle VM software might panic and display error messages

BugID: 17162275

Issue:

If the server is configured with 26 storage drives (24 front and 2 rear), the preinstalled Oracle VM software might panic with the following message:

```
mount: could not find filesystem '/dev/root'
```

Affected hardware and software:

- Any server configured with 26 storage drives

- Oracle VM 3.2
- Platform software releases 1.0 and later.

Workaround:

To fix this problem, perform the following steps:

- Reset the Oracle VM software.
- When GRUB (boot loader) is loaded, edit the line with "vmlinuz..." to remove the "sync_console" parameter.
- After Oracle VM boots successfully, edit the "/boot/grub/grub.conf" file and remove any occurrences of the "sync_console" string from the boot sections.

Operating system does not boot if the Sun Storage Dual 16 Gb Fibre Channel PCIe Universal HBA FCoE card is installed and its option ROM is enabled in UEFI BIOS mode

BugID: 16721610

Issue:

When the Sun Storage Dual 16 Gb Fibre Channel PCIe Universal HBA (host bus adapter) FCoE (Fibre Channel over Ethernet) card is installed, and its option ROM is enabled in Unified Extensible Firmware Interface (UEFI) BIOS mode, the system boots to the GRUB menu and starts to load the system kernel, and then it fails to load the Linux operating system.

Affected hardware and software:

- Sun Storage Dual 16 Gb Fibre Channel PCIe Universal HBA, QLogic
- Sun Storage Dual 16 Gb Fibre Channel PCIe Universal HBA, Emulex
- Oracle Linux 6.3 and 6.4
- SUSE Linux Enterprise Server (SLES) 11 SP2 and SP3
- Platform software releases 1.0 and later.

Workaround:

1. Boot the system in UEFI BIOS mode.
2. From the system BIOS, disable the Sun Storage Dual 16 Gb Fibre Channel PCIe Universal HBA card option ROM.
3. Save changes and exit from the system BIOS.

4. Install the Linux operating system.

After an Oracle Linux 5.9 or 6.4 OS boots when a power limit is set, the processor remains at low speed after commands are issued to dismiss the power limit

BugID: 16728705/17181067

Issue:

After the OS is booted or the server is power cycled, the Oracle Linux 5.9 or 6.4 operating system (OS) fails to execute `_PSS`, and `_PPC` commands to dismiss the power limit. As a result, the processor fails to run at maximum speed.

Affected software:

- Oracle Linux 5.9 and 6.4
- Platform software releases 1.0 and later.

Workaround:

1. Acquire the CPU ID to be modified. Enter: `# cat /proc/cpuinfo | grep processor`
2. Obtain the maximum supported CPU frequency. Enter: `# cat /sys/devices/system/cpu/cpu<N>/cpufreq/cpuinfo_max_freq`
Where `<N>` is the CPU ID to be modified from Step 1.
3. Check that the `scaling_max_freq` for each CPU ID is less than the maximum supported CPU frequency obtained in Step 2. Enter: `# cat /sys/devices/system/cpu/cpu<N>/cpufreq/scaling_max_freq`
4. Tell the kernel the new scaling maximum frequency for each CPU ID you have, where Step 3 shows a reduced value compared with Step 2. Enter: `#echo $max_frequency > /sys/devices/system/cpu/cpu<N>/cpufreq/scaling_max_freq`
Where `$max_frequency` is the determined maximum frequency shown in Step 2.
5. Verify the new scaling maximum frequency. Enter: `# cat /sys/devices/system/cpu/cpu0/cpufreq/cpuinfo/scaling_max_freq`

Attempts to install Oracle Linux 6.3 or 6.4 to an iSCSI target HDD fail

BugID: 15807672

Issue:

If you select UEFI BIOS Boot Mode when preparing either the Oracle Linux 6.3 or 6.4 operating system for installation, and then attempt to install the OS to an iSCSI target hard disk drive (HDD), the installation fails.

Affected software:

- Oracle Linux 6.3 and 6.4
- Platform software releases 1.0 and later.

Workaround:

Set the Oracle Linux 6.3 or 6.4 OS boot mode to Legacy BIOS Boot Mode, and then do the installation.

After enabling Option ROM for the Sun Storage Dual 16 Gb Fibre Channel PCIe Universal HBA QLogic card in UEFI BIOS Boot Mode, the SLES 11 ISO image fails to boot

BugID: 16817765

Issue:

The SUSE Linux Enterprise Server (SLES) 11 ISO image fails to boot when the Sun Storage Dual 16 Gb Fibre Channel PCIe Universal HBA QLogic card is installed in the server, Option ROM is enabled, and the UEFI BIOS Boot Mode is selected.

Affected hardware and software:

- Sun Storage Dual 16 Gb Fibre Channel PCIe Universal HBA, QLogic (7101674)
- SUSE Linux Enterprise Server 11 SP2 and SP3
- Platform software releases 1.0 and later.

Workaround:

In the BIOS settings, disable the OpROM option of the PCIe slot that contains the Sun Storage Dual 16 Gb Fibre Channel PCIe Universal HBA, QLogic.

On x86 servers running Oracle Linux 6.4 with Intel Xeon E5-2600 V2 series processors installed, the processors never enters some C-states

BugID: 16870068

Issue:

On x86 servers running Oracle Linux 6.4 with Intel Xeon E5-2600 V2 series processors installed, the processors never enters C3 and C6 processor C-states.

Affected hardware and software:

- Intel Xeon E5-2600 V2 series processors
- Oracle Linux 6.4
- Platform software releases 1.0 and later.

Workaround:

Append kernel parameter "intel_idle.max_cstate=0" to the/boot/grub/menu.lst kernel line, and reboot the server.

Kernel panic occurs with BurninTest 3.1 on a RHEL 6.4 OS or Oracle Linux 6.4 OS that is running the Oracle Unbreakable Enterprise Kernel Release 2 for Linux

BugID: 17047864

Issue:

After running PassMark BurninTest Linux V3.1 on a Red Hat Enterprise Linux (RHEL) 6.4 or Oracle Linux 6.4 operating system, when you reboot or shutdown the system, the kernel might panic at the last stage of shutdown procedure. The kernel panic does not affect the operation of the system. You can ignore the error message and power cycle or power off the server.

Affected hardware and software:

- Intel 100GB and 400GB SSDs
- Oracle Linux 6.4 running Oracle Unbreakable Enterprise Kernel Release 2 for Linux
- Oracle Linux 6.5 and 7.0 running Oracle Unbreakable Enterprise Kernel Release 3 for Linux
- Red Hat Enterprise Linux 6.4 running Oracle Unbreakable Enterprise Kernel Release 2 for Linux
- Red Hat Enterprise Linux 6.5 and 7.0 running Oracle Unbreakable Enterprise Kernel Release 3 for Linux
- BurnInTest3.1
- Platform software releases 1.0 and later.

Workaround:

Use PassMark BurninTest Linux V2.1 for a system with this configuration.

InfiniBand Host Channel Adapter for PCIExpress card might fail after Oracle Linux 6.5 software is installed

17899109

Issue:

After installing Oracle Linux 6.5, the InfiniBand Host Channel Adapter for PCIExpress card might stop working.

Affected hardware and software:

- Sun Dual Port QDR InfiniBand Host Channel Adapter for PCIExpress Gen 3 (7104073 and 7104074)
- Oracle Linux 6.5
- Platform software releases 1.0 and later.

Workaround:

Do the following:

1. Install the Remote Direct Memory Access (RDMA) package from yum or from the operating system installation disk.
2. Add or unmask "MLX4_LOAD=yes" in the `/etc/rdma/rdma.conf` file.

GRUB fails to boot with Oracle Linux 5 and RHEL 5 and the Flash Accelerator PCIe F80 card

BugID: 18271022

Issue:

GRUB fails to boot when running Oracle Linux 5.x or RHEL 5.x with the Flash Accelerator PCIe F80 Card.

Affected hardware and software:

- Flash Accelerator PCIe F80 Card: 800GB, eMLC (7107091 and 7107092)
- Oracle Linux 5.x
- Red Hat Enterprise Linux 5.x

- Platform software releases 1.0 and later.

Workaround:

For the workaround for this bug, see [“Workaround for BugDB 18271022 ” on page 75.](#)

The RDMA communication might fail when using the RHEL 6.5 inbox OFED package

BugID: 17933299

Issue:

If you use the RHEL 6.5 inbox OpenFabrics Enterprise Distribution (OFED) package, the Remote Direct Memory Access (RDMA) in RHEL 6.5 might fail to run.

Affected hardware and software:

- Sun Dual Port QDR InfiniBand Host Channel Adapter for PCIExpress Gen 3 (7104073 and 7104074)
- Red Hat Enterprise Linux 6.5
- Platform software releases 1.1 and later.

Workaround:

None.

Update the Mellanox OFED package. To download the update package, go to http://www.mellanox.com/page/products_dyn?product_family=26, scroll down the page and click the MLNX_OFED 2.X, and download MLNX_OFED_LINUX-2.1-1.0.0-rhel6.5-x86_64.iso.

To install the Mellanox OFED update package, perform the following steps:

1. Mount the ISO image, and run the `./mlnxofedinstall --without-fw-update` command.
Note - You must use the `--without-fw-update` qualifier to prevent the installation from flashing the firmware on the Sun Dual Port QDR InfiniBand Host Channel Adapter for PCIExpress Gen 3 card; otherwise, the installation fails.
2. Reinstall RDMA package from yum or from the RHEL 6.5 installation ISO. Modify the `/etc/rdma/rdma.conf` file to change `RDS_LOAD=no` to `RDS_LOAD=yes` and save the file.
3. Start/restart the RDMA service.

Note - If you want to use "rds-tools" to manage or test RDMA performance, ensure that "rds-tools" is updated to a minimum version of 2.0.7.

Cannot install VMware ESXi 5.x on system configured with Sun Storage 6 Gb SAS PCIe HBA, Internal when non-RAID volumes exist

BugID: 16373075

Issue:

ESXi 5.0/5.1/5.5 and their subsequent updates cannot be installed on a configuration with the Sun Storage 6 Gb SAS PCIe HBA, Internal when non-RAID volumes exist.

Affected hardware and software:

- Sun Storage 6 Gb SAS PCIe HBA, Internal
- VMware ESXi 5.0, 5.1, and 5.5 and subsequent updates
- Platform software releases 1.0 and later.

Workaround:

Use only RAID volumes when installing ESXi on a system configured with the Sun Storage 6 Gb SAS PCIe HBA, Internal.

Oracle Linux 7.0 with UEK Release 3 does not boot if the Sun Storage 10 Gb FCoE HBA card is installed and its option ROM is enabled in UEFI BIOS mode

BugID: 19521738

Issue:

When the Sun Storage 10 Gb FCoE (Fibre Channel over Ethernet) HBA (host bus adapter) card is installed and its option ROM is enabled in Unified Extensible Firmware Interface (UEFI) BIOS mode, the system boots to the GRUB menu and starts to load the system kernel, and then it fails to load the Oracle Linux 7.0 operating system.

Affected hardware and software:

- Sun Storage 10 Gb FCoE Short Range Optics, QLogic (7101677 and 7101678)
- Oracle Linux 7.0 with Unbreakable Enterprise Kernel Release 3
- Platform software releases 1.2 and later.

Workaround:

1. Boot the system in UEFI BIOS mode.

2. From the system BIOS, disable the Sun Storage 10 Gb FCoE HBA card option ROM.
3. Save changes and exit from the system BIOS.

Oracle Linux 7.0 installation reports an unknown error message if the installation destination disk is partitioned more than once during the operating system installation

BugID: 19140366

Issue:

Oracle Linux 7.0 installation reports an unknown error message if the installation destination disk is partitioned more than once during the operating system installation. The error causes the installation to fail and only allows the user the choice to either quit the installation process or report the bug.

The following error message is reported:

An unknown error has occurred This program has encountered an unknown error. You may report the bug below or quit the program.

Affected hardware and software:

- Oracle Linux 7.0
- Platform software releases 1.2 and later.

Workaround:

Do not partition the installation destination disk more than once when installing the Oracle Linux 7.0 operating system.

Linux operating systems might not install when using Oracle System Assistant

BugID: 19274609, 19232280, and 19044611

Issue:

Linux operating systems, such as Oracle Linux, SUSE Linux Enterprise Server (SLES), and Red Hat Enterprise Linux (RHEL) might not install when using Oracle System Assistant with the System BIOS set to UEFI mode.

Affected hardware and software:

- Oracle Linux 6.3, 6.4, 6.5 and 7.0
- SUSE Linux Enterprise Server 11 SP2 and SP3
- Red Hat Enterprise Linux 6.4, 6.5, and 7.0
- Platform software releases 1.2 and later.

Workaround:

Perform the following procedures to reset the System BIOS to the factory default:

1. Log in to the Oracle ILOM web interface.
2. Click System Management > BIOS > Settings > Reset to Defaults > Factory, and then click Save.
3. Reboot the system to load BIOS.
4. Change the Boot mode to UEFI.

Linux operating systems can now be installed using Oracle System Assistant.

"dmarxd_poisoned_data_from_dp_stat" message appears in Oracle ILOM Fault Manager after installing RHEL 7.0 or Oracle Linux 7.0

BugID: 19293318

Issue:

After you install Red Hat Enterprise Linux (RHEL) 7.0 or Oracle Linux 7.0, and you perform a warm reset on the server, the Oracle ILOM Fault Manager reports the following error:

```
ereport.io.intel.ilo.dmarxd_poisoned_data_from_dp_stat
```

Affected hardware and software:

- Red Hat Enterprise Linux (RHEL) 7.0
- Oracle Linux 7.0
- Platform software releases 1.2 and later.

Workaround:

Before you install RHEL 7.0 or Oracle Linux 7.0, disable the Intel I/O Acceleration Technology (IOAT) in the server BIOS Setup Utility. To disable IOAT, perform the following steps:

1. Launch the BIOS Setup Utility. For instructions, refer to the *Oracle X4 Series Servers Administration Guide*.

2. In the the BIOS Setup Utility, navigate to the IO menu.
3. Select IOAT.
4. Select Intel I/OAT, and then select Disabled.
5. Press F10 to save your changes and exit the BIOS Setup Utility.

▼ Workaround for BugDB 18271022

To work around BugDB 18271022, perform the following steps:

1. **Proceed with the Oracle Linux 5 or RHEL 5 installation until the GRUB boot loader screen appears.**



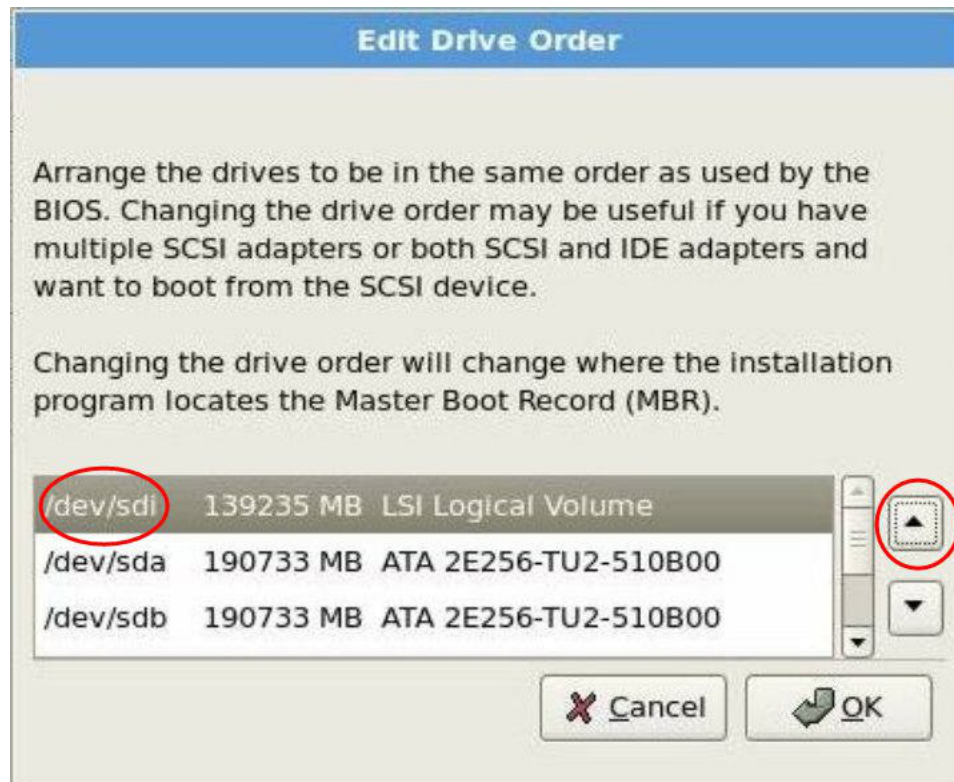
2. **In the GRUB boot loader screen, check the box for “Configure advanced boot loader options,” and click Next.**

The “Install Boot Loader record on” screen appears.



3. In options for "Install Boot Loader record on" in the top portion of the screen, click Change Drive Order.

The Edit Drive Order dialog box appears.



4. In the Edit Drive Order dialog box, select the desired target HDD from the drop-down list; then click the up-arrow to move the target HDD to the top of the list, and click OK.

The updated “Install Boot Loader record on” screen appears.



5. In the updated “Install Boot Loader record on” screen, note that the “Install boot loader record on” option is set to the target HDD's MBR that you selected.
6. Click Next to finish the installation.

Windows Operating System Open Issues

WHEA fatal errors are received when installing Windows 2012

BugID: 15890512

Issue:

Windows Hardware Error Architecture (WHEA) errors are received when installing Windows 2012 on a hard disk drive (HDD) that contains a preinstalled version of the Oracle Linux 6.x operating system.

Affected software:

- Preinstalled Oracle Linux 6.x
- Windows 2012
- Platform software releases 1.0 and later.

Workaround:

Reset the system BIOS settings to factory default before installing Windows 2012.

When Windows 2012 R2 is installed using Oracle System Assistant, the fwupdate command does not list QLogic HBA cards

BugID: 19224464

Issue:

When Windows 2012 R2 is installed using Oracle System Assistant, the `fwupdate list controller` command does not list QLogic HBA cards that are installed in the server. This issue occurs because Oracle System Assistant does not install the QLogic (`qacli`) utility.

Affected software:

- Windows 2012 R2
- Sun Storage Dual 16 Gb Fibre Channel PCIe Universal HBA, QLogic (7101673 and 7101674)
- Sun Storage 10 Gb FCoE Short Range Optics, QLogic (7101677 and 7101678)
- StorageTek 8 Gb FC PCIe HBA Dual Port, QLogic (SG-PCIE2FC-QF8-Z and SG-XPCIE2FC-QF8-N)
- Platform software releases 1.2 and later.

Workaround:

The QLogic (`qacli`) utility must be installed manually using Oracle System Assistant.

Documentation Open Issues

This section describes open documentation issues.

- “Broken Links in Sun Server X4-2L Documentation Library” on page 80
- “Physical Media Requests Are No Longer Supported” on page 81
- “Outdated URLs Appear in X4-2L Documentation Set” on page 81
- “Updates to the *Sun Server X4-2L Service Manual*” on page 82
- “Update to the *Sun Server X4-2L Installation Guide for VMware ESXi*” on page 83
- “Update to the *Sun Server X4-2L Installation Guide for Oracle Solaris Operating System*” on page 83
- “Update to the *Sun Server X4-2L Installation Guide for Oracle VM*” on page 83
- “Update to the *Sun Server X4-2L Installation Guide for Linux Operating Systems*” on page 83
- “Translated Documents Use Abbreviated Titles” on page 84

Broken Links in Sun Server X4-2L Documentation Library

Location	Link Destination	Broken Link	Correct Link
Throughout the documentation library	Sun Server X4-2L documentation library	https://www.oracle.com/goto/x4-2L/docs	https://docs.oracle.com/cd/E36974_01/
<i>Sun Disk Management Overview</i>	Information about disk management for numerous servers	Multiple links to server documentation	https://www.oracle.com/technetwork/documentation/oracle-x86-servers-190077.html
<i>Sun Disk Management Overview</i>	<i>Sun LSI 106x RAID User's Guide</i>	http://docs.sun.com/app/docs/coll/sflsihba	https://docs.oracle.com/cd/E19694-01/820-4933-15/index.html
<i>Sun Server X4-2L 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 Server X4-2L Installation Guide</i>	Oracle Enterprise Ops Center	https://www.oracle.com/us/products/enterprise-manager/opscenter/index.html	http://www.oracle.com/technetwork/oem/ops-center/index.html
<i>Sun Server X4-2L Installation Guide for Linux Operating Systems</i>	<ul style="list-style-type: none"> ■ SUSE documentation ■ Site to purchase Oracle support 	<ul style="list-style-type: none"> ■ http://www.novell.com/documentation/suse ■ http://www.oracle.com/support/purchase.html 	<ul style="list-style-type: none"> ■ https://www.suse.com/documentation/ ■ https://support.oracle.com
<i>Sun Server X4-2L Installation Guide for Oracle VM</i>	My Oracle Support for hearing impaired	http://www.oracle.com/accessibility/support.ht	http://www.oracle.com/us/corporate/accessibility/support/index.html

Location	Link Destination	Broken Link	Correct Link
<i>Sun Server X4-2L Installation Guide for Windows Operating Systems</i>	<ul style="list-style-type: none"> ■ Microsoft Windows Deployment Services Step-by-Step Guide ■ Microsoft Windows Server 2008 installation documentation 	<ul style="list-style-type: none"> ■ http://www.microsoft.com/downloads/details.aspx?familyid=14CA18B1-B433-4F62-8586-B0A2096460EB[amp]displaylang=en ■ http://www.microsoft.com/windowsserver2008/en-us/product-documentation.aspx 	<ul style="list-style-type: none"> ■ https://technet.microsoft.com/en-us/library/hh831764(v=ws.11).aspx ■ https://www.microsoft.com/en-us/download/details.aspx?id=269
<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

Physical Media Requests Are No Longer Supported

You can download firmware and software updates from the My Oracle Support web site. Previously, if your processes did not allow downloads from Oracle web sites, you could submit to Oracle a physical media request (PMR) to receive the latest software release packages. The preferred method for submitting a PMR was through the My Oracle Support web site. However, Oracle no longer provides free physical media for firmware and software updates. In addition, physical media packs for software applications or operating systems are no longer provided for delivery. You can use the Oracle Software Delivery Cloud for application and OS downloads. The instructions for submitting a PMR in the “Getting Firmware and Software Updates” chapter of your server documentation are no longer applicable. See also [“Downloading an OS or Software Applications” on page 22](#).

Outdated URLs Appear in X4-2L Documentation Set

The following Sun Server X4-2L documents have some URLs that are outdated and broken. Those URLs and the correct URLs are listed below:

E38145 -- Sun Server X4-2L HTML Documentation Collection

- Broken URL: https://access.redhat.com/site/documentation/Red_Hat_Enterprise_Linux/?locale=en-US

- Corrected URL: https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux/

E38149 -- Sun Server X4-2L Security Guide

- Broken URL: <http://docs.oracle.com/goto/x86AdminDiag/docs/>
- Corrected URL: <https://access.redhat.com/documentation/en/red-hat-enterprise-linux/>

Updates to the *Sun Server X4-2L Service Manual*

The *Sun Server X4-2L Service Manual* that is included on the Oracle System Assistant USB flash drive, which is embedded in the server, needs the following correction:

- The TLI is stored in the FRUID (field-replaceable unit identifiers) of these components: power distribution board (PDB), motherboard (MB), and disk backplane (DBP). This statement is incorrect. The TLI is actually stored in power supply 0 (PSU 0), the MB, and the DBP.
- The IO menu PCI Subsystem Settings option in the BIOS Setup Utility is disabled by default. This statement is incorrect. The default setting for this BIOS option is “enabled.” For more information on the impact of enabling this option, see “[Oracle Solaris 10 1/13 Does Not Support PCI Subsystem Settings Option Enabled in the BIOS Setup Utility IO Menu](#)” on page 23.
- The following note should be added to “Install Power Supply” procedure:

Note - After you have replaced Power Supply 0, you must reset the Oracle ILOM service processor (SP) to propagate the FRU top-level indicator (TLI) data to the new power supply. For instructions on resetting the SP, see the *Oracle ILOM Administrator's Guide for Configuration and Maintenance* at <http://www.oracle.com/goto/ilom/docs>. Power Supply 1 does not contain FRU TLI data, and therefore does not require an SP reset after replacement.

The *Sun Server X4-2L Service Manual* shows an incorrect procedure and example for installing a processor in the server. Replace the procedure and example for step 16b under “Install a Processor” with the following:

b. To clear the fault identified in Step 16.a, type the following command:

```
> set /SYS/MB/P0 clear_fault_action=true
```

For example:

```
> set /SYS/MB/P0 clear_fault_action=true
Are you sure you want to clear /SYS/MB/P0 (y/n)? y
Set 'clear_fault_action' to 'true'
```

Update to the *Sun Server X4-2L Installation Guide for VMware ESXi*

The *Sun Server X4-2L Installation Guide for VMware ESXi* that is included on the Oracle System Assistant USB flash drive, which is embedded in the server, does not list the supported versions of the VMware ESXi software correctly. The correct versions are 5.0 Update 2 and Update 3, 5.1 Update 1 and Update 2, 5.5, and 5.5 Update 1.

Update to the *Sun Server X4-2L Installation Guide for Oracle Solaris Operating System*

The *Sun Server X4-2L Installation Guide for Oracle Solaris Operating System* that is included on the Oracle System Assistant USB flash drive, which is embedded in the server, does not list the supported versions of the Oracle Solaris operating system correctly. The correct versions are 10 1/13, 11.1, and 11.2.

Update to the *Sun Server X4-2L Installation Guide for Oracle VM*

The *Sun Server X4-2L Installation Guide for Oracle VM* that is included on the Oracle System Assistant USB flash drive, which is embedded in the server, does not list the supported versions of the Oracle VM software correctly. The correct versions are 3.2 and 3.3.

Update to the *Sun Server X4-2L Installation Guide for Linux Operating Systems*

The *Sun Server X4-2L Installation Guide for Linux Operating Systems* that is included on the Oracle System Assistant USB flash drive, which is embedded in the server, does not list the supported versions of the Oracle Linux and Red Hat Enterprise Linux operating systems correctly. The correct versions are:

- Oracle Linux 5.9, 5.10, 6.3, 6.4, 6.5, and 7.0.
- Red Hat Enterprise Linux 5.9, 5.10, 6.4, 6.5, and 7.0.

Translated Documents Use Abbreviated Titles

In the translated versions of the PDF documents, the document titles used in cross-references are abbreviated. The abbreviated titles correspond to the complete document titles listed in the table that follows.

TABLE 5 Complete Document Titles

Abbreviated Document Title	Complete Document Title
Installation	<i>Sun Server X4-2L Installation Guide</i>
Oracle Solaris Installation	<i>Sun Server X4-2L Installation Guide for Oracle Solaris Operating System</i>
Oracle VM Installation	<i>Sun Server X4-2L Installation Guide for Oracle VM</i>
Linux Installation	<i>Sun Server X4-2L Installation Guide for Linux Operating Systems</i>
Windows Installation	<i>Sun Server X4-2L Installation Guide for Windows Operating Systems</i>
VMware ESXi Installation	<i>Sun Server X4-2L Installation Guide for VMware ESXi</i>
Service	<i>Sun Server X4-2L Service Manual</i>

Sun Server X4-2L Product Accessibility

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>.

Sun Server X4-2L Hardware Accessibility

Sun Server X4-2L 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's HTML documentation provides context and descriptive text available to assistive technologies to aid in interpreting status and understanding the system. For information about system-level descriptions, see the Sun Server X4-2L Service Manual at <http://www.oracle.com/pls/topic/lookup?ctx=E36974-01>.

You can also use the built-in Oracle Integrated Lights Out Manager (ILOM) to obtain information about the system. Oracle ILOM provides a browser-based interface (BUI) and a command-line interface (CLI) that support assistive technologies for real-time viewing of system status, indicator interpretation, and system configuration. For details, see “[Oracle ILOM Accessibility](#)” on page 85.

Oracle ILOM Accessibility

You can use the Oracle ILOM 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, use standard keyboard inputs, such as the Tab key to go to a selection, or the up and down arrow keys to scroll through the page. You can use standard keyboard combinations to make menu selections.

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 lighted 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 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 Plus 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 do the following:

- 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 <http://www.oracle.com/goto/ilom/docs>.

Oracle Hardware Management Pack Accessibility

Oracle Hardware Management Pack software is a set of 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 man pages are available that describe the Hardware Management Pack tools on the system on which those tools are installed.

You can install and uninstall Oracle Hardware Management Pack by 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 <http://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](#)” on page 85.

BIOS information and its functions are typically documented in the Sun Server X4-2L 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, but are 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 Sun Server X4-2L products at <http://www.oracle.com/pls/topic/lookup?ctx=E36974-01>.