Oracle® Communications Server E6-2L

Product Notes

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Oracle Communications Server E6-2L Product Notes, Release 1.0

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Using This Documentation

- **Overview** – Provides late-breaking information about Oracle Communications Server E6-2L
- **Audience** – System administrators, network administrators, and service technicians
- **Required knowledge** – Advanced understanding of server systems

Product Documentation

Documentation and resources for this product and related products are available on the Oracle Communications Server E6-2L Documentation Library in the Oracle Help Center.

Feedback

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

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Oracle Communications Server E6-2L Product Information

These product notes include the most updated information about supported firmware and operating systems, important operating notes, and known issues for Oracle Communications Server E6-2L.

You can find information about supported hardware in the sections below.

Supported Hardware

You can find information about supported hardware in these sections:

- Supported Memory
- Supported Storage Drives
- Supported PCIe Cards

Supported Memory

The server supports 64-GB dual-rank Registered DIMMs (RDIMMs). Each server processor supports up to twelve DIMMs, organized into 12 memory channels that contain up to 1 DIMM per channel. The maximum supported memory speed is 3200 MT/s, with total supported memory of 1.5 TB.

The memory configurations, or number of DIMMs per processor supported in the server at any time, are 1, 2, 4, 6, 8, 10, or 12.

> **Note**
>
> If a DIMM fails, the server uses other DIMMs to continue operating. However, the server will use only the number of remaining DIMMs that meets the next smallest memory configuration. For example, if you have 12 DIMMs in the server and 1 fails, the server will then use 10 of the remaining DIMMs because the next smallest supported memory configuration is 10.

Supported Storage Drives

The following storage drives are supported for use with Oracle Communications Server E6-2L. Support for storage drives depends on the server model and its configuration. Basic storage drive support is listed below.

Internal Solid State Drive (SSD)

- 480 GB NVMe M.2 SSD 1U [Quantity - Two]: Included in the base configurations. Refer to 480GB NVMe M.2 Solid State Drive Specification.

NVM Express (NVMe)

- Oracle 3.84 TB NVMe PCIe 4 SSD mixed use with 2.5-inch bracket [Quantity - Up to Two]: 7631297 (factory installation), 7631301 (orderable option)

Supported PCIe Cards

The table below lists the PCIe cards that are supported for use with the Oracle Communications Server E6-2L.

Note the following restrictions:

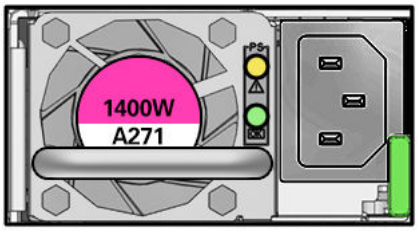
- Install each PCIe card in the order specified in the table and in the slot order specified for each card.

PCIe Card Installation Order	PCIe Card	Maximum Quantity Supported in a Single-Processor System	Slot Restrictions for a Single-Processor System	Maximum Quantity Supported in a Dual-Processor System	Slot Restrictions for a Dual-Processor System
1	Oracle Dual Port 25 Gb Ethernet Adapter v2, Mellanox 7605560 (factory installation)	2	Supported in slots 8 and 6.	2	Supported in slots 8 and 3.
2	Oracle Quad Port 10GBase-T Adapter v3 7623538 (factory installation), 7604168 (orderable option)	2	Supported in slots 8 and 6.	2	Supported in slots 8 and 3.

Supported Power Supplies

Oracle Communications Server E6-2L support hot-swappable and highly-redundant power supplies models A271 and A269.2 on the back panel.

Figure 1-1 The A271 1400 watt power supply (PS) accepts ranges from 200-240 volts AC (VAC).



Power supplies provide conversion from AC lines to the system. For service information, refer to the *Oracle Communications Server E6-2L Service Manual*. For installation information and specifications, refer to the *Oracle Communications Server E6-2L Installation Guide*.

Supported Firmware

Verify that your system has the latest firmware release listed below (or higher if available). For more information, see Checking Your Current Firmware Version. Oracle x86 Critical Patch Update Guide

> **Note**
>
> Some product features are enabled only when the latest versions of patches or firmware are installed. Customers are required to install the minimum required system firmware version or newer for optimal performance, security, and stability.

The following tables list the firmware release components, and their versions, supported by Oracle Communications Server E6-2L.

The following table lists the software 3.8.0.0 release firmware versions.

Release Component	Version
System Software (tested versions of drivers, utilities and accessory firmware)	3.8.0.0
Oracle ILOM SP firmware	5.1.5.20
System BIOS (part of SP firmware patch)	61.13.02.00

You can find detailed information about supported firmware releases here:

- Oracle x86 Critical Patch Update Guide
- Firmware Downloads and Release History for Oracle Systems

For additional information about available system and component firmware, tools, drivers and bug fixes, refer to the ReadMe file for the System Software Release. To learn how to access the ReadMe file, see Download Firmware and Software Updates From My Oracle Support.

Operating Systems

The following table lists supported operating systems and virtual hardware for Oracle Communications Server E6-2L. 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
3.8.0	• Oracle Linux 9 Update 1 with Unbreakable Enterprise Kernel Release 7 • Oracle Linux 9 with Unbreakable Enterprise Kernel Release 7 • VMware ESXi 8

To identify the latest version of an operating system supported on your server, go to an Oracle Hardware Compatibility List (HCL) or to the third-party operating system certification information web site. The following table provides links to the HCL or third-party OS certification information sites for each supported OS.

Operating System	Link to HCL or Other Configuration Information
Oracle Linux	Hardware Certification List - Oracle Linux and Virtualization
VMware ESXi	VMware Compatibility Guide Search Compatibility Guide

Server Management Tools

The following single system management tools are available for the server:

- **Oracle Integrated Lights Out Management (ILOM) release 5.1**

  Refer to Oracle ILOM Documentation

Oracle Communications Server E6-2L 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 Oracle's Accessibility Program.

Oracle Communications Server E6-2L Hardware Accessibility

Oracle Communications Server E6-2L 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 .

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.

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 application 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 Servers Documentation Systems Management.

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 Servers Documentation Systems Management.

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 documented in the and .

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.

Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers and partners, we are working to remove insensitive terms from our products and documentation. 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 ongoing and will take time and external cooperation.

2

Hardware Issues

This section describes important operating notes and known hardware issues for Oracle Communications Server E6-2L.

Known Service Issues

This chapter describes important operating notes and known service issues for Oracle Server E6-2L. You can find detailed information about Oracle Server E6-2L supported hardware in Product Description. For the most updated information about supported firmware and operating systems, important operating notes, and known issues, refer to *Oracle AMD-Based Cloud Servers Product Notes*.

Information about the latest firmware and Software Release, including tools, drivers, component firmware versions, and bug fixes is available in the ReadMe file for each Software Release. 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.

37627428 - 37469025 - Set /SP/powermgmt/budgets/cpus activation_state=enabled Failed after Factory Defaults

Oracle Server E6-2L failed after factory defaults or flash to sw3.8.0 ILOM without preserving sp config. The user can't set power capping activation_state=enabled after flashing ILOM to sw380 build01, reports "set: This operation is not allowed in the current state."

set /SP/powermgmt/budgets/cpus activation_state=enabled See 37469025: set /SP/powermgmt/budgets/cpus activation_state=enabled failed after factory defaults.

3 BIOS Issues

This section describes important operating notes and known BIOS issues for Oracle Communications Server E6-2L.

Different USB Port Options are Displayed in BIOS Setup Utility

Bug ID: 34324738

Issue: Depending on the Oracle ILOM firmware version installed on the system, different USB port options are displayed in the BIOS Setup utility.

Affected Software: System BIOS

Example: USB Port Options Displayed with Oracle ILOM Firmware 5.0.2.23.a

```
<USB_Ports>
                <!-- Internal Port -->
                <!-- Description: Enable/Disable USB Port. -->
                <!-- Possible Values: "Disabled", "Enabled" -->
                <Internal_Port>Enabled</Internal_Port>

                <!-- Service Processor -->
                <!-- Description: Enable/Disable USB Port. -->
                <!-- Possible Values: "Disabled", "Enabled" -->
                <!-- Expert Mode -->
                <Service_Processor>Enabled</Service_Processor>
        </USB_Ports>
```

Example: USB Port Options Displayed with Oracle ILOM Firmware 5.0.2.23.b

```
<USB_Ports>
                <!-- Internal Port -->
                <!-- Description: Enable/Disable USB Port. -->
                <!-- Possible Values: "Disabled", "Enabled" -->
                <Internal_Port>Enabled</Internal_Port>
        </USB_Ports>
```

Workaround: Install the latest Oracle ILOM firmware version. The correct USB port option of "Rear Port" will now be displayed instead of "Internal Port".

4

Oracle ILOM Issues

This section describes important operating notes and known Oracle ILOM issues for Oracle Communications Server E6-2L.

For updated information about Oracle ILOM, refer to the latest Oracle ILOM documents at Servers Documentation Systems Management.

Oracle ILOM Command Force Stop of PCIe Slot Power Can Cause Server PCIe Bus Error

Bug ID: 334503411

Issue: SW3.3.3 Enterprise Oracle ILOM build02: 5.1.0.23_r146986 Enhancement 34371396 implements CLI command `stop /SYS/MB/PCIEn`. Use of the `stop /SYS/MB/PCIEn` command can cause some Smart NIC PCIe cards to stop operation and the system may report a PCIe bus error. Systems with this firmware enhancement should not need to use this command if they do not have any Cavium LiquidIO III 100 Gb Network Interface Card (NIC)s installed in PCIe slots. If not resetting Smart NIC Add-In Card (AIC) PCIe slots, avoid using the `stop /SYS/MB/PCIEn` command on PCIe slots and cards unless instructed by Oracle Service personnel.

1. When host power is off, you can start any PCIe slot power with the `start /SYS/MB/PCIEn` command and stop any PCIe slot power with the `stop /SYS/MB/PCIEn` command without PCIe bus errors.

   ```
   -> stop /SYS/MB/PCIE#
   -> start /SYS/MB/PCIE#
   ```

2. **Note:** When host power is on, you can add use the `–force` option to force stop/start PCIe slot power. But there is a risk of causing system and PCIe bus errors.

   Before using the `–force` option to force stop or force start PCIe slot power, ensure the following preconditions.

   a. Verify that the UEFI BIOS has already enabled the PCIe slot hotplug feature.

   b. Verify that the OS is Linux UEK4 or UEK5, and the Cavium LiquidIO III 100 Gb Network Interface Card (NIC) remote console is idle.

   c. Shutdown PCIe communication/data traffic for the slot with the installed Cavium LiquidIO III 100 Gb Network Interface Card (NIC).

3. Use these actions only for the PCIe slot when installing Cavium LiquidIO III 100 Gb Network Interface Card (NIC)s when host power is on.

   ```
   -> stop –force /SYS/MB/PCIE#
   -> start –force /SYS/MB/PCIE#
   ```

Cavium LiquidIO III 100 Gb Network Interface Card (NIC) may require start/stop power cycles without affecting other AIC cards using the `-force` option to start or stop PCIe slot power when server host main power is on. For all other AIC cards installed in system configurations, exercise caution when using the `stop /SYS/MB/PCIEn` command to force to start/stop PCIe

slot power. Using force stop on Oracle Flash Accelerator F640 PCIe Cards and Oracle Quad Port 10GBase-T Adapters installed in PCIe slots may result in PCIe bus issues. Refer to Enhancement 34371396 for details.

Example of force stop command that may cause a reset:

```
-> stop /SYS/MB/PCIE8
Are you sure you want to stop /SYS/MB/PCIE8 (y/n)? y
stop: Operation is not allowed when Host power is on.
-> stop -f /SYS/MB/PCIE8
Are you sure you want to immediately stop /SYS/MB/PCIE8 (y/n)? y
Stopping /SYS/MB/PCIE8 immediately

-> ls
 /SYS/MB/PCIE8
    Targets:        POWER        PRSNT        SERVICE
    Properties:        type = PCIE Module        fault_state = OK
        clear_fault_action = (none)        power_state = Off
Commands:        cd        reset        set        show        start        stop
-> show faulty
Target                        |
          Property                          | Value
----------------------------+-----------------------------------+------------
-> show /sp/logs/event/list/
Event
ID     Date/Time                Class          Type      Severity
-----  -----------------------  --------  --------  --------
324    Wed Aug 10 06:41:56 2022  Chassis   State     minor
       /SYS/MB/PCIE8 power is disabled
323    Wed Aug 10 06:41:51 2022  Power     Off       major
       Power to /SYS/MB/PCIE8 has been turned off by: Shell session,
Username:
322    Wed Aug 10 05:23:51 2022  IPMI      Log       minor
       ID =  131 : 08/10/2022 : 05:23:51 : System Firmware Progress : BIOS :
System boot initiated : Asserted
```

Affected Hardware: Oracle Communications Server E6-2L, Oracle Server X7-2, Oracle Server X7-2L

Affected Software:

x86 server software Oracle ILOM releases or later: SW3.3.3 Enterprise ILOM build02: 5.1.0.23_r146986, BIOS: 42120100

Oracle Communications Server E6-2L, Oracle Server X7-2, Oracle Server X7-2L

For details, refer to Oracle Integrated Lights Out Manager (ILOM) documentation at Systems Management Documentation.

Workaround: Use Oracle ILOM CLI command `stop /SYS/MB/PCIEn` only for Cavium LiquidIO III 100 Gb Network Interface Card (NIC) slot required start/stop power cycles. Do not use Oracle ILOM CLI command `stop /SYS/MB/PCIEn` for any other purpose unless instructed by Oracle Service personnel.

Oracle Service personnel can find more information about x86 servers at My Oracle Support. Refer to Oracle ILOM update *Enh 34371396 - Added --force to start/stop PCIe slot power*.

DIMM Fault SPX86A-800A-95 - Memtest Single Symbol Test Failed - ILOM 5.1.0.21

Bug ID: 34325538, 34445460

Issue: The following DIMM Fault message is seen: `SPX86A-800A-95 - Memtest Single Symbol Test Failed (Doc ID 2317012.1)` SPX86A-800A-95 indicates that the ILOM fault manager has received an error report indicating a memory DIMM produced correctable errors (CE) during both passes of the memory test.

If the server encounters multiple runtime memory fault related events, increased runtime error messages may be related to DIMM memory testing conditions. Oracle ILOM Adaptive Double DRAM Device Correction (ADDDC) and Post Package Repair (PPR) features are enabled in the server firmware. ADDDC Sparing is a RAS feature to test memory reliability. The Advanced Memory Test (AMT) in the Memory Reference Code (MRC) can fail a DIMM with a single symbol error and then PPR would try to repair the defect.

When enabled, PPR may be able to repair affected DRAM areas on a DIMM. PPR runs when ADDDC was previously activated before reboot or MRC initialization failed memory tests. Upon encountering any memory related fault event during MRC initialization or experiencing certain memory correctable events during runtime that triggers ADDDC on first occurrence, then PPR would be activated after the next system initialization/reboot and attempt to repair the DIMM.

> **Note**
>
> Certain DIMM manufacturers may exhibit different memory failure patterns, and may not support soft PPR configuration (which enables temporarily attempting a repair action).

Affected Hardware: Oracle Communications Server E6-2L, Oracle Server X8-8, Oracle Server X8-2, Oracle Server X8-2L, Oracle Server X7-8, Oracle Server X7-2, Oracle Server X7-2L

> **Note**
>
> Not all server systems enable ADDDC.

Affected Software:

The following x86 server software Oracle ILOM releases or later, support PPR (Post-Package Repair).

- Oracle Server X9-2 SW1.1.0 ILOM 5.0.2.21 (Does not enable ADDDC.)
- Oracle Server X9-2L SW1.1.0 ILOM 5.0.2.21 (Does not enable ADDDC.)
- Oracle Server X8-8 SW3.2.2.1 ILOM 5.0.2.22 (Does not enable ADDDC.)
- Oracle Server X8-2 SW3.2.2 ILOM 5.0.2.24
- Oracle Server X8-2L SW3.2.2 ILOM 5.0.2.24
- Oracle Server X7-8 SW3.2.2.1 ILOM 5.0.2.22 (Does not enable ADDDC.)

- Oracle Server X7-2 SW3.2.2 ILOM 5.0.2.24
- Oracle Server X7-2L SW3.2.2 ILOM 5.0.2.24

Workaround: Some DIMM faults are recoverable errors if PPR is enabled on the server. If multiple DIMM memory errors are detected on the server:

1. Log in to the Oracle ILOM command-line interface (CLI) using an account with admin (a) role privileges.
2. From the Oracle ILOM CLI, launch the Oracle ILOM Fault Management Shell.

   ```
   -> start /SP/faultmgmt/shell
   Are you sure you want to start /SP/faultmgmt/shell (y/n)? y
   ```

3. Display information about server components using Oracle ILOM FMA CLI command.

   ```
   faultmgmtsp> fmadm faulty
   ```

4. Manually clear server faults using Oracle ILOM FMA CLI command.

   ```
   faultmgmtsp> fmadm repair <FRU>
   ```

5. Exit the Oracle ILOM Fault Management Shell and return to the the Oracle ILOM CLI command prompt.

   ```
   faultmgmtsp> exit
   ```

6. Upgrade the server to the latest ILOM/UEFI firmware release that supports PPR. The system resets during the firmware upgrade and runs memory tests again.
7. If memory related events faults continue to be logged, replace the faulted DIMMs in the server. Log an Oracle Support case through the support portal for further assistance.

For updated information about Oracle ILOM, refer to Oracle Integrated Lights Out Manager (ILOM) documentation at Servers Documentation - Systems Management.

Oracle Service personnel can find more information about the diagnosis and triage of DIMM Fault failures on x86 servers at My Oracle Support. Refer to the Knowledge Article Doc ID 2698328.1. If there are multiple, simultaneous DIMM Fault message problems on a server, Oracle Service personnel can refer to Knowledge Articles Doc IDs 1603015.1 (KA single symbol error) and 2317012.1 (KA multiple symbol errors).

> **Note**
>
> Adaptive Double DRAM Device Correction (ADDDC) is also referred to as Adaptive Device Correction (ADC) in some Oracle documents.

BIOS Setup Utility Looks Distorted When Accessed Through Oracle ILOM Remote System Console

Bug ID 32035569

Issue: If you disable serial console redirection, and then launch the BIOS Setup Utility through the Oracle ILOM Remote System Console, the main screen of the BIOS Setup Utility is distorted upon first accessing the utility.

Workaround: From the main screen of the BIOS Setup Utility, click the Advanced tab, and then return to the Main tab. Returning to the main screen of the BIOS Setup Utility clears the distortion.

Virtual Boot Device Is Unavailable After Disabling SSL From Oracle ILOM Remote System Console

Bug ID 32403589

Issue: If you clear the SSL Enable check box from the KVMS and Storage menu of the Oracle ILOM Remote System Console, and then you add a Linux ISO install boot device, the virtual boot device might not be displayed as an available boot device from the system UEFI Menu.

Workaround: Restore the default factory settings for KVMS and storage devices, and reboot the system. You can then return to the Oracle ILOM Remote System Console, clear the SSL Enable check box again, and the virtual boot device will now be displayed as available from the UEFI Menu.

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

Important Operating Note

The following information applies to 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 following applicable sections in the *Oracle ILOM Administrator's Guide for Configuration and Maintenance Firmware Release 5.1.x*, which is available at Servers Documentation Systems Management:

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

The Default Baud Rate for the SER MGT Port Is 115200

Important Operating Note

When attempting to connect to the Oracle ILOM Service Processor using the Oracle Communications Server E6-2L SER MGT port, the default baud rate for the port configured in BIOS is 115200. For many other Oracle servers, the default baud rate is 9600.

5
Linux Issues

This section describes important operating notes and known Linux operating system issues for Oracle Communications Server E6-2L.

Linux MMIO Kernel Configuration Can Affect Oracle Hardware Management Pack fwupdate Tool for Intel NIC/LOM Updates

Important Operating Note

On systems running Linux with Intel network interface cards or LAN-on-Motherboard (LOM) controllers, if MMIO memory access is set to strict access in the Linux kernel (iomem=strict or as part of the kernel build configuration) you will see the following message in syslog/dmeg when running the Oracle Hardware Management Pack fwupdate tool:

```
kernel: Program fwupdate tried to access /dev/mem between
c4a00000->c4a01000. (Address may vary)
```

This message is expected and should not cause an issue with the operation of the operating system. There will be one message each time `fwupdate` is run and the kernel is in strict MMIO access mode.

However, when the kernel is running in this mode, `fwupdate` will not be able to access Intel-based network controllers to either list information or update firmware.

For more information on this issue including a workaround, see the "Linux MMIO Access Settings Can Affect `fwupdate` Commands On Intel Network Controllers" section in the *Oracle Hardware Management Pack 2.4 Server CLI Tools User's Guide* at: Oracle Hardware Management Pack 2.4 Documentation.

6

Software and Critical Patch Updates

This section includes important operating information and requirements for Oracle Communications Server E6-2L.

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 Firmware Downloads and Release History for Oracle Systems.

To download a Software Release, go to My Oracle Support.

Oracle notifies customers about security vulnerability fixes for all its products four times a year through the Critical Patch Update (CPU) program. Review the CPU advisories to ensure that the latest Software Release updates are applied to your 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 Critical Patch Updates, Security Alerts and Bulletins.

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 or third-party operating system certification information. See Operating Systems.

For details about how to download the latest system software update, see Download Firmware and Software Updates From My Oracle Support.

What's In a Software Release?

Software releases are grouped by product family (such as Oracle Server), then the product (the specific server), and finally the software release version. A software release contains all the updated software and firmware for your server 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 within a zip file that contains set of firmware and software subdirectories and files, along with a ReadMe file. The ReadMe file provides information about the patch, such as what has changed since the prior software release and the bugs that have been fixed in the current release.

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 at My Oracle Support.

Package Name	Description	When to Download This Package
Oracle Communications Server E6-2L SW *release* – Firmware Pack	Contains all system firmware, including Oracle ILOM, BIOS, and option card firmware.	You need the latest firmware.
Oracle Communications Server E6-2L SW *release* – OS Pack	Includes a package of all tools, drivers, and utilities for a specific OS. An OS Pack is available for each supported operating system version. Software includes Oracle Hardware Management Pack, LSI MegaRAID software, and any other optional software that Oracle recommends.	You need to update OS-specific tools, drivers, or utilities.
Oracle Communications Server E6-2L SW *release* – All Packs	Includes the Firmware Pack and all OS Packs.	You need to update a combination of system firmware and OS-specific software.

Checking Your Current Firmware Version

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

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

To determine which firmware version is installed on your server, do one of the following:

- **From the Oracle ILOM web interface**, click System Information → Summary, then view the property information for the System Firmware Version in the General Information table.
- **From the Oracle ILOM command-line interface (CLI)**, at the command prompt, type: `show /System/Firmware`

Obtaining the Latest Software Release

To obtain the latest software release, do the following:

1. Check that your current Oracle ILOM firmware version is at the minimum required version (see Supported Firmware) or a newer release, if available.

   See Checking Your Current Firmware Version.

2. If the required firmware version (or newer) is not installed:

   a. Download the latest Software Release from My Oracle Support at My Oracle Support.

      For more information, see Download Firmware and Software Updates From My Oracle Support.

b. Install the downloaded firmware.

   See Update System Firmware Using Oracle ILOM.

   Refer to the information about performing firmware updates in the *Oracle ILOM Administrators Guide for Configuration and Maintenance Firmware Release 5.1.x*, which is available at Servers Documentation Systems Management. Perform the preparatory steps described in that document before updating the firmware.

> **Note**
>
> Occasionally after installing 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.

Firmware and Software Update Options

This section explains the options for accessing server firmware and software updates for Oracle Communications Server E6-2L.

Download Firmware and Software Updates From My Oracle Support

There are various methods for you to download and update the latest firmware and software for your system. This procedure provides steps to do so from the My Oracle Support web site. If you would like to use a different method to update system firmware and software, see Installing System Firmware Using Other Methods.

After downloading firmware and software updates, follow the instructions in Update System Firmware Using Oracle ILOM to update the system firmware using Oracle ILOM.

Follow these steps to download firmware and software updates:

1. Go to the My Oracle Support web site: My Oracle Support.
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 X9-2) 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 What's In a Software Release? 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, and in the File Download dialog box, click the patch zip file name.

    The patch for the software release downloads. The download is an archive zip file, which you must extract to find the directory containing the image `.pkg` file.

    You can now update your system with the newly downloaded Firmware Pack (Patch). See Update System Firmware Using Oracle ILOM.

Update System Firmware Using Oracle ILOM

You can update Oracle ILOM system firmware while the host is powered on. The Oracle ILOM firmware image includes firmware for the service processor (SP, Oracle ILOM) and the server's host components (FPGAs). The Oracle ILOM firmware update goes into effect immediately. However, the update of host components is deferred until the affected host is power cycled. Because Oracle ILOM can be updated while the host is powered on, this feature reduces the total system downtime.

Before You Begin

- Determine the Oracle ILOM firmware version currently installed on the system. See Checking Your Current Firmware Version.
- Download the Firmware Pack (Patch) update from My Oracle Support. See Update System Firmware Using Oracle ILOM.

> **Note**
>
> This procedure uses the Oracle ILOM command-line interface to update the system firmware. You can also update system firmware using the Oracle ILOM web interface. For web interface instructions, refer to the Oracle ILOM documentation at Servers Documentation Systems Management.

To update system firmware, follow these steps:

1. Notify Oracle ILOM SP users of the scheduled firmware update and ask them to close all client sessions until after the firmware update is complete. Do not perform any other Oracle ILOM tasks during the firmware update.
2. Navigate to the directory where you saved the FIRMWARE PACK (Patch) archive zip file.
3. Extract the FIRMWARE PACK files from the archive zip file.

   When you extract the files, the <*image.pkg*> file is in the `Firmware/service-processor` directory.

   For example:

```
% unzip p26981570_102_Generic.zip
Archive: 26981570_102_Generic.zip
```

```
creating Oracle_Server_X9-2-1.0.1.87665-FIRMWARE_PACK/Firmware/service-processor/
inflating: Oracle_Server_X9-2-1.0.1.87665-FIRMWARE_PACK/Firmware/service-processor/
ILOM-5_0_0_28_r121827-ORACLE_SERVER_X9-2-rom.pkg
```

4. Review the README file that accompanies the firmware image to be aware of any special release notes or instructions.
5. Update the firmware using the Oracle ILOM command-line interface:
   a. Log in to Oracle ILOM with an account with Admin privileges.
   b. Load the firmware image from the stored location using the load -source command followed by the directory path to the firmware image you want to install. Type:

      -> `load -source` *protocol://server_IPaddress/<path_to_image>/<image.pkg>*

      Where *protocol* can be: `http, https, ftp, tftp, sftp, scp`

      For example, if you are accessing the server through a tftp server with an IP address of 198.51.100.123 in a directory called `ilom/jdoe` and with the *<image.pkg>* named `firmware.pkg`, enter the following command:

      ```
      -> load -source tftp://198.51.100.123/tftpboot/ilom/jdoe/
      firmware.pkg
      ```

      The following information is displayed:

      ```
      An upgrade takes several minutes to complete. Oracle ILOM will
      enter a special mode to load new firmware. No other tasks can be
      performed in Oracle ILOM until the firmware upgrade is complete
      and Oracle ILOM is reset.

      You can choose to postpone the server BIOS upgrade until the
      next server power off. If you do not do that, you should perform
      a clean shutdown of the server before continuing.
      ```

   c. Answer the following prompts:

      ```
      Are you sure you want to load the specified file? y

      Preserve existing SP configuration (y/n)? y
      ```

      This prompt preserves your existing Oracle ILOM settings after the firmware update is complete.

      ```
      Preserve existing BIOS configuration (y/n)? y
      ```

      This prompt preserves your existing BIOS configuration settings after the firmware upgrade is complete.

      ```
      Delay BIOS upgrade until the next poweroff or reset (y/n)? y
      ```

      Answer "Y" (yes) to the Delay BIOS Upgrade question and, if the host is ON and there are host components to be updated, the host remains powered on and the host component updates are deferred until the next time the host powers off and powers on (next reset/reboot).

      Answer "N" (no) to the Delay BIOS Upgrade question and, if the host is ON and there are host components to be updated, the host is forced OFF so that host component updates can be applied immediately. After Oracle ILOM reboots, the host is powered on automatically if it was forced off.

> **Note**
>
> If the server has a pending BIOS upgrade, the power reset could take longer to complete. 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, the process can take as long as 26 minutes to complete.

d. Wait for the Oracle ILOM status message to confirm that the process is complete.

6. To verify that the updated firmware is installed, at the Oracle ILOM CLI prompt, type:

```
-> show /System/Firmware
```

Installing System Firmware Using Other Methods

In addition to using Oracle ILOM, you can install firmware and software updates using one of the following methods:

- **Oracle Enterprise Manager Ops Center** – Use Oracle Enterprise Manager Ops Center to automatically download the latest firmware from Oracle and then install the firmware onto one or more servers. Firmware updates can also be loaded manually into the Enterprise Controller.

  For information, refer to the product information page at: Enterprise Manager Cloud Control. For documentation, refer to the Oracle Enterprise Manager Cloud Control Documentation set at: Enterprise Manager Cloud Control Documentation Sets

- **Oracle Hardware Management Pack** – Use the `fwupdate` CLI Tool in the Oracle Hardware Management Pack software to update firmware in the system.

  For information, refer to the product information page at: Oracle Hardware Management Pack. For documentation, refer to the Oracle Hardware Management Pack Documentation Library at: Servers Documentation Systems Management

- **Oracle Integrated Lights Out Management (ILOM)**. For information and for Oracle Integrated Lights Out Manager (ILOM) 5.1 documentation, refer to the product information page at: Servers Documentation Systems Management.

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 OS and application downloads. To access Oracle Software Delivery Cloud, go to Oracle Software Delivery Cloud.

Oracle Support

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