

# Oracle® Server X5-8 Product Notes

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## Using This Documentation

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- **Overview** – Provides late-breaking information, issue status, and product announcements for Oracle Server X5-8.
- **Audience** – System administrators, network administrators, and service technicians.
- **Required knowledge** – Advanced understanding of server systems.

## Product Documentation Library

Documentation and resources for this product and related products are available at <https://www.oracle.com/goto/x5-8/docs-videos>.

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# Oracle Server X5-8 Product Information

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This section provides the following information about supported operating systems, firmware, and hardware configurations.

Review	Links
Supported firmware	<a href="#">“Supported Firmware” on page 11</a>
Supported operating systems	<a href="#">“Supported Operating Systems” on page 12</a>
Updating your server	<a href="#">“Server Update Information” on page 13</a>
Supported hardware	<a href="#">“Supported Hardware” on page 14</a>
PCIe card configuration rules	<a href="#">“PCIe Card Configuration” on page 14</a>
An overview of available Oracle server management tools	<a href="#">“Server Management Tools” on page 16</a>
Oracle Integrated Lights Out Manager	<a href="#">“Oracle Integrated Lights Out Manager (ILOM)” on page 16</a>
Getting Server Firmware and Software Updates	<a href="#">“Getting Server Firmware and Software Updates” on page 57</a>

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**Note** - This document contains information that was accurate for the server at the time of the document's publication.

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## Supported Firmware

Some product features are enabled only when the latest versions of patches or firmware are installed. You must install the latest software version for optimal performance, security, and stability. For details, see [“IMPORTANT - Install Latest OS Updates, Patches, and Firmware” on page 18](#).

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 13.

## Supported Operating Systems

The following Hardware Compatibility Lists (HCLs) identify the latest operating system versions supported on Oracle hardware. To find the latest operating system version supported for Oracle Server X5-8, 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>

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**Note** - Operating system versions are added frequently.

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The following table provides minimum supported operating systems.

Operating System	Minimum Supported Version
Oracle Solaris	Oracle Solaris 11.2 SRU 10
Oracle Linux	OL 6.6 OL 7.1
Oracle VM	Oracle VM 3.3.2
Red Hat Enterprise Linux	RHEL 6.6 RHEL 7.1
Windows	Windows Server 2012 R2 and 2012
VMware ESXi	VMware vSphere 6.0

## New Features and Changes in Software 3.2.2

New features, major enhancements, bug fixes, and other changes that are introduced in platform software release 3.2.2 include:

- Oracle Integrated Lights Out Manager (ILOM) 5.0.2 features
- Oracle Hardware Management Pack 2.4.8
- Security updates

The following table lists software release 3.2.2 supported operating systems and virtual machine software.

Operating System	Supported Versions
Oracle Linux	Oracle Linux 6 Update 6, Oracle Linux 6 Update 7, Oracle Linux 6 Update 8, Oracle Linux 6 Update 9, Oracle Linux 6 Update 10  Oracle Linux 7 Update 1, Oracle Linux 7 Update 2, Oracle Linux 7 Update 3, Oracle Linux 7 Update 4, Oracle Linux 7 Update 5, Oracle Linux 7 Update 6, Oracle Linux 7 Update 7, Oracle Linux 7 Update 8, Oracle Linux 7 Update 9  Oracle Linux 8 Update 1, Oracle Linux 8 Update 2, Oracle Linux 8 Update 3
Oracle VM	Oracle VM Server 3.3.1, Oracle VM Server 3.3.2, Oracle VM Server 3.3.3, Oracle VM Server 3.3.4, Oracle VM Server 3.4.1, Oracle VM Server 3.4.2, Oracle VM Server 3.4.3, Oracle VM Server 3.4.4, Oracle VM Server 3.4.5
Oracle Solaris	Oracle Solaris 11 Update 2, Oracle Solaris 11 Update 3
VMware ESXi	VMware ESXi 6.0, VMware ESXi 6.0 Update 1, VMware ESXi 6.0 Update 2, VMware ESXi 6.0 Update 3, VMware ESXi 6.5 Update 3, VMware ESXi 6.7, VMware ESXi 6.7 Update 1, VMware ESXi 6.7 Update 2, VMware ESXi 6.7 Update 3, VMware ESXi 7.0  VMware vSphere 6.7 U3, vSphere 7.0, vSphere 7.0 U1, vSphere 7.0 U2
Red Hat Enterprise Linux	Red Hat Enterprise Linux 6 Update 5, Red Hat Enterprise Linux 6 Update 6, Red Hat Enterprise Linux 6 Update 7, Red Hat Enterprise Linux 6 Update 8  Red Hat Enterprise Linux 7, Red Hat Enterprise Linux 7 Update 1, Red Hat Enterprise Linux 7 Update 2, SUSE Linux Enterprise Server 11 SP3
Windows	Microsoft Windows Server 2012, Microsoft Windows Server 2012 R2, Microsoft Windows Server 2016

## Server Update Information

System software (SW) releases are available to maintain support, add enhancements, and correct issues. Updates can include new versions of firmware (BIOS and SP/Oracle ILOM), new releases of tools and drivers, and updates to other supported components.

When a SW release becomes available, its contents are listed in the release Readme file, 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 package download from My Oracle Support.

## Related Information

- [“Getting Server Firmware and Software Updates” on page 57](#)

## Supported Hardware

The following table shows supported hardware.

Part	Description
CMOD	Four or eight CPU modules each equipped with one Intel® Xeon E7-8895 V3®
Storage	Eight SSD/HDD slots, containing: <ul style="list-style-type: none"> <li>■ 400 GB eMLC,SATA3 SSD</li> <li>■ 600 GB 2.5-inch 10000 rpm SAS-2 HDD</li> <li>■ 1.2 TB 2.5-inch 10000 rpm SAS-2 HDD</li> </ul>
Memory	Each CMOD supports a minimum of four and a maximum of 24 DIMMs. All DIMMs in a server must be identical. The supported DIMM types are: <ul style="list-style-type: none"> <li>■ 16 GB 1.35V, 1600MHz dual rank RDIMM</li> <li>■ 32 GB 1.35V, 1600MHz quad rank LRDIMM</li> </ul>
PCIe Cards	16 PCIe Slots mounted on eight dual PCIe card carriers (DPCC). Each DPCC houses two PCIe slots. <ul style="list-style-type: none"> <li>■ Four-CMOD systems support PCIe slots 1 through 8.</li> <li>■ Eight-CMOD systems support all 16 PCIe slots.</li> </ul> <p>See <a href="#">“PCIe Card Configuration” on page 14</a> for more information on PCIe details.</p>

## PCIe Card Configuration

The table below lists the PCI Express (PCIe) cards that are supported for use with the Oracle Server X5-8.

Note the following restrictions:

- Slots 13, 14, 15, and 16 cannot contain bootable devices such as HBAs or network boot devices.
- No mixing of Emulex and Qlogic versions of the Sun Storage 16 Gb Fibre Channel PCIe Universal HBA in the system. Only one vendor's option card can be used per system.
- *If you mix* Oracle Flash Accelerator F160 PCIe cards and Oracle Flash Accelerator F320 PCIe cards in the same system:
  - Populate the Oracle Flash Accelerator F160 PCIe cards first.
  - In an **8-CPU system**, do not install more than four of either type of card.
- Do not put two Oracle Quad 10 Gb or Dual 40 Gb Ethernet Adapter cards in the same dual PCIe card carrier (DPCC).
- Oracle Quad 10 Gb or Dual 40 Gb Ethernet Adapter cards are not supported on servers with Oracle VM preinstall.

PCIe Card Installation Order	PCIe Card	Maximum in 4-CPU System	Slot Installation Order	Maximum in 8-CPU System	Slot Installation Order
1	Oracle Flash Accelerator F160 PCIe Card (7110864, 7110865)	4	Slots 7,5,3,1	4	Slots 11,9,7,5,3,1,15,13
2	Oracle Flash Accelerator F320 PCIe Card: 3.2 TB, NVMe PCIe 3.0 (7113825, 7113826)	4	Slots 7,5,3,1	8	Slots 11,9,7,5,3,1,15,13
3	Sun Storage 16 Gb Fibre Channel PCIe Universal HBA, Qlogic (7101673, 7101674)	4	Slots 8,6,4,2,7,5,3,1	4	Slots 12,10,8,6,4,2,11,9,7,5,3,1,16,14,15,13
4	Sun Storage Dual 16 Gb Fibre Channel PCIe Universal HBA, Emulex (7101683, 7101684)	4	Slots 8,6,4,2,7,5,3,1	4	Slots 12,10,8,6,4,2,11,9,7,5,3,1,16,14,15,13
5	Sun Dual Port QDR InfiniBand Host Channel Adapter for PCIExpress Gen 3 (7104073, 7104074)	2	Slots 8,6,4,2,7,5,3,1	2	Slots 12,10,8,6,4,2,11,9,7,5,3,1,16,14,15,13
6	Oracle Quad 10 Gb or Dual 40 Gb Ethernet Adapter	4	Slots 8,6,4,2,7,5,3,1	4	Slots 12,10,8,6,4,2,11,9,7,5,3,1,16,14,15,13
7	Dual-Port 10 Gigabit-Ethernet PCIe 2.0 Copper/Fiber SFP+ (1109A-Z, X1109A-Z)	8	Slots 8,6,4,2,7,5,3,1	8	Slots 12,10,8,6,4,2,11,9,7,5,3,1,16,14,15,13
8	Sun Dual Port 10GBase-T PCIe 2.0 Low Profile Adapter (7100563, 7100488)	4	Slots 8,6,4,2,7,5,3,1	8	Slots 12,10,8,6,4,2,11,9,7,5,3,1,16,14,15,13
9	Sun Quad Port GbE PCIe 2.0 Low Profile Adapter, UTP (7100477, 7100479)	8	Slots 8,6,4,2,7,5,3,1	8	Slots 12,10,8,6,4,2,11,9,7,5,3,1,16,14,15,13

## 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) Documentation Library at: <https://www.oracle.com/goto/ilom/docs>
- Oracle System Assistant: For information, see instructions for setting up the server using Oracle System Assistant in *Oracle X5 Series Servers Administration Guide*.
- 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**, available software to manage multiple systems in a data center. For information, refer to the product information page at: <https://www.oracle.com/enterprise-manager/technologies/>. For documentation, refer to the Oracle Enterprise Manager Cloud Control Documentation Library at: <https://docs.oracle.com/en/enterprise-manager/related-products.html>

## Oracle Integrated Lights Out Manager (ILOM)

Each server module compute node includes a service processor (SP). The SP contains Oracle Integrated Lights Out Manager (ILOM), which provides IPMI 2.0 compliant remote server management capabilities.

The following interfaces provide network access to Oracle ILOM:

- Integrated Lights Out Manager (ILOM) through the server module node service processor (SP) or Chassis Monitoring Module (CMM)
- Local ILOM command-line access using serial connection
- 10/100 management Ethernet port to midplane
- Remote keyboard, video, mouse, and storage (KVMS) over IP

## Related Information

- “Server Management Tools” on page 16
- ILOM documentation library: <https://www.oracle.com/goto/ilom/docs>



# Important Operating Notes

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

Review	Links
Server Security, Software Releases, and Critical Patch Updates	<a href="#">“Server Security, Software Releases, and Critical Patch Updates” on page 18</a>
IMPORTANT - Install Latest OS Updates, Patches, and Firmware	<a href="#">“IMPORTANT - Install Latest OS Updates, Patches, and Firmware” on page 18</a>
Changes to Oracle ILOM TLSv1.1 configuration property	<a href="#">“Changes to TLSv1.1 Configuration Property as of ILOM 4.0.3.x” on page 19</a>
Diagnosing SAS Data Path Failures on Servers Using MegaRAID Disk Controllers	<a href="#">“Diagnosing SAS Data Path Failures on Servers Using MegaRAID Disk Controllers” on page 20</a>
Oracle ILOM Deprecation Notice for IPMI 2.0 Management Service Present Behavior	<a href="#">“Deprecation Notice for Oracle ILOM IPMI 2.0 Management Service” on page 21</a>
Information about self-signed SSL certificates	<a href="#">“Resolving Warning Messages for Custom CA and Self-Signed SSL Certificates” on page 22</a>

For known issues affecting system components, see:

- [“Hardware, Firmware, and BIOS Issues” on page 29](#)
- [“Oracle Integrated Lights Out Manager \(ILOM\) Issues and Announcements” on page 37](#)
- [“Oracle System Assistant Issues” on page 43](#)
- [“Oracle Solaris Issues” on page 45](#)
- [“Oracle VM Issues” on page 49](#)
- [“Linux Issues” on page 51](#)
- [“VMware ESXi Issues” on page 55](#)

## 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 <https://www.oracle.com/servers/technologies/firmware/release-history-jsp.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 <https://www.oracle.com/security-alerts/>.

Oracle also recommends that you update to the latest operating system release when it becomes available. Although a minimum operating system release is supported, updating to the latest OS release ensures that you have the most up-to-date software and security patches. To confirm that you have the latest OS release, refer to the Oracle Hardware Compatibility Lists. See “Supported Operating Systems” on page 12.

For details about the current system software update, see: “[IMPORTANT - Install Latest OS Updates, Patches, and Firmware](#)” on page 18

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

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

To verify the server firmware version:

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

- **From the web interface, click System Information > Summary, then view the System Firmware Version in the General Information table.**
  - **From the CLI, type: `show /System/Firmware OF version`.**

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 server firmware version is at the minimum required version, shown above, or a subsequent release, if available.**
  3. **If the required firmware (or newer) is not installed:**
    - a. **Download the firmware from My Oracle Support at: <https://support.oracle.com>**

For more information, see: “Supported Firmware” on page 11
    - b. **Install the downloaded firmware.**

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

---

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

---

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

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

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

- **First Change:** The TLSv1.1 configuration property will default to Disabled in the next minor release of Oracle ILOM.

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

For future updates regarding TLSv1.1 support in Oracle ILOM, refer to latest release information in the Oracle ILOM Feature Updates and Release Notes for Firmware 4.0.x at [https://docs.oracle.com/cd/E81115\\_01/index.html](https://docs.oracle.com/cd/E81115_01/index.html).

## Diagnosing SAS Data Path Failures on Servers Using MegaRAID Disk Controllers

### Important Operating Note

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

To classify a MegaRAID disk controller event:

- Gather and parse the MegaRAID disk controller event logs either by running the automated `sundiag` utility or manually using the `StorCLI` command.
  - For Oracle Exadata Database Machine database or storage cell servers, run the `sundiag` utility.
  - For Oracle Server X5-8, use the `StorCLI` command.

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

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

---

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

---

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

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

**Error Counters:**

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

These error counters reflect drive or slot errors separately.

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

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

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

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

## Deprecation Notice for Oracle ILOM IPMI 2.0 Management Service

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

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

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

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

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

- or -

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

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

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

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

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

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

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

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

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





# Oracle x86 Products Accessibility

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

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

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

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

## Hardware Accessibility

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

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

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

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

## Oracle ILOM Accessibility

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

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

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

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

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

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

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

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

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

## Oracle Hardware Management Pack Accessibility

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

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

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

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

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

- <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."

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

## Documentation Accessibility

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

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

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

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

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

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

## Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle recognizes the influence of ethnic and cultural values and is working to remove language from our products and documentation that might be considered insensitive. While doing so, we are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is an ongoing, long-term process.

## Hardware, Firmware, and BIOS Issues

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The following table lists hardware, firmware, and BIOS issues for the Oracle Server X5-8.

Links to Issues	Workaround?
<a href="#">“Lockstep Memory (Channel) Mode Is Not Supported” on page 29</a>	N/A
<a href="#">“System Reboots Multiple Times After Save Optimal Defaults in BIOS Setup Utility (21836457)” on page 30</a>	Yes
<a href="#">“New Policy Allows You to Prevent System from Disabling DIMMs with Correctable Errors (22708327)” on page 30</a>	N/A
<a href="#">“New BIOS Setup Selections Can Disable Keyboard and Mouse, and Virtual CD/DVD Drive (21653077)” on page 31</a>	N/A
<a href="#">“To Update Oracle Flash Accelerator F160 PCIe Card Firmware, Install RA11 Before Updating to RA12 or RA13” on page 31</a>	N/A
<a href="#">“Reset Takes a Long Time and Causes the Server to Power Cycle” on page 32</a>	N/A
<a href="#">“Updating Firmware for the Sun Storage 16 Gb Fibre Channel PCIe Universal HBA, QLogic (20884466)” on page 33</a>	Yes
<a href="#">“Ignore Fault Message About Degraded Width on HBA (18783638)” on page 33</a>	N/A
<a href="#">“Do Not Power Cycle Server During Automatic CMOD FPGA Update (18707243)” on page 33</a>	N/A
<a href="#">“Server Boots Twice After BIOS Configuration Changes (18339188)” on page 34</a>	Yes
<a href="#">“Locator Button on SMOD Might Become Stuck” on page 35</a>	Yes
<a href="#">“Antistatic Wrist Straps Are Not Included With All CRUs and FRUs” on page 35</a>	N/A
<a href="#">“After a Firmware Update or a BIOS Setup, Pressing the F12 Key During POST Might Not Work (22936250)” on page 35</a>	Yes
	Fixed in SW 1.1.1

### Lockstep Memory (Channel) Mode Is Not Supported

Your Oracle Server X5-8 does not support lockstep memory mode, which is also known as double device data correction, or Extended ECC.

## System Reboots Multiple Times After Save Optimal Defaults in BIOS Setup Utility (21836457)

Occasionally after selecting Save Optimal Defaults in the BIOS Setup Utility, the system continues to reboot and perform BIOS POST, and does not load the operating system.

### Workaround

Perform one of the following actions:

- Press F8 during BIOS Post and select a boot disk, or:
- Disable Late Sync.
  1. Press F2 during BIOS POST to access the BIOS Setup Utility.
  2. Navigate to the Boot tab.
  3. Change the UEFICfg LateSync option to Disabled.
  4. Save your changes and exit.

The system should boot normally after either of these actions.

## New Policy Allows You to Prevent System from Disabling DIMMs with Correctable Errors (22708327)

Normally when a DIMM exceeds the threshold of correctable errors (CEs), the system maps it out, which disables it until it can be replaced.

Setting the DIMM CE Map Out policy allows you to prevent the system from mapping out DIMMs that exceed the CE threshold. This feature is available with Oracle ILOM 3.2.6 or later.

- When DIMM CE Mapout is enabled, DIMMs that exceed the CE threshold are mapped out (disabled). This is the default.
- When DIMM CE Mapout is disabled, DIMMs that exceed the CE threshold are not mapped out.

To enable or disable the DIMM CE Mapout policy:

- From the Oracle ILOM web interface, navigate to System Management > Policy and use the drop-down list to enable or disable DIMM CE fault DIMM map out.
- From the Oracle ILOM command-line interface (CLI), enter:

```
set /SP/policy DIMM_CE_MAP_OUT=[enabled/disabled]
```

## New BIOS Setup Selections Can Disable Keyboard and Mouse, and Virtual CD/DVD Drive (21653077)

Two new selections have been added to the Advanced > USB Ports screen in the BIOS Setup Utility. These selections include:

- BMC CD/DVD Drive: Enable or disable the virtual CD/DVD drive in Oracle ILOM.
- BMC Keyboard and Mouse: Enable or disable keyboard and mouse access to the host.

---

**Note** - If you disable the BMC Keyboard and Mouse, you cannot use a keyboard to access the host, and you cannot enter the BIOS Setup Utility again to re-enable it. Instead, you must use Oracle ILOM to re-enable it. For details, refer to the Oracle Integrated Lights Out Manager (ILOM) 3.2 Documentation Library at: <https://www.oracle.com/goto/ilom/docs>.

---

To disable or enable Oracle ILOM to host USB ports:

1. Access BIOS.
2. Select Advanced -> USB.
3. Scroll down the list and select Enabled or Disabled as desired.

## To Update Oracle Flash Accelerator F160 PCIe Card Firmware, Install RA11 Before Updating to RA12 or RA13

If your Oracle Flash Accelerator F160 PCIe Cards have firmware RA10 or lower, you must update to RA11 before you update to RA12 or RA13.

The software release includes two firmware files, RA11 and RA13, and associated metadata.xml files that automate the update process. RA11 is bridge firmware to get to RA12 or RA13.

RA13 includes a critical fix where the device might assert at initial power-on. All supported platforms should upgrade to RA13 at earliest convenience.

- If your Oracle Flash Accelerator F160 PCIe Cards have RA11 or RA12, you can upgrade directly to RA13.

- If your Oracle Flash Accelerator F160 PCIe Cards have RA10 or lower, you must upgrade to RA11 before upgrading to RA12 or RA13.

---

**Note** - Oracle Flash Accelerator F160 PCIe Cards do not support firmware versions lower than RA10.

---

For the latest information about the Oracle Flash Accelerator F160 PCIe Card see <https://www.oracle.com/goto/oracleflashf160/docs>

## 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 more than 30 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.
- The host is powered on.

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



---

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

---

---

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

---

For details, refer to “Update the BIOS and Service Processor Firmware (Oracle ILOM)” in *Oracle X5 Series Servers Administration Guide*.



## Updating Firmware for the Sun Storage 16 Gb Fibre Channel PCIe Universal HBA, QLogic (20884466)

To update firmware on the Sun Storage 16 Gb Fibre Channel PCIe Universal HBA, QLogic (model 7101674), you must use the image update kit available from the QLogic support site. This kit contains special scripts for updating firmware on the HBA.

---

**Note** - Though other tools are available to perform component firmware updates, such as Oracle System Assistant and Oracle Hardware Management Pack, they do not include the additional scripts required to complete the update for this device.

---

To obtain the QLogic image update kit:

1. Go to the QLogic support site:  
[http://driverdownloads.qlogic.com/QLogicDriverDownloads\\_UI/Oracle\\_Search.aspx](http://driverdownloads.qlogic.com/QLogicDriverDownloads_UI/Oracle_Search.aspx)
2. Enter the model number of the (7101674) into the search field.
3. Select the appropriate image upgrade kit for your operating system.
4. Download the kit and refer to the Readme for installation instructions.

## Ignore Fault Message About Degraded Width on HBA (18783638)

You might see fault messages warning of degraded width on HBAs. For example:

```
Fault fault.io.intel.iio.pcie-link-degraded-width on FRU /SYS/SMOD/HBA at
component /SYS/SMOD/HBA
```

You can ignore these messages. This issue does not affect performance.

## Do Not Power Cycle Server During Automatic CMOD FPGA Update (18707243)

If you replace the CMOD or SMOD hardware, it can cause the FPGA to be out of synchronization between the CMOD and the SMOD. When you apply AC power to the server, Oracle ILOM detects the FPGA mismatch and automatically updates the FPGA.

- Do not power off or power cycle your server during one of these updates.

When an automatic FPGA update is in progress, messages like the following appear in the Oracle ILOM event logs:

```
Thu May 7 01:01:20 2015 Firmware Update minor FPGA update x5_8cm0d0 started
```

or:

```
Thu May 7 01:01:19 2015 Firmware Update minor Performing  
FPGA sync on x5_8cm0d0 x5_8cm0d2 x5_8cm0d3 x5_8cm0d4 x5_8cm0d5 x5_8cm0d6  
x5_8cm0d7 x5_8sm0d
```

- After the update is complete, or if it was not necessary, it displays messages like these:

```
Thu May 7 01:10:32 2015 Firmware Update minor FPGA update complete
```

or:

```
Thu May 7 00:46:36 2015 Firmware Update minor FPGA update is not needed
```

## Server Boots Twice After BIOS Configuration Changes (18339188)

The UEFICfg LateSync feature causes the server to reboot at the end of BIOS POST if the BIOS/boot configuration is changed. The first boot synchronizes the changes to Oracle ILOM.

The BIOS boot configuration can change in response to a customer selection or automatically in response to certain system changes.

- Customer selections include changes to the boot order, boot list, or boot mode.
- Automatic changes can be triggered in response to events such as removing or adding a PCIe card or memory risers.

Normally this is not a problem. Just wait for the second boot to finish and the server should operate normally.

When UEFICfg LateSync is disabled, Oracle ILOM might not be synchronized with the BIOS configuration changes until the next boot.

For more information, refer to the [Oracle X5 Series Servers Administration Guide](#) or the [Oracle Server X5-8 Service Manual](#).

## Locator Button on SMOD Might Become Stuck

On some systems, when you press the locator button on the SMOD (on the back of the system), it can become stuck and remain pressed after you release it.

If you cannot get the button to release, contact My Oracle Support: <https://support.oracle.com>

## Antistatic Wrist Straps Are Not Included With All CRUs and FRUs

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

## After a Firmware Update or a BIOS Setup, Pressing the F12 Key During POST Might Not Work (22936250)

Fixed in SW 1.1.1.

Normally, while the system is performing power-on self test (POST), pressing the F12 key brings up a Select Boot Device screen.

Occasionally after a firmware update or after you have configured the system using the BIOS Setup Utility, this screen might not appear when you press the F12 key.

### Workaround

To access the Select Boot Device screen:

1. Wait for the POST to finish.  
The system restarts and begins a new POST.
2. Press F12 during the new POST.  
The Select Boot Device screen should appear.



# Oracle Integrated Lights Out Manager (ILOM) Issues and Announcements

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The following table lists the Oracle ILOM issues for the Oracle Server X5-8.

Links to Issues	Workaround?
<a href="#">“Use Oracle ILOM 4.0 Documentation After Updating to Firmware Version 2.0.0 or Newer” on page 37</a>	N/A
<a href="#">“File Transfer Using URI Fails if Target Password Contains Certain Special Characters (25917655)” on page 38</a>	Fixed in SW 1.5.0
<a href="#">“Oracle ILOM SNMP v3 Traps Are Not Delivered After SNMP Engine ID Change (23634048)” on page 38</a>	Yes
<a href="#">“Oracle ILOM Enhancement Allows IPv4 Only, IPv6 Only, or Dual Stack” on page 39</a>	N/A
<a href="#">“Oracle ILOM Identifies CPU Incorrectly” on page 40</a>	Yes
<a href="#">“Third-Party Web Scan and Test Tools Cause Sluggish Oracle ILOM Performance (23564626)” on page 41</a>	Yes
	Fixed in SW 1.1.1

---

**Note** - Additional information about Oracle ILOM appears in [“Important Operating Notes” on page 17](#).

---

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

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

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

The Oracle ILOM documentation collections are posted at <https://www.oracle.com/goto/iom/docs>.

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

**This problem is fixed in SW 1.5.0.**

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

# ; ?

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

### Workaround

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

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

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

### Workaround

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

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

```
show /SP/services/snmp/users

# create snmpv3 user
create /SP/services/snmp/users newuser authenticationpassword=...
# sleep 10 seconds to give snmp enough time to make the change
sleep 10
# verify user
show /SP/services/snmp/users newuser
# do a snmpget with that user to verify it

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

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

Starting with software release 1.0.2, Oracle ILOM has been enhanced to allow you to enable IPv6 while disabling IPv4. In addition, you can configure a static gateway for IPv6.

The user interface changes include:

### In the Web Interface

- Separate State fields have been added to both the IPv4 and IPv6 areas. Select or deselect the Enabled checkboxes to enable or disable the corresponding internet protocol as desired.
- If required, type a static gateway address in the IPv6 Static Gateway field.

### In the Command-Line Interface (CLI)

- The state command has been expanded so that it only needs to be entered once, while configuring IPv4 or IPv6. The parameters are:
  - enabled - enable IPv4

---

**Note** - To enable IPv6, use either `/SP/network/ipv6 state=enabled` or with SW 1.0.2 or newer, use `set /SP/network/state = ipv6-only`.

---

- `ipv4_only` - enable IPv4 and disable IPv6

- `ipv6_only` - disable IPv4 and enable IPv6
- `disabled` - disable IPv4 and IPv6
- The `ipv6_static_ipgateway` command allows you to set a static IPv6 gateway.

For more information, see “[Connecting to Oracle ILOM](#)” in *Oracle Server X5-8 Installation Guide* or refer to <https://www.oracle.com/goto/ilo/docs>.

## Oracle ILOM Identifies CPU Incorrectly

The FRU printout command in Oracle ILOM does not provide information about the processor model. For example, the `ipmitool fru` command displays:

```
FRU Device Description : CM0D0/P0 (LUN 0 ID 16)
Product Manufacturer  : Intel
Product Name         : unknown product name unknown
Product Part Number  : CM80636
Product Version      : 000306E7 SR1NR
```

## Workaround

Use the `show /System/Processors/CPUs/CPU_N` command, where *N* is the CPU number. For example:

```
-> show /System/Processors/CPUs/CPU_0

/System/Processors/CPUs/CPU_0
  Targets:

  Properties:
    health = OK
    health_details = -
    part_number = CM80636
    serial_number = Not Available
    location = P0 (CPU 0)
    model = Intel(R) Xeon(R) CPU E7-8895 v3 @ 2.60GHz
    max_clock_speed = 2.600 GHz
    total_cores = 18
    enabled_cores = 18
    temperature = Not Supported

  Commands:
    cd
```



show

->

Alternatively, select Processor > Details on the Oracle ILOM web interface Summary or System Information pages.

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

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

### **Workaround**

Install system software release 1.1.1.



# Oracle System Assistant Issues

---

The following table lists the Oracle System Assistant issues for the Oracle Server X5-8.

Links to Issues	Workaround
<a href="#">“Ignore Warnings in Oracle System Assistant Readme” on page 43</a>	N/A  Fixed in SW 1.0.3 or newer

## Ignore Warnings in Oracle System Assistant Readme

The Oracle System Assistant readme file for system software release 1.0.2 contains benign warning messages:

**WARNING! This firmware is not formally supported on this platform. DO NOT SHIP.**

You can ignore these messages.

This problem is fixed in system software release 1.0.3.



# Oracle Solaris Issues

---

The following table lists the Oracle Solaris issues for the Oracle Server X5-8.

Links to Issues	Workaround
<a href="#">“System Sometimes Fails to Boot Solaris 11.2 (21044249)” on page 45</a>	Yes
<a href="#">“Oracle Solaris 11.x OS With Desktop Package Cannot Be Powered Off Using Certain Options in Oracle ILOM (16816951, 17952405)” on page 46</a>	Yes
<a href="#">“System Cannot Boot From An iSCSI Target In UEFI Boot Mode (19721378)” on page 47</a>	No
	Fixed in SW 1.1.0

## System Sometimes Fails to Boot Solaris 11.2 (21044249)

When booting or rebooting Oracle Solaris 11.2 SRU10 or newer, the system might become unresponsive (hang).

- During a normal boot, the system hangs just after it displays "All rights reserved" and before it displays "Hostname":

```
SunOS Release 5.11 Version 11.2 64-bit Copyright (c) 1983,  
2015, Oracle and/or its affiliates. All rights reserved.  
(Messages stop here)  
Hostname: myhostname
```

- In verbose boot mode (the -v kernel boot option) the system hangs when it brings the CPUs online. For example:

```
SunOS Release 5.11 Version 11.2 64-bit  
Copyright (c) 1983, 2015, Oracle and/or its affiliates. All rights reserved.  
  
cpu0: x86 (chipid 0x0 GenuineIntel 306F4 family 6 model 63 step 4 clock 2600 MHz)  
cpu0: Intel(r) Xeon(r) CPU E7-8895 v3 @ 2.60GHz
```

```
initialized cpu module 'cpu.generic' on chip 0 core 1 strand 0
initialized model-specific module 'cpu_ms.GenuineIntel' on chip 0 core 1
strand 0
acpinex: cpu@2, cpudrv2
/fw/sb@0/socket@0/cpu@2 (cpudrv2) online
cpu1: x86 (chipid 0x0 GenuineIntel 306F4 family 6 model 63 step 4 clock 2600 MH)
cpu1: Intel(r) Xeon(r) CPU E7-8895 v3 @ 2.60GHz
cpu1 initialization complete - online
(Messages stop here)
```

### Workaround

Use one of the following three options:

- Reboot or power cycle the system. It might boot successfully.
- Modify power management-related parameters and reboot:
  1. Add the following to `/etc/system`:

```
set idle_cpu_no_deep_c=1
set idle_cpu_prefer_mwait=0
```
  2. Enter the command: `bootadm update-archive`
  3. Reboot the system.
- For a temporary solution or to start a non-booting system:
  - To boot into the kernel debugger, add `-kd` to the grub entry on the kernel line.
  - In the debugger, type:

```
idle_cpu_no_deep_c/W 1
idle_cpu_prefer_mwait/W 0
:c
```

## Oracle Solaris 11.x OS With Desktop Package Cannot Be Powered Off Using Certain Options in Oracle ILOM (16816951, 17952405)

For a server running Oracle Solaris 11.x with the desktop package, the following Oracle ILOM power-off options do not power off the server:

- When performing a graceful shutdown of the server from the Oracle ILOM web interface.

- When performing a forced shutdown of the server using the `stop -f /SYS` command from the Oracle ILOM command-line interface (CLI).

Other power-off options work normally.

### Workaround

Depending on whether you want to use the Oracle ILOM web interface or CLI to power off the server, perform one of the following steps at the server running Oracle Solaris:

#### To power off the server using the Oracle ILOM CLI, do the following:

1. Edit the `gnome-power-manager.service` file:  
In `/usr/share/dbus-1/services/gnome-power-manager.service`, append `--verbose` to the following line: `Exec=/usr/bin/gnome-power-manager`  
For example:  
`Exec=/usr/bin/gnome-power-manager --verbose`

#### To power off the server using the Oracle ILOM web interface, do the following:

1. Select System > Preferences > Startup Applications from `gnome-panel`'s menu list.
2. Select Power Manager > Edit.
3. Append `--verbose` to the following line: `gnome-power-manager`  
For example:  
`gnome-power-manager --verbose`

---

**Note** - If the `gnome-power-manager` demon is currently running, enter `kill gnome-power-manager` from the command line to stop it.

---

## System Cannot Boot From An iSCSI Target In UEFI Boot Mode (19721378)

This was fixed in system software release 1.1.0.

When in UEFI Boot Mode, the system fails to boot from an iSCSI target and instead boots the next available device.

No workaround is available for this issue. Monitor bug status for fix availability.





# Oracle VM Issues

---

The following table lists the Oracle VM issues for the Oracle Server X5-8.

Link to Issue	Workaround
<a href="#">“Kdump does not work in Oracle VM 3.3.2 (20493458)” on page 49</a>	No
<a href="#">“Oracle VM Does Not Allocate Enough Interrupts for Multiple Option Cards (20230544)” on page 49</a>	Yes
<a href="#">“Error After Installing Oracle VM Server on a System With a Large Amount of Memory (16557272)” on page 50</a>	Yes

## Kdump does not work in Oracle VM 3.3.2 (20493458)

Kdump does not work in Oracle VM 3.3.2 and no workaround is available.

## Oracle VM Does Not Allocate Enough Interrupts for Multiple Option Cards (20230544)

Running Oracle VM with a large number of PCIe cards installed can cause various symptoms, including:

- The `ethtool` command displays `speed unknown` and `duplex unknown`.
- Option cards might not operate as expected.

### Workaround

Edit the `grub.conf` file to add the following kernel boot parameters:

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

## Error After Installing Oracle VM Server on a System With a Large Amount of Memory (16557272)

In some cases, a system with a large amount of memory requires special configuration in order for Oracle VM to install and launch correctly. If not, you might see the following error on launch after installation:

```
kernel panic -not syncing: Out of memory and no killable processes
```

If you install Oracle VM from an ISO image or by using Oracle System Assistant, the `dom0_mem` parameter should be set correctly. If you install the Oracle VM software from PXE boot or some other customized environment and you have a large-memory system, you might need to recalculate the `dom0_mem` setting.

### Workaround

Recalculate the `dom0_mem` setting using this formula:

```
dom0_mem = 502 + int(physical_mem * 0.0205)
```

For example, if your system has 128 GB of memory, you need to increase `dom0_mem` to 3188 MB:

```
dom0_mem=3188M
```

You can update the `dom0_mem` setting in the `grub.conf` file, or during installation by interrupting the boot process at grub menu and editing it there.

For more information on the `dom0_mem` setting, refer to the Installing Oracle VM Server documentation:

[http://docs.oracle.com/cd/E35328\\_01/E35330/html/vmiug-server-dom0-memory.html](http://docs.oracle.com/cd/E35328_01/E35330/html/vmiug-server-dom0-memory.html)

# Linux Issues

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The following table lists the Linux issues for the Oracle Server X5-8.

Links to Issues	Workaround
<a href="#">“Oracle Linux 7.1 UEK GUI Does Not Start in Legacy BIOS Boot Mode (20866965)” on page 51</a>	Yes
<a href="#">“Hotplugging Some Option Cards Causes Oracle Linux to Reset” on page 52</a>	Yes
<a href="#">“Oracle Linux 7 Kernel kdump Does Not Work on Large Configurations (19606360)” on page 52</a>	Yes

## Oracle Linux 7.1 UEK GUI Does Not Start in Legacy BIOS Boot Mode (20866965)

The Oracle Linux UEK 7.1 GUI might not start in Legacy BIOS Boot Mode.

### Workaround

1. Install the x11/mga driver.

```
rpm -ivh xorg-x11-drv-mga-1.6.3-5.el6.x86_64.rpm
```

2. Create a entry in the file /etc/X11/xorg.conf.d

```
Section "Device"
    Identifier "Videocard0"
    Driver     "mga"
EndSection
```

---

**Note** - Remove this entry if you switch to the Red Hat compatible kernel.

---

3. Reboot your server.

---

**Note** - For a more complete fix, check the bug status and Oracle Linux 7.1 UEK updates.

---

## Hotplugging Some Option Cards Causes Oracle Linux to Reset

When you hotplug some option cards, it causes Linux to reset. These include InfiniBand and Sun Storage 16 Gb FC ExpressModule Universal HBA.

### Workaround

1. Edit the grub config file:
  - For Oracle Linux 7, edit the file `/boot/grub2/grub.cfg`.
  - For Oracle Linux 6, edit the file `/boot/grub/menu.lst`.
2. Find the line that begins with `linux16 /vmlinuz-3.8.13-68.1.2.el7uek.x86_64`
3. Add the following to the end of this line: `pci=pci_bus_perf`
4. Reboot your server.

## Oracle Linux 7 Kernel kdump Does Not Work on Large Configurations (19606360)

When using kdump to get a kernel dump after a crash, the second kernel cannot finish booting, and does not create the core dump.

### Workaround

1. Edit the grub configuration file.
2. In the grub configuration file, change `crashkernel=auto` to `crashkernel=1024M,high`.
3. Reboot your server.

## Windows Issues

---

The following table lists the Windows OS issues for Oracle Server X5-8.

Link to Issue	Workaround
<a href="#">“Windows Installation Using Generic Microsoft Media Generates DPC Watchdog Violation (19714816)” on page 53</a>	N/A

### Windows Installation Using Generic Microsoft Media Generates DPC Watchdog Violation (19714816)

When you install Windows Server 2012 R2 using generic Microsoft media, it generates a Windows Bug Check error DPC\_WATCHDOG\_VIOLATION 0x00000133.



#### Workaround

Install the latest version of Intel’s I350 Gigabit Network driver during Windows Server 2012 R2 installation.

The latest version of Intel’s I350 Gigabit Network driver is located on the Oracle Server X5-8 Oracle System Assistant flash drive:

%DRIVE%:\Windows\2012R2\Drivers\Intel-NIC-1gbe

See the [Oracle Server X5-8 Installation Guide for Windows Operating Systems](#) for details.

## VMware ESXi Issues

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This section lists the known issues with VMware.

### **VSphere 6**

There are no known issues with VMware on Oracle Server X5-8.





# Getting Server Firmware and Software Updates

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

Description	Links
Learn about server firmware and software updates.	<a href="#">“Firmware and Software Updates” on page 57</a>
Learn about options for accessing firmware and software.	<a href="#">“Firmware and Software Access Options” on page 58</a>
Review available firmware and software releases.	<a href="#">“Software Releases” on page 58</a>
Learn how to get firmware and software using Oracle System Assistant or My Oracle Support.	<a href="#">“Getting Firmware and Software From My Oracle Support” on page 59</a>
Install firmware and software updates using other methods.	<a href="#">“Installing Updates Using Other Methods” on page 60</a>

## Firmware and Software Updates

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

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

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

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

## Firmware and Software Access Options

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

- **Oracle System Assistant:** Oracle System Assistant is a factory-installed option for Oracle servers that enables you to easily download and install the latest software releases.

For information about using Oracle System Assistant, refer to [Oracle X5 Series Servers Administration Guide](#).

**My Oracle Support:** All system software releases are available from My Oracle Support at <https://support.oracle.com>.

For information about what is available on the My Oracle Support web site, see [“Download Firmware and Software Using My Oracle Support” on page 59](#).

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

For information, see [“Installing Updates Using Other Methods” on page 60](#).

## Software Releases

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

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

My Oracle Support provides the set of software releases for your server as described in the following table. You can obtain these software releases by downloading the files from My Oracle Support or by using Oracle System Assistant.

Package Name	Description	When to Download This Package
X5-x SW release – Firmware Pack	Contains all system firmware, including Oracle ILOM, BIOS, and option card firmware.	You need the latest firmware.
X5-x SW release – OS Pack	Includes a package of all tools, drivers, and utilities for a specific	You need to update OS-specific tools, drivers, or utilities.

Package Name	Description	When to Download This Package
	OS. An OS Pack is available for each supported operating system version.  Software includes Oracle Hardware Management Pack and LSI MegaRAID software.  For the Windows OS, the OS Pack also includes Intel Network Teaming and Install Pack.	
X5-x SW release – All Packs	Includes the Firmware Pack, all OS Packs, and all documents.  This pack does not include Oracle VTS or the Oracle System Assistant image.	You need to update a combination of system firmware and OS-specific software.
X5-x SW release – Diagnostics	Includes Oracle VTS diagnostics image.	You need the Oracle VTS diagnostics image.
X5-x SW release – Oracle System Assistant Updater	Includes Oracle System Assistant recovery and ISO update image.	You need to manually recover or update Oracle System Assistant.

## Getting Firmware and Software From My Oracle Support

You can use Oracle System Assistant to easily download and then use the latest software release. For further information, refer to [Oracle X5 Series Servers Administration Guide](#).

However, you can also obtain updated firmware and software by using My Oracle Support. For information, see:

- [“Download Firmware and Software Using My Oracle Support” on page 59](#)

### ▼ Download Firmware and Software Using My Oracle Support

1. Go to the My Oracle Support web site: <https://support.oracle.com>.
2. Sign in to My Oracle Support.
3. At the top of the page, click the Patches & Updates tab.  
The Patch Search pane appears at the right of the screen.
4. Within the Search tab area, click Product or Family (Advanced).

The Search tab area appears with search fields.

**5. In the Product field, select the product from the drop-down list.**

Alternatively, type a full or partial product name (for example, Oracle Server X5-8) until a match appears.

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

Expand the list to see all available software releases.

**7. Click Search.**

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

See [“Software Releases” on page 58](#) for a description of the available software releases.

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

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

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

**9. To review the Readme file for this patch, click Readme.**

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

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

The patch for the software release downloads.

## Installing Updates Using Other Methods

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

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

For information, refer to the product information page at: <https://www.oracle.com/enterprise-manager/technologies/>. For documentation, refer to the Oracle Enterprise

Manager Cloud Control Documentation Library at: <https://docs.oracle.com/en/enterprise-manager/related-products.html>

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

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

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

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

For information, refer to the Oracle Integrated Lights Out Manager (ILOM) 4.0 Documentation Library at: <https://www.oracle.com/goto/ohmp/docs>

