Oracle Hardware Management Pack 2.4 Release Notes

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Oracle Hardware Management Pack 2.4 Release Notes,

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Using This Documentation

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Product Documentation Library

Documentation and resources for this product and related products are available at https://www.oracle.com/goto/ohmp/docs.

Feedback

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

Change History

The following changes have been made to the documentation set.

- April 2017. Initial publication.
- July 2017. Updated *Release Notes* for Oracle Hardware Management Pack 2.4.1 release.
- September 2017. Updated *Release Notes* for Oracle Server X7 series support.
- October 2017. Updated *Release Notes* for Oracle Hardware Management Pack 2.4.2 release.
- August 2018. Updated *Release Notes* for Oracle Hardware Management Pack 2.4.4 release.
- February 2019. Updated *Release Notes* for Oracle Hardware Management Pack 2.4.5 release. Added bugs 29242138 and 29344445 to the "Known Issues" section.
- March 2019. Updated *Release Notes* to add bug 29395917 to the "Known Issues" section.
- May 2019. Updated *Release Notes* to add support for Oracle Dual Port QDR InfiniBand Adapter M4 adapter.
- April 2020. Updated *Release Notes* for Oracle Hardware Management Pack 2.4.7 release. Added bugs 30629407 and 31163478 to the "Known Issues" section.

- April 2020. Updated *Release Notes* to list RHEL 8 as unsupported and add when Oracle Flash Accelerator F640 PCIe Card v2 support was added to Oracle Hardware Management Pack.
- June 2021. Updated *Release Notes* for Oracle Hardware Management Pack 2.4.8 release. Added bugs 32856860 and 32945516 to the "Known Issues" section.
- August 2022. Updated *Release Notes* for Oracle Hardware Management Pack 2.4.8.0.2 release. Added new features and bugs fixed to the "Software Release Information" chapter.
- May 2023. Updated *Release Notes* for Oracle Hardware Management Pack 2.4.9.0 release. Added new features and bugs fixed to the "Software Release Information" chapter.
- August 2023. Updated *Release Notes* for Oracle Hardware Management Pack 2.4.9.1 release. Added new features and bugs fixed to the "Software Release Information" chapter.
- September 2023. Updated *Release Notes* to add bug 35415235 to the "Known Issues" section and removed mention of storage devices from bug 32355015.

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Software Release Information

This section contains the following information:

Oracle Hardware Management Pack and Oracle Solaris

This documentation applies to servers running supported versions of Linux and Oracle Solaris 10 operating systems.

If you have Oracle Solaris 11.4, Oracle Hardware Management Pack is an integrated component of the operating system (called Oracle Hardware Management Pack for Oracle Solaris). Do not download and use other versions of Oracle Hardware Management Pack that are not specifically qualified for the Oracle Solaris 11.4 operating system.

If you have Oracle Solaris 10 operating system, continue to use the standalone version of Oracle Hardware Management Pack, available as a separate download from:

https://support.oracle.com

Updates in Oracle Hardware Management Pack 2.4

This section describes changes in each Oracle Hardware Management Pack 2.4 release.

New Features

The following new features are part of the 2.4 releases.

Release 2.4.9.1 Features

- Added additional vendor information about PCIe controllers installed in the system which can be seen when running the `fwupdate list controller -v` command (35338453)
- Updated the Expat software to version 2.5.0. This software is used by the `biosconfig` command (35595131)

Release 2.4.9.0 Features

- For Oracle Solaris 10 to support this release of Oracle Hardware Management Pack, you must install the required patches. See Oracle Solaris 10 Patches Needed for Oracle HMP 2.4.
- Beginning with this release of Oracle Hardware Management Pack, support for installing Oracle Hardware Management Pack using the Installer has been removed. You will still be able to install Oracle Hardware Management Pack components manually, as described in the *Oracle Hardware Management Pack 2.4 Installation Guide*.
- **Before installing Oracle Hardware Management Pack 2.4.9.0**, you must first uninstall any version older than 2.4.9.0 to remove components that are no longer supported. The uninstall process includes the removal of the Java Runtime Environment (JRE) that was installed as a dependent component in previous versions of Oracle Hardware Management Pack. Refer to the uninstall methods described in the *Oracle Hardware Management Pack 2.4 Installation Guide*.
- The `-Q` or `--quick` option has been added to `fwupdate`. This option is used with the `list` and `update` subcommands to optimize access to include only the targeted devices during device discovery when specifying a firmware metadata file. If this option is excluded from the command line, all devices in the system are discovered which can increase time it takes for the command to fully execute. For more information, refer to *Oracle Hardware Management Pack 2.4 Server CLI Tools User's Guide*.
- The `-t` or `--intfname=`*`interface`* option and the `-T` or `--intfname-fallback=`*`interface`* option have been added to `fwupdate`, `ilomconfig` and `ubiosconfig`. These options allow you to specify an IPMI interface to use when connecting remotely to the service processor. For more information, refer to *Oracle Hardware Management Pack 2.4 Server CLI Tools User's Guide*.
- The `ilomconfig export config` command fails on systems running Oracle ILOM 5.1.1. See ilomconfig Export Config Fails (35265684).

Release 2.4.8.0.5 Features

This is a Linux only release. Oracle Solaris 10 is not included.

Release 2.4.8.0.2 Features

- Systems running Oracle Linux 6 will not be able to update the firmware of Intel® network cards with this version of Oracle Hardware Management Pack. This is due to a limitation of Intel's Non-Volatile Update Utility (used by `fwupdate`). A ticket has been filed with Intel Premier Support.

  To update firmware of Intel network cards in the system, you must be running at least Oracle Linux 7. If you are running Oracle Linux 6 and are unable to upgrade to a later version of Oracle Linux, you have the option of creating a bootable USB image that includes Oracle Linux 7 and this version of Oracle Hardware Management Pack. For details, see Creating a Bootable Thumb Drive Containing Oracle Hardware Management Pack in *Oracle Hardware Management Pack 2.4 Installation Guide*.
- Beginning with the next release of Oracle Hardware Management Pack, support for installing Oracle Hardware Management Pack using the Installer will be removed. You will still be able to install Oracle Hardware Management Pack components manually, as described in the *Oracle Hardware Management Pack 2.4 Installation Guide*.
- In previous versions, when using the `fwupdate` command to update the firmware of a device, associated plugins are loaded and discovery is run for *all* devices in the system. This can increase execution time as devices that are not being updated do not require additional plugins to be loaded.

  In this version, if you specify a firmware metadata file in the `fwupdate` command line, only plugins associated with devices that are described in the metadata file are loaded during discovery.

  This will improve the cycle time for `fwupdate` list and update actions.
- When using the `fwupdate` command with the -x option to specify a metadata file, the devices discovered might change because the "software_type" specified in the metadata file might limit which devices are discovered. This might cause the device ID to change when specifying a metadata file with -x option.

Release 2.4.7 Features

- Updated IPMItool from version 1.8.15 to version 1.8.18.
- Added support for Oracle Linux 8. Note the following:
  - In order to update firmware on Mellanox add-in cards you need mstflint 4.12.0 or higher (available from the Mellanox site).
  - In order to support Oracle Hardware Management Pack utilities with older SAS controllers, you need to install the Oracle Unbreakable Enterprise Kernel (UEK) supported with Oracle Linux 8. See Support Not Included with Linux 8 Kernel for Older SAS Controllers (30629407).
- Red Hat Enterprise Linux (RHEL) 8 is not supported.
- Removed support for SUSE Linux Enterprise Server (SLES).
- Removed support for Oracle Solaris 11, 11.1, 11.2 and 11.3. Oracle Solaris 10 is still supported.

  For information on Oracle Hardware Management Pack 2.4.7.0 support for Oracle Solaris 11.4, refer to the *Oracle Hardware Management Pack for Oracle Solaris 11.4 Release Notes*.

- Added instructions for running Oracle Hardware Management Pack utilities on systems with unsupported operating systems. See Creating a Bootable Thumb Drive Containing Oracle Hardware Management Pack in *Oracle Hardware Management Pack 2.4 Installation Guide*.
- Where a device supports it, add the capability to power cycle a PCIe device after a firmware update while the system is running (29693712).

Release 2.4.6 Features

Added support for Oracle Flash Accelerator F640 PCIe Card v2 (7120561, 7120562). See Platform and Component Support.

Release 2.4.5 Features

- Added two new manual mode update options to `fwupdate`: `sp-bios-backup-firmware` and `sysfw-backup-firmware`. These options allow you to update the Oracle ILOM backup image and perform pre-update tasks as the first step to a firmware update. The second step, loading the backup image, is done from Oracle ILOM and can be delayed until a convenient time. For more details, see the or the man page for `fwupdate`.
- Added support for firmware update of Oracle Server X7-8 LAN-on-Motherboard controller (28643916)
- Added support for Oracle Dual Port QDR InfiniBand Adapter M4 adapter. See Platform and Component Support.

Release 2.4.4 Features

- Added TLS encryption support with SSL certificate checking for `fwupdate`, `ilomconfig` and `ubiosconfig` commands when accessing a service processor over a remote Ethernet connection. New options `--cert-dir` (to specify the location of trusted certificates if they are not in the expected default directory) and `--no-cert-check` (to skip certificate checking) have been added to these commands. For more details, see the or the man page for each of these utilities.

  > **Note:**
  >
  > To use TLS encryption support with SSL certificate checking, your operating system must support TLS version 1.2 at a minimum. This version might not be supported on some older operating systems.

- Added new log file (nvmupdatelog) for capturing issues when updating Intel NIC controllers. This file is saved in the /tmp/hmptemp directory.
- Updated firmware metadata to allow for updates but no reset or verify options (28242624)

Release 2.4.2 Features

- Added support to `nvmeadm -getlog -s` for obtaining vendor assert log files for NVMe Oracle Flash Accelerator F640 PCIe cards and 6.4 TB NVMe SSDs

(26282014). These can be used to aid in troubleshooting when working with Oracle support.

Release 2.4.1 Features

- Added `--fail-without-interconnect` option to `fwupdate update` command to cancel a system firmware update if the Host-to-ILOM interconnect is not enabled or available. This prevents the default fallback use of the much slower KCS interface to perform the update.
- Added `fmadm list` and `fmadm clear` subcommands to the Oracle Linux Fault Management Architecture (FMA) software component. These replace the `fmadm faulty` subcommand, which has been deprecated in this release. For details, refer to the .
- Added support for Oracle Server X7 series platforms and components. See Platform and Component Support.
- Starting with Oracle ILOM 4.0, the `ilomconfig create snmp-community` command will no longer allow you to create an SNMP community with `rw` (read/write) permissions. Permissions for SNMP communities created for Oracle ILOM using `ilomconfig` will support `ro` (read only).

Release 2.4 Features

The following is a list of new features in Oracle Management Pack 2.4:

- Added new secure interface, ORCLTLS, to IPMItool and IPMIflash that provides additional security over the LANPLUS protocol used in IPMI 2.0. For more details, see the man page for each of these utilities.

> **Note:**
>
> Although encrypted communication for IPMI over TLS is supported in Oracle Hardware Management Pack release 2.4.0.0, certificate validation is not supported in this release. Support for full certificate validation is included in Oracle Hardware Management Pack release 2.4.4.

- Added `--secure` option to `nvmeadm erase` command to securely erase NVMe storage devices.
- Added the `fallback-boot` target (automatic mode) and `fallback-boot-image` target (manual mode) to `fwupdate update` command.
- Added `--start-priority` and `--end-priority` options to `fwupdate update` (automatic mode) to allow updates based on metadata component priority.
- Added `-y` and `--yes` options to `fwupdate list` and `fwupdate update` to allow an overwrite process to complete without user confirmation.
- Added `-y` and `--yes` options to `hwmgmtcli export` to allow an overwrite process to complete without user confirmation.
- Added `-h` option to general options for all commands so that either `-?`, `-h` or `--help` will provide command line help.

- Changed functionality of `fwupdate list` to only display controller information for controllers that are updatable using the `fwupdate update` command.
- Changed functionality of the Hardware Management Agent (`hwmgmtd`) to change the default polling time to every hour and provide configurable parameters in the `hwmgmtd.conf` to enable, disable, or change the timing of certain types of SNMP polling requests.
- Removed the `firmware-check` command.
- Removed the `check` subcommand from the `fwupdate` command.
- Removed support for the Microsoft Windows operating system. Oracle Hardware Management Pack version 2.3.8 is the last version to support Microsoft Windows.
- Removed the `mstflint` package. This package provided InfiniBand Host Channel Adapter firmware burning and diagnostics tools. If you need these tools, they might be bundled with your operating system or available from Mellanox at: https://www.mellanox.com/page/management_tools

> **Note:**
>
> In order to update the firmware of InfiniBand adapter cards, such as the Oracle Dual Port QDR InfiniBand Adapter M3, using the Oracle Hardware Management Pack `fwupdate` tool, you must install the `mstflint` package.

Platform and Component Support

For information on support for new platforms and components per Oracle Hardware Management Pack 2.4 release, refer to the system management support matrix web page. New platforms and components are added periodically. As they are added, a release-specific support matrix link is added to the main page which includes a superset of all products and components supported in the release.

A link to the support matrices for all versions is available at:

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

Issues Fixed

The following are issues that were fixed in the Oracle Hardware Management Pack 2.4 releases:

- Issues Fixed in Release 2.4.9.1
- Issues Fixed in Release 2.4.9.0
- Issues Fixed in Release 2.4.8.0.5
- Issues Fixed in Release 2.4.8.0.2
- Issues Fixed in Release 2.4.8
- Issues Fixed in Release 2.4.7
- Issues Fixed in Release 2.4.5

Issues Fixed in Release 2.4.9.1

- The `biosconfig -v -get_bios_settings` command from an xml file causes a segmentation fault in Oracle Linux 8 (35470548)
- Addition of serial_number to "sun-id" property breaks Oracle ILOM Storage Viewer (35470548)
- The `fwupdate list disk` command doesn't display "ata_modelnumber" and "ata_firmware_version" (35522814)
- A firmware update using `ipmiflash` over OpenIPMI in Oracle Linux 8.7 with UEK 7 takes 3+ hours (35343978)
- After Oracle Hardware Management Pack has been installed on an Oracle Server X8-2/X8-2L, the OS reports error message "Get Features(0xa), Invalid Namespace or Format" for Oracle 6.8 TB NVMe SFF drives in the system (35306988)
- Upgraded Expat software to version 2.5.0 for `biosconfig` command
- The `ilomconfig export config` command fails to export sensitive data from systems running Oracle ILOM 5.1.1.90 (35244487)
- After installing Oracle Hardware Management Pack 2.4.9.0 on a system running Oracle Linux 6, an attempt to install the Linux bnxtnvm package fails (34895399)

Issues Fixed in Release 2.4.9.0

- `fwupdate` update fails for Oracle Dual Port 25 GbE Adapter, Mellanox (33987535)
- `fwupdate` power_control_only attribute is not causing power actions to happen (33533536)
- HMP tools timeout when Broadcom network card has a long delay (34433627)
- Wrong file permissions for systemd init scripts (34304473)
- Updated to ensure compatibility with OpenSSL 3.0 (34504540).

Issues Fixed in Release 2.4.8.0.5

`fwupdate` fails to update WDC 18TB HHD drive firmware A820 (34948888)

Issues Fixed in Release 2.4.8.0.2

Upgraded Expat software to version 2.4.8 for `biosconfig` command (34465909)

Issues Fixed in Release 2.4.8

- Firmware update fails for multiple Oracle Quad Port 10GBase-T Adapters on Linux (32485093)
- `fwupdate` doesn't dump or detect the PHY firmware version updates (31990652)

- `fwupdate` command cannot update LAN-on-Motherboard (LOM) firmware on an Oracle Server X8-2 (31961199)
- Oracle Storage Dual-Port 32 Gb Fibre Channel HBA (Emulex) firmware can not be listed by `fwupdate` on an Oracle Server X7-2L running Oracle Linux 8.1 (31458116)
- `fwupdate` returns 0 even if it fails to update firmware (30685569)

Issues Fixed in Release 2.4.7

- `nvmeadm format list` displays invalid block size (30616919)
- `nvmeadm format list` format list should show LBA format index starting from zero instead of 1 (30572891)
- `nvmeadm` import option destroys namespace without warning (30423925)
- `fwupdate` command targets "sp-bios-backup-firmware" and "sysfw-backup-firmware" do not support "sp" device name as target (29318309)
- `fwupdate` command fails to update M.2 SATA SSDs on systems with AMD processors (28373136)
- `fwupdate` command should disable SP reboot detection and version verification during a deferred firmware update when using "sp-bios-backup-firmware" and "sysfw-backup-firmware" targets (29325509)
- `hwmgmtd` daemon crash could occur if no differences are detected between polling cycles (30569222)
- `fwupdate` command cannot update LAN-on-Motherboard (LOM) firmware on an Oracle Server X7-8 or X8-8 (30896097)
- After firmware update of Mellanox CX5 card, `fwupdate` does not see any CX5 cards (30897005)
- `ilomconfig list snmp-community` command causes segmentation faults (30857340)
- `nvmeadm list -s` command displays incorrect values (29376806)
- Add support for Oracle Quad Port 10GBase-T Adapter to Flash Storage X7 systems (29210368)

Issues Fixed in Release 2.4.5

- `raidconfig` shows errors when deleting a raid volume (28884894)
- Samsung/Sun NVMe cards use invalid reset function for `fwupdate reset` command (28595702)
- All NVMe SSF WWN are same in `/System/Storage/Disks` (28699154)
- Oracle 6.4 TB v2 2.5-inch SFF NVMe SSD PCI IDs missing from controller configuration file (28905947)
- `fwupdate` failure detected in update but has a return code of zero (28585262)
- `fwupdate` fails with SEGV exception while upgrading SAS3 external HBA (28583473)
- `fwupdate` reports update failed, although seems to have completed (28526775)

- `fwupdate update sp_bios` command over network fails with "SP has not recovered after an update" (27475549)
- `fwupdate` fails to update Oracle Quad 10Gb or Dual 40Gb Ethernet Adapter firmware in Oracle Linux 4.1.12-103.3.8.el6uek.x86_64 (26914535)

Issues Fixed in Release 2.4.4

- Oracle Hardware Management Pack commands might list the wrong slot number for NVMe devices on an Oracle X7-2L (27504346)
- The `raidconfig` command in Oracle Hardware Management Pack 2.4.2.0 reports HBA BBU (battery backup unit) as OK after battery failed (25995867)
- Oracle Hardware Management Pack Installer does not give a warning attempting to install on an incompatible OS (27413776)
- Error: "unary operator expected " during Oracle Hardware Management Pack install on system with Oracle VM 3.4.2 (25768206)
- `raidconfig` generates error when log file size limit of 2GB is exceeded (25291305)
- `fwupdate` does not recognize the Oracle Dual Port 25 Gb Ethernet Adapter in an Oracle Server X7-2 running Linux (27716304)
- `ubiosconfig` fails to run in Secure Boot environment (27002917)
- Oracle ILOM does not display SAS controller number of ports and WWN for some RAID controllers (26391246)

Issues Fixed in Release 2.4.2

- On some x86 systems, the installation of the Oracle Linux FMA package (fm) when installing Oracle Hardware Management Pack 2.4.1 on a system running Oracle Linux 7 might fail (26866788)
- The installer repeats "Please Wait" many times during installation (25804626)
- `fwupdate` command error: `Entered name is too long` (26420434)
- NVMe device goes offline when an device reset is performed as part of a firmware update (25519108)

> **Note:**
>
> This fix only applies to systems using Oracle Linux with UEK4. For systems running UEK3 or earlier, an NVMe device reset might still take the NVMe device offline and the only way to bring it back online is to do a host power cycle.

- Oracle Hardware Management Pack version 2.4.1 `fwupdate` might fail updating 3.2TB NVMe SFF drive firmware on systems running Oracle Linux 7 (26818996)
- Storage details for an Oracle Server X7-2 with an Oracle Storage 12 Gb/s SAS PCIe RAID HBA (Internal: 16 Port and 2GB Memory) might not be complete in Oracle ILOM version 4.0.1.x and earlier (25968080)

> **Note:**
>
> In order to see this fix, your server must have a version of Oracle ILOM greater than version 4.0.1.x.

Issues Fixed in Release 2.4.1

- The management agent `hwmgmtd` logs an ERR (error) in the `hwmgmtd.log` file when trying to access the ldm internal program where it should be INFO (informational only) as the program is not required for `hwmgmtd` (25680682)
- The `nvmeadm` command does not properly enumerate NVMe devices with multiple namespaces (25766882)
- The location for NVMe controllers and devices (such as small form factor SSDs) in Oracle ILOM might not be listed correctly (25444537)

Issues Fixed in Release 2.4

The following issues are fixed in Oracle Hardware Management Pack 2.4:

- Oracle Hardware Management Pack installer should check for previous versions of all packages (24956592)
- Running IPMItool commands to a remote service processor with the -H and -U options from a Zone or LDOM produces "ERROR: Platform not supported" (23547668)
- SNMP queries to hwmgmtd are rejected when snmpd is run as non-root (22305376). Fix will add error to snmpd.log that permissions are incorrect.
- `fwupdate` might time out and not display Intel card information (21669346)
- When performing an operation on a remote service processor using the -H and -U options, `fwudpate` incorrectly prompts the user for a password length between 8 and 16 characters (23183413)
- Add message to state that the `fwupdate list` targets `error-codes`, `supported-images`, and `supported-targets` do not support the `-q` and `-o` options (18458684)
- `raidconfig` exported configuration to an XML file has dedicated spares in the wrong order (16789059)
- Oracle Linux 6.8 fails to boot with Hardware Management Agent installed and Oracle ILOM configured in Cloud Mode (24909355). Fix will prevent agent from attempting to access the service processor while in Cloud Mode and will add "ILOM not supported" message to Linux start up messages.
- `ubiosconfig` exports invalid XML if the CLI prompt customization feature of Oracle ILOM is used to set a non-empty string (24508209)
- `nvmeadm getlog -s` causes panic on Oracle Server X5-4 (25514762)
- `biosconfig -get_bios_settings` and `biosconfig -get_boot_order` commands generate "Bus error" on Oracle VM 3.4.2 (25330856)

- Running the `ilomconfig import config` command on a remote service processor using the -H and -U options fails when using a passphrase (25246929)
- Hardware Management Agent reporting transient "Unrecoverable error during rebuild" events to Oracle ILOM SEL (25075936)
- In the Oracle ILOM BUI, the Storage Controller Model does not match what is displayed on the host when using `fwupdate list controller` (24965291)
- `fwupdate list` fails to list information for on-board Intel network controller (24915749)
- Oracle Exadata Storage Server X5-2 Extreme Flash: NVMe SSDs do not have one-to-one correlation with Disk Location in Oracle ILOM GUI (24827699)
- Oracle Exadata Storage Server X6-2 Extreme Flash: Oracle ILOM receives incorrect host profile configuration information from Oracle Hardware Management Pack (24827699)
- When updating Oracle ILOM using `fwupdate update`, delay in waiting for Oracle ILOM to reset after the update causes the update to fail (18735442)
- Various Oracle Hardware Management Pack commands display "version" information in different formats (23238876)
- Updated sunStorageMIB to include NVMe controllers (21656689)
- NVMe controller not reported by `hwmgmtcli` (21656640)
- No information reported for Intel NICs by `fwupdate list controller` command on Oracle VM 3.3.2 (21094885)

Oracle Hardware Management Pack Product Accessibility

This section describes the accessibility features that are part of Oracle Hardware Management Pack 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:

- https://www.oracle.com/corporate/accessibility/
- Oracle Hardware Management Pack Software Accessibility
- Oracle Hardware Management Pack Documentation Accessibility
- Diversity and Inclusion

Oracle Hardware Management Pack Software Accessibility

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

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

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

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

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

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

Oracle Hardware Management Pack 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 Hardware Management Pack at:

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

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

Installation Notes and Issues

The following items affect Oracle Hardware Management Pack installation.

- Check the State of Modules If Your System Is Running Oracle Linux Fault Management Software On Oracle Linux
- Unix Installer Issue (6977584)
- Error Reported When Launching Installer on a Solaris System (6982393)
- Running Installer on Solaris With SUNWCreq Cluster Fails (6982718)
- Oracle Solaris OS Servers with SUNWipmi Installed Cannot Complete the Install (7070692)
- Unable to Launch Installer in GUI Mode on Oracle Linux 6 (7129501)
- Installing the QLogic Support on Linux Takes a Long Time (7115215)
- Error returned as Available space in Summary Screen (15820240)
- Oracle Linux FMA Installation Can Fail When Using Either Anaconda or Oracle System Assistant to Install the OS (19182604)
- Defaults for mcelog in Oracle Linux 7 Prevent Oracle Linux FMA From Working Properly (19731891)
- Uninstall Location Changed For Oracle Hardware Management Pack 2.3.2.2 and Later (23299302)
- Manually Enable SNMP Fault Trap Proxy Port If SELinux was Disabled During Management Agent Installation (27805017, 27824302)
- Host-to-ILOM Interconnect Feature Might be Left in Disabled State When Oracle Solaris Automated Installer is Used (18652144, 18696723)
- Oracle VM 3.2 and 3.3 Oracle HMP Installation Packages (18131790)
- Might Need to Reboot Oracle Solaris 11.1 System After Oracle HMP Installation (18231930)
- Invalid Publisher in Package Repository Causes Installation Failure on Oracle Solaris System (18262997)
- Installing in Oracle Solaris Zones
- Do Not Use install.bin -uninstall Command to Uninstall Oracle Hardware Management Pack (15777347)
- Hardware Management Pack Installer GUI Requires libXtst.i686 for an Oracle Linux 6.1 System (15766013)
- Install glibc.i686 for Oracle Enterprise Linux 6 Before Running the Installer (15715967)
- Red Hat Installation Dependencies
- Install Path Issues
- Oracle Hardware Management Pack Uninstaller Does Not Remove hwmgmtd and itpconfig Components in Solaris 11 (20163489)

- The Oracle Hardware Management Pack Version 2.4.4 Installer Is Missing the Option to Install the Linux FMA Component (28066798, 28550331)
- SELinux Error When Installing the Management Agent on a System Running Oracle VM 3.4.5 (28550305)
- Oracle Hardware Management Pack Installer Error: Installer User Interface Mode Not Supported (28031522, 28096927)
- Oracle Solaris 10 Patches Needed for Oracle HMP 2.4 (34859266, 34859278)
- Oracle Hardware Management Pack 2.4.9.0 Installation

Check the State of Modules If Your System Is Running Oracle Linux Fault Management Software On Oracle Linux

If Oracle Linux Fault Management (FMA) software is not working correctly, check that the following modules and services are in the correct state:

Oracle Linux Version	Service or Module	Required State
Oracle Linux 6.5 or later and 7.0 or later	IPMI service	Installed and running
Oracle Linux 6.5 or later and 7.0 or later	dmidecode	Installed and available
Oracle Linux 6.5 or later and 7.0 or later	EDAC module	Disabled
Oracle Linux 6.5 or later	mcelog service	Installed and running
Oracle Linux 7.0 or later	mcelog service	Installed and running in daemon mode only

To check the following services and modules, see Install the Required Linux Components Before Installing Oracle Linux FMA Software in *Oracle Hardware Management Pack 2.4 Installation Guide*.

Unix Installer Issue (6977584)

The installer aborts when the DISPLAY variable is set on a server running Oracle Solaris OS or Linux OS. To avoid this issue, unset the DISPLAY variable before installing Hardware Management Pack.

Error Reported When Launching Installer on a Solaris System (6982393)

When launching the Oracle Hardware Management Pack Installer on a Oracle Solaris OS system, the following error might appear:

```
./install.bin: !: not found
```

You can ignore this error and the Installer should launch normally.

Running Installer on Solaris With SUNWCreq Cluster Fails (6982718)

Before installing Oracle Hardware Management Pack on a server running Oracle Solaris OS installed with the SUNWCreq (Core System Support) metacluster, you must install SUNWxcu4 (contains POSIX `df` command) or set the following environment variable:

```
IATEMPDIR=$HOME
```

Oracle Solaris OS Servers with SUNWipmi Installed Cannot Complete the Install (7070692)

On Oracle Solaris OS 10 servers with SUNWipmi installed, the Hardware Management Pack cannot be successfully installed. The only workaround is to stop the current install using control-c, remove the installed version of SUNWipmi, and then restart the Hardware Management Pack installation.

Unable to Launch Installer in GUI Mode on Oracle Linux 6 (7129501)

When using the GUI mode Oracle Hardware Management Pack installer on Oracle Linux 6, the graphical installer can not be started. This is because the `libXtst.i686` package is not installed by default. Either install this package before using the GUI mode, or use the console mode.

Installing the QLogic Support on Linux Takes a Long Time (7115215)

If you choose to install the QLogic support on Linux using the Oracle Hardware Management Pack installer, the process can take a long time. To make this process more efficient, install the QLogic package manually.

Error returned as Available space in Summary Screen (15820240)

During the install process, the summary screen might display

```
Disk Space Information (for Installation Target):
    Required:  169,082,111 bytes
    Available: Error!
```

This can be safely ignored.

Oracle Linux FMA Installation Can Fail When Using Either Anaconda or Oracle System Assistant to Install the OS (19182604)

Installation of Oracle Linux FMA software can fail when using the Linux Anaconda installer or the Oracle System Assistant assisted OS installation (which calls the Anaconda installer). The OS installation will complete successfully and the software will be installed; however, after installation and server reboot, the required Oracle Linux FMA services will not be automatically started. Consequently, none of the Oracle Linux FMA fault events will be recorded or observed on the host.

If this happens, perform the following procedure.

> **Note:**
>
> This procedure only needs to be performed once and does not need to be repeated on subsequent reboots.

1. Complete the OS installation process, ignoring any Oracle Linux FMA software install failure messages.
2. After the system reboots, login as root and make a directory for the man pages.

   ```
   # mkdir -p /usr/local/share/man/man1m
   ```
3. Create soft links to the installed man pages.

   ```
   # ln -s -t /usr/local/share/man/man1m /opt/fma/share/man/
   man1m/fmadm.1m /opt/fma/share/man/man1m/fmdump.1m /opt/fma/
   share/man/man1m/fmd.1m /opt/fma/share/man/man1m/intro.1m
   ```
4. Enable the appropriate services.

   ```
   # chkconfig --add ksyseventd.init
   ```

   ```
   # chkconfig --add fmd.init
   ```
5. Then, start the services.

   Example for Oracle Linux 6.5:

   ```
   # service ksyseventd.init start
   ```

   ```
   # service fmd.init start
   ```

   Example for Oracle Linux 7:

   ```
   # systemctl start ksyseventd.init
   ```

   ```
   # systemctl start fmd.init
   ```
6. Use the fmadm config command to ensure that all Oracle Linux FMA software components are installed and ready.

   For example:

```
[root@testserver16 ~]# fmadm config

MODULE                  VERSION STATUS  DESCRIPTION
ext-event-transport     0.2     active  External FM event transport
fmd-self-diagnosis      1.0     active  Fault Manager Self-Diagnosis
ip-transport            1.1     active  IP Transport Agent
mce                     1.0     active  Machine Check Translator
sysevent-transport      1.0     active  SysEvent Transport Agent
syslog-msgs             1.1     active  Syslog Messaging Agent
```

Defaults for mcelog in Oracle Linux 7 Prevent Oracle Linux FMA From Working Properly (19731891)

For Oracle Linux FMA to work properly with Oracle Linux 7, the mcelog service must be running in daemon mode only. However, by default, the mcelog service in Oracle Linux 7 runs with arguments: `--ignorenodev`, `--daemon` and `--foreground`. Therefore, before installing Oracle Linux FMA 2.3.1 on a system with Oracle Linux 7 you need to reconfigure the mcelog service.

1. Ensure the mcelog service is installed and running by typing the command:

   ```
   systemctl status mcelog
   ```

   If mcelog is not installed, you will see:

   ```
   [root@testserver16 ~]# systemctl status mcelog
   mcelog.service
      Loaded: not-found (Reason: No such file or directory)
      Active: inactive (dead)
   ```

2. If mcelog is not installed, install mcelog using yum by typing the command:

   ```
   yum install mcelog
   ```

   After successful installation, proceed to the next step.

3. Edit the `/etc/mcelog/mcelog.conf` file to do the folllowing:

   - Uncomment the "raw=yes" entry.
   - Comment out the existing "memory-ce-threshold" entry and create a new one that reads "memory-ce-threshold = 3 / 72h".

4. If an mcelog file exists that was in the default format, delete it.

   ```
   rm /var/log/mcelog
   ```

5. Edit the `/etc/systemd/system/multi-usr.target.wants/mcelog.service` file to change the "[Service]" section from:

   ```
   [Service]
   ExecStartPre=/etc/mcelog/mcelog.setup
   ExecStart=/usr/sbin/mcelog --ignorenodev --daemon --foreground
   StandardOutput=syslog
   ```

   to:

   ```
   [Service]
   Type=forking
   ExecStartPre=/etc/mcelog/mcelog.setup
   ExecStart=/usr/sbin/mcelog --daemon
   StandardOutput=syslog
   ```

6. Apply the changes you have made by typing the command:

   ```
   systemctl daemon-reload
   ```

7. Restart the mcelog service by typing the command:

   ```
   systemctl restart mcelog
   ```

8. Confirm that mcelog is running in daemon mode by typing the command:

   ```
   systemctl status mcelog
   ```

   You should see the output similar to:

   ```
   [root@testserver16 ~]# systemctl status mcelog
   mcelog.service - Machine Check Exception Logging Daemon
      Loaded: loaded (/usr/lib/systemd/system/mcelog.service; enabled)
      Active: active (running) since Fri 2014-10-03 12:52:13 EDT; 6s ago
     Process: 3939 ExecStart=/usr/sbin/mcelog --daemon (code=exited,
   status=0/SUCCESS)
     Process: 3935 ExecStartPre=/etc/mcelog/mcelog.setup (code=exited,
   status=0/SUCCESS)
    Main PID: 3940 (mcelog)
      CGroup: /system.slice/mcelog.service
                  |__3940 /usr/sbin/mcelog --daemon
   ```

Uninstall Location Changed For Oracle Hardware Management Pack 2.3.2.2 and Later (23299302)

For Oracle Solaris or Linux installations of Oracle Hardware Management Pack beginning with version 2.3.2.2, the uninstall directory path is: `/opt/ssm/setup/uninstall`. For versions of Oracle Hardware Management Pack earlier than 2.3.2.2, the uninstall directory path is: `/opt/sun-ssm/setup/uninstall`.

After running uninstall on a Solaris or Linux system, there might still be directories listed under `/opt/sun-ssm`. The reason for this is that when Oracle Hardware Management Pack is upgraded, the `/opt/sun-ssm` directory (if it exists) is retained for compatibility with other versions of Oracle Hardware Management Pack. If you are completely removing Oracle Hardware Management Pack and all of its components, these directories can be safely deleted.

Manually Enable SNMP Fault Trap Proxy Port If SELinux was Disabled During Management Agent Installation (27805017, 27824302)

If you install the Hardware Management Agent on a Linux host when SELinux is disabled, the Oracle Hardware Management Pack installer will not be able to configure the ILOM SNMP trap proxy port.

If you decide later to enable SELinux and want to use the ILOM SNMP trap forwarding feature of Oracle Hardware Management Pack, enter the following command as root user to configure the trap proxy port:

```
# /usr/sbin/semanage port -a -t snmp_port_t -p udp 1162
```

For more information about using the SNMP trap forwarding feature, see .

Host-to-ILOM Interconnect Feature Might be Left in Disabled State When Oracle Solaris Automated Installer is Used (18652144, 18696723)

When using the Oracle Solaris Automated Installer (introduced with Oracle Solaris 11) to deploy software on a server, the server's Host-to-ILOM interconnect feature (required for many Oracle Hardware Management Pack features) might be left in a disabled state after the Automated Installer performs a reboot during installation.

To determine if your server was set up by the Automated Installer, enter the following command:

```
# netadm list | grep ncp

ncp         Automatic      online      <-- Automated Installer was used
ncp         DefaultFixed   disabled
```

Workaround

If this happens, reboot the server a second time after the installation has completed.

Oracle VM 3.2 and 3.3 Oracle HMP Installation Packages (18131790)

An Oracle Hardware Management Pack install package for Oracle VM 3.3 or later is now available.

The package name is `oracle-hmp-2.3.0.0-ovm3.3-x86_64.zip`. This package has dependencies such as `policycoreutils` and `policycoreutils-python` removed.

For Oracle VM 3.2 or earlier, use the `oracle-hmp-2.3.0.0-oel5-x86_64.zip` package.

The `oracle-hmp-2.3.0.0-ovm3-x86_64.zip` file has been removed from Oracle Hardware Management Pack 2.3 since the `oracle-hmp-2.3.0.0-oel5-x86_64.zip` packages can be used instead.

Might Need to Reboot Oracle Solaris 11.1 System After Oracle HMP Installation (18231930)

You might see a message similar to the following during the installation of Oracle Hardware Management Pack on a Oracle Solaris 11.1 system:

```
Host-to-ILOM Interconnect could not be enabled.
  ------------------------------------------------
  .
  ipadm: cannot create interface net2: Operation failed
  ipadm: cannot create address: No such interface
  ERROR: ILOM not reachable over internal LAN
  .
  Interface name is net2
  net2 should be up
```

Workaround

In order to enable the Host-to-ILOM interconnect, reboot your system.

Invalid Publisher in Package Repository Causes Installation Failure on Oracle Solaris System (18262997)

If a you have an invalid publisher configured in the 'pkg' system on a Oracle Solaris system, the installation of Oracle Hardware Management Pack will encounter multiple errors and none of the tools will be correctly installed. The following is an example error message:

```
Custom Action:            InstallSolaris11
                          Status: ERROR
                          Additional Notes: ERROR -     class
InstallSolaris11 NonfatalInstallException pkg: 1/2 catalogs successfully
updated:

Unable to contact valid package repository
Encountered the following error(s):
Unable to contact any configured publishers.
This is likely a network configuration problem.
file protocol error: code: 22 reason: The path '/mnt/repo' does not contain a
valid package repository.
Repository URL: 'file:///mnt/repo'. (happened 2 times)
```

Workaround

If you encounter this error message:

1. Remove the publisher associated with the Repository URL shown in the error message.
2. Uninstall Oracle Hardware Management Pack.
3. Reinstall Oracle Hardware Management Pack.

Installing in Oracle Solaris Zones

The Oracle Hardware Management Pack packages will install in all Oracle Solaris zones. However, the Oracle Hardware Management Pack utilities in both Oracle Solaris 10 and 11 have limited or no functionality in non-global zones.

The following Oracle Hardware Management Pack utilities will be non-functional in the non-global zone:

- `biosconfig`
- `fwupdate`
- `raidconfig`
- `hwmgmtcli`
- `hwmgmtd` (Hardware Management Agent)

These utilities will only function if the LAN interface is used in the non-global zone:

- `ipmitool`

- `ilomconfig`
- `ubiosconfig`

Do Not Use install.bin -uninstall Command to Uninstall Oracle Hardware Management Pack (15777347)

The `install.bin -uninstall` command launches the Hardware Management Pack Installer, not the Uninstaller.

Workaround

Use the following commands to launch the Uninstaller for Oracle Solaris OS or Linux systems:

`/opt/`*`ssm_directory`*`/setup/uninstall`

Where *ssm_directory* is either `sun-ssm` or `ssm`, depending on your version of Oracle Hardware Management Pack.

Hardware Management Pack Installer GUI Requires libXtst.i686 for an Oracle Linux 6.1 System (15766013)

If you want to use the Hardware Management Pack Installer GUI on a system running Oracle Linux 6.1, you need to run the following command to install libXtst.i686:

```
yum install libXtst.i686
```

Workaround

Use the console installation mode instead of GUI mode.

Install glibc.i686 for Oracle Enterprise Linux 6 Before Running the Installer (15715967)

Before installing Hardware Management Pack 2.2.1, 2.2.2, or 2.2.3 on a system running Oracle Enterprise Linux 6, you must install `glibc.i686`.

To install glibc.i686, run the following command:

```
yum install glibc.i686
```

Red Hat Installation Dependencies

During an automatic installation on Red Hat Enterprise Linux, the Net-SNMP service is not automatically started. The Net-SNMP service must be restarted before running the Hardware Management Agent.

Workaround

To restart the service, run the following command:

```
service snmpd restart
```

Install Path Issues

- On all operating systems, if you modify the installation path of the Hardware Management Agent, you must ensure that the path is no longer than 70 characters, does not contain any white spaces, and does not contain any of these characters: ? - _ . /
- When creating a response file for a silent installation, you must use an absolute path to create the response file (described in issue 6982588) . For example:

  ```
  # ./install.bin -i GUI -r /tmp/response.txt
  ```

Oracle Hardware Management Pack Uninstaller Does Not Remove hwmgmtd and itpconfig Components in Solaris 11 (20163489)

This issue is fixed in Oracle Hardware Management Pack 2.3.1.1.

In Oracle Hardware Management Pack 2.3.1, the uninstaller program does not remove the `hwmgmtd` and `itpconfig` components in the Solaris OS 11.0 and 11.1 environments. To uninstall these packages, you must remove them manually.

Use the following commands to manually remove these packages:

```
# pkg uninstall system/management/hmp/hmp-hwmgmt

# pkg uninstall system/management/hmp/hmp-tools

# pkg uninstall system/management/hmp/hmp-libs
```

The Oracle Hardware Management Pack Version 2.4.4 Installer Is Missing the Option to Install the Linux FMA Component (28066798, 28550331)

The Oracle Hardware Management Pack 2.4.4 installer does not include the option to install the Oracle Linux FMA component.

Workaround

For Oracle Hardware Management Pack version 2.4.4, if you want the Oracle Linux FMA component you must install it manually. See Installing the Oracle Linux FMA Software in *Oracle Hardware Management Pack 2.4 Installation Guide*.

SELinux Error When Installing the Management Agent on a System Running Oracle VM 3.4.5 (28550305)

During the process of installing Oracle Hardware Management Pack 2.4.4, when installing the Hardware Management Agent on Oracle VM 3.4.5 you might see the following error:

```
grep: /etc/sysconfig/selinux: No such file or directory
/usr/sbin/semanage: SELinux policy is not managed or store cannot be
accessed.
```

This message is harmless and can be safely ignored. The Hardware Management Agent will install and function correctly.

Oracle Hardware Management Pack Installer Error: Installer User Interface Mode Not Supported (28031522, 28096927)

This error indicates that the Oracle Hardware Management Pack console mode or silent mode installer are unable to run in some installations of Oracle Linux 7 with the stix-fonts rpm installed.

Workaround

Use one of the following methods to work around this issue:

- Manually install Oracle Hardware Management Pack. Refer to Installing and Uninstalling Components Manually on a Linux Server in *Oracle Hardware Management Pack 2.4 Installation Guide*.
- Remove the stix-fonts rpm package and try running the Oracle Hardware Management Pack console mode or silent mode installer again. To remove the stix-fonts package, type:

  ```
  # rpm -e stix-fonts-1.1.0-5.el7.noarch
  ```

  Once Oracle Hardware Management Pack has been successfully installed, you can reinstall the stix-fonts package.

Oracle Solaris 10 Patches Needed for Oracle HMP 2.4 (34859266, 34859278)

If you are running Oracle Hardware Management Pack on a Oracle Solaris 10 system, install the following patches to obtain the latest OpenSSL 1.0.2 required for Oracle Hardware Management Pack 2.4.9.0 and later:

- For SPARC systems: 151912-21
- For X86 Systems: 151913-21

Oracle Hardware Management Pack 2.4.9.0 Installation

Starting with Oracle Hardware Management Pack 2.4.9.0, the only installation option available is a manual installation. If you have an earlier version of Oracle Hardware Management Pack, you must uninstall it before installing Oracle Hardware Management Pack 2.4.9.0. See *Oracle Hardware Management Pack 2.4 Installation Guide*.

3

Known Issues and Notes for Software Release 2.4

This section describes the known issues for the current version of Hardware Management Pack. Where appropriate, issue reference numbers are provided. Use these numbers in any contact with Oracle support.

Common Oracle Hardware Management Pack Known Issues

The following issues are related to all Hardware Management Pack tools.

Some Utilities Run Slowly on SPARC T3 Systems (15705545)

The `hwmgmtd` utility might not provide accurate results when run on a SPARC T3 system.

Some other Oracle Hardware Management Pack utilities (such as `raidconfig` and `hwmgmtcli`) can also run very slowly on a SPARC T3 system.

These problems are due to a Oracle Solaris issue documented in issue 6937169.

Workaround

1. Disable the affected utility.

2. Issue the following commands:

> **Note:**
>
> Make sure that you read the mdb documentation carefully before issuing these commands.

```
# mdb -kw
> ddi_aliases_present/W 0
```

3. Re-enable the utility.

Oracle Hardware Management Pack CLI Tools Fail on Linux 5 and 6 (22673965, 22599886)

Oracle Hardware Management Pack server CLI tools might fail on systems running Linux 5 or 6 with older versions of the Linux kernel. This issue is seen with Oracle Hardware Management Pack versions 2.3.3.0 through 2.3.5.0.

For example, when running a command such as `fwupdate -V` to obtain the version of `fwupdate` tool, you will see an error in the command output, the command will fail, and the following message will be seen in syslog:

```
fwupdate version 2.3.5.0 r19425
Thu Feb  4 07:20:02 2016:(CLI) Fishwrap version 4.1.0
Thu Feb  4 07:20:02 2016:(CLI) Host Profile update failed.
```

Workaround

If you encounter this issue, update your Linux kernel to version 2.6.32 or later.

Oracle Hardware Management Pack Memory Message Might Be Displayed on Linux Systems Using UEFI Mode (22667196, 22144232)

On Linux systems running Oracle Hardware Management Pack utilities and agents under UEFI mode, a message similar to the following might appear in the system logs:

```
Program fwupdate tried to access /dev/mem between f0000->101000.
```

This message does not cause any functional issues and can be safely ignored.

Support Not Included with Linux 8 Kernel for Older SAS Controllers (30629407)

The Linux 8 operating system kernel does provide support for older SAS controllers such as SAS1 (3Gb per second) or SAS2 (6Gb per second). This means the Oracle Hardware Management Pack utilities won't work with older SAS controllers on system running Linux 8.

Workaround

For SAS2 controllers, support for Oracle Hardware Management Pack can be obtained by installing the Oracle Unbreakable Enterprise Kernel (UEK) supported with Oracle Linux 8.

For information on obtaining Oracle Enterprise Unbreakable Kernel for Linux 8, refer to https://www.oracle.com/linux/.

fwupdate Known Issues

The following issues are related to the `fwupdate` tool.

- User is Prompted to Confirm an Update for a Mellanox CX3 IB Card on a Solaris System (17656671)
- fwupdate Might Hang on Solaris 10 System With Emulex and Qlogic 16Gb Fibre Channel or Dual 10 GbE Card Installed (18044689)
- Notes for Dual 16Gb Fibre Channel or Dual 10 GbE Card (Emulex) (17503938)
- Power Cycle Required to Update Oracle ILOM Version on Sun Fire X4170 M2 Server (16562687)
- Emulex Fibre Channel Cards Are Not Visible on Oracle VM 3.1.1 (15790684)
- Error Messages Can Be Disregarded When Updating Firmware for a Emulex Fiber Channel Card (15762571)
- For a Sun Fire X4270 M3 Server With Oracle Enterprise Linux 6.0 a Qlogic Card in Slot 2 is Not Displayed (15763607, 11177285)
- After Updating the Firmware on an Internal Expander Configured for a Sun StorageTek 6Gb/s SAS PCIe HBA, Internal (SGX-SAS6-INT-Z), a Reboot is Required (15657192)
- Cannot Update HDDs Firmware With fwupdate update Command With OEL 5.4 (15643212)
- fwupdate Commands on Network Controllers Might Not Show Device Details or Fail When Executed Right After Linux OS Loads (21210340)
- fwupdate Might Fail When Updating Firmware on the Oracle Quad 10Gb Ethernet Adapter (21446307)
- fwupdate Might Fail or Take a Long Time Listing or Updating Four or More Intel Network Controllers (21920385)
- NVMe Device Goes Offline When a Device Reset is Done (25519108)
- Automatic Credentials Might Not Work With fwupdate When Updating System Firmware and Fallback Boot Images (25683463)
- Linux MMIO Kernel Configuration Can Affect fwupdate For Intel NIC/LOM Updates (25736189, 26006365, 25654252)
- Host Might Not Power Back On After an Update That Includes a Power Cycle in Metadata (31163478, 31181631)
- Secure Boot Setting Can Affect fwupdate Commands on Intel-Based Network Controllers (32355015, 32409181)
- fwupdate Command Fails to Update the Oracle Dual Port 25G Ethernet Adapter (32856860, 32947677)
- fwupdate Command Fails to Correctly Identify the Location of the Oracle Flash Accelerator F640 PCIe Card v3 (32945516, 32947685)

User is Prompted to Confirm an Update for a Mellanox CX3 IB Card on a Solaris System (17656671)

When you use `fwupdate` to update a Mellanox CX3 Infiniband card on a Solaris system, you are prompted again to confirm whether the update is needed.

Workaround

Type `y` when prompted to continue with the firmware update.

fwupdate Might Hang on Solaris 10 System With Emulex and Qlogic 16Gb Fibre Channel or Dual 10 GbE Card Installed (18044689)

`fwupdate` might hang on a Solaris 10 system with both an Emulex and a Qlogic 16Gb Fibre Channel or Dual 10 GbE Cards installed.

Workaround

1. Power off the system.
2. Remove the Emulex 16Gb Fibre Channel or Dual 10 GbE Card.
3. Reboot the system.
4. Run `fwupdate`.

Notes for Dual 16Gb Fibre Channel or Dual 10 GbE Card (Emulex) (17503938)

For an Emulex Dual 16Gb Fibre Channel or Dual 10 GbE controller card with the following conditions:

- In NIC mode or CNA mode,
- FCoE SFP transceiver is attached,
- Running under Linux unbreakable kernel mode

The following behavior applies to both automatic and manual `fwupdate` mode:

- When multiple Emulex Dual 16Gb Fibre Channel or Dual 10 GbE cards are present on the system in NIC mode, all the cards are updated when `fwupdate` is used to update firmware, even if you run the command to update one card.
- Place the firmware image to be used for the update to be in a `firmware` directory. For example, if firmware image `xyz` is being used for an update, this firmware image should be under `/firmware/xyz`.

  If multiple images exist under the firmware directory, `fwupdate` will use the latest version from the images in the firmware directory.

Power Cycle Required to Update Oracle ILOM Version on Sun Fire X4170 M2 Server (16562687)

When upgrading ILOM from a lower version than 3.1.2.20 to a version 3.1.2.20 or later on the Sun Fire X4170 M2 server, the server must be power-cycled. If the server is not set up to power cycle automatically after the firmware update, power off the host and power it back on again after a few minutes.

Emulex Fibre Channel Cards Are Not Visible on Oracle VM 3.1.1 (15790684)

When an Emulex fibre channel card is installed on a system running Oracle VM 3.1.1, `fwupdate` does not recognize the card.

Error Messages Can Be Disregarded When Updating Firmware for a Emulex Fiber Channel Card (15762571)

When doing a firmware upgrade for a Emulex Fibre Channel Card, the following error messages might be displayed, and can be disregarded:

```
Updating c3: lpfc 0000:b0:00.0: 0:1306 Link Up Event in loop back
>>>>> mode x1 received Data: x1 x1 x20 x1
>>>>> lpfc 0000:b0:00.0: 0:1309 Link Up Event npiv not supported in looop
>>>>> topology
>>>>> lpfc 0000:b0:00.0: 0:(0):2858 FLOGI failure Status:x3/x18 TMO:x0
>>>>> lpfc 0000:b0:00.0: 0:(0):2858 FLOGI failure Status:x3/x18 TMO:x0
>>>>> lpfc 0000:b0:00.0: 0:(0):2858 FLOGI failure Status:x3/x18 TMO:x0
>>>>> lpfc 0000:b0:00.0: 0:(0):2858 FLOGI failure Status:x3/x18 TMO:x0
>>>>> Success
```

For a Sun Fire X4270 M3 Server With Oracle Enterprise Linux 6.0 a Qlogic Card in Slot 2 is Not Displayed (15763607, 11177285)

`fwupdate` is unable to list a Qlogic card in Slot 2 of a Sun Fire X4270 M3 server running Oracle Enterprise Linux 6.0.

Workaround

Move the card to another slot.

After Updating the Firmware on an Internal Expander Configured for a Sun StorageTek 6Gb/s SAS PCIe HBA, Internal (SGX-SAS6-INT-Z), a Reboot is Required (15657192)

After updating the internal expander firmware on a X4270 M2 server with Sun StorageTek 6Gb/s SAS PCIe HBA, Internal (SGX-SAS6-INT-Z), a reset command causes the server to become unstable and possibly hang.

Workaround

Reboot the server to resolve this problem.

Cannot Update HDDs Firmware With fwupdate update Command With OEL 5.4 (15643212)

You cannot update HDD firmware with `fwupdate update` if you have the following HDDs installed on a Sun Fire X2270 M2 server: Seagate model ST35000NSSUN500G

fwupdate Commands on Network Controllers Might Not Show Device Details or Fail When Executed Right After Linux OS Loads (21210340)

On systems with Oracle Linux 7.x or Red Hat Enterprise Linux 7.x, attempting to run `fwupdate` commands on network interface controllers within the first couple of minutes after the operating system is up and available can result in incomplete information or failure of the command.

When attempting to display information using `fwupdate list`, the output might not show device information for system network controllers. When attempting to update network controller firmware using `fwupdate update`, the update might fail.

This issue is only seen with network interface controllers. The `fwupdate` command can still be run successfully on other devices as soon as the OS is up and available.

Workaround

Before attempting to list network controller device information or update network controller firmware using the `fwupdate` command, wait for at least two minutes after the OS is up.

For a critical task, such as an update of network controller firmware, wait two minutes after the OS is up and then run the `fwupdate list` command to ensure the network controller device information is listed. If the `fwupdate list` command completes successfully, showing details of the network controller you intend to update, you can then safely run the `fwupdate update` command.

fwupdate Might Fail When Updating Firmware on the Oracle Quad 10Gb Ethernet Adapter (21446307)

In rare instances, updating firmware on an Oracle Quad 10Gb Ethernet Adapter using the `fwupdate` command might fail. This problem might also occur when attempting to update the adapter's firmware using the Oracle System Assistant.

Workaround

If you encounter this problem, retry updating the adapter's firmware using the `fwupdate` command. If the failure persists, contact Oracle Support.

fwupdate Might Fail or Take a Long Time Listing or Updating Four or More Intel Network Controllers (21920385)

When four or more Intel network controllers are installed in a system, the `fwupdate list controller` command might fail or take up to 20 minutes to successfully list information about them. If you have more than sixteen Intel network controllers installed, the amount of time to list information will be longer. This issue can also affect firmware updates of Intel network controllers using the `fwupdate` command.

Workaround

If you encounter a failure when attempting to list or update Intel network controllers using `fwupdate`, retry the command and allow extra time for the command to succeed. If you are attempting to update network controller firmware and the failure persists, contact Oracle Support.

NVMe Device Goes Offline When a Device Reset is Done (25519108)

On a system running the Linux version 7 using the Red Hat compatible kernel, when using `fwudpate` to update firmware on an installed NVMe device, if a device reset is required as part of the update, once the reset is performed the device might go offline.

Workaround

If an NVMe device goes offline or no longer appears to the operating system after a firmware update, a power cycle of the server is required to bring the device back online.

This issue has not been seen on systems running the Oracle Linux UEK kernel (UEK4 or UEK3). If your Linux 7 systems have NVMe devices, upgrade to Oracle Linux UEK3 or UEK4.

Automatic Credentials Might Not Work With fwupdate When Updating System Firmware and Fallback Boot Images (25683463)

When performing firmware updates of the local service processor using `fwupdate` in automatic mode, `fwupdate` will automatically use the Host-to-ILOM interconnect, if enabled. However, due to an issue with Oracle ILOM (fixed in bug 25042438), using the `fwupdate` command to update x86 or SPARC system firmware (including Oracle ILOM, OBP, BIOS, SYSFW, etc.) or a SPARC fallback boot image might take a long time or fail. This is because the Host-to-ILOM interconnect (the fastest connection) might not work reliability due to the Oracle ILOM issue.

As a result, the update process might fall back to the slower KCS/BMC interface when trying to update x86 system firmware (including Oracle ILOM and BIOS). Or, it might fail when trying to update SPARC system firmware (including Oracle ILOM, OBP, SYSFW, etc.) and fallback boot images, as slower KCS/BMC is not supported.

This issue can be seen on systems with versions of Oracle ILOM 3.2.8 and earlier. This behavior is intermittent and does not affect the reliability of the transfer, only which path is used to access Oracle ILOM.

If you are using Oracle Hardware Management Pack version 2.4.0.0 or later with a version of Oracle ILOM that has the fix for bug 25042438, you will not see this issue. Prior versions of

Oracle Hardware Management Pack might still exhibit this intermittent behavior even if Oracle ILOM has the fix.

Workaround

To work around this issue and use the faster interface, you can target the Host-to-ILOM interconnect directly using the `-H` and `-U` options in `fwupdate`. For example, to update system firmware on an x86 or SPARC system:

```
# fwupdate update sysfw -x metadata.xml -H 169.254.182.76 -U
root
```

Where `169.254.182.76` is the IP address for the Oracle ILOM port of the Host-to-ILOM interconnect and `root` is the root user.

Linux MMIO Kernel Configuration Can Affect fwupdate For Intel NIC/LOM Updates (25736189, 26006365, 25654252)

On some Linux kernels, memory mapped IO (MMIO) access is set to strict mode to prevent access to MMIO memory from user space utilities. When the kernel is running in this mode, `fwupdate` will not be able to access Intel-based network controllers.

If the `fwupdate` list or update command is run with kernel MMIO access is set to `iomem=strict`, the following can occur:

- `fwupdate` will display a warning to the console, for example:

  ```
  # ./fwupdate list controller

  WARNING: Due to strict MMIO memory settings in the running kernel
  some network controllers may not be accessible.
  See Hardware Management Pack documentation regarding iomem kernel
  settings required for firmware update of these devices.
  ```

  This warning informs you that `fwupdate` might not be able to access some network controllers. If `fwupdate` cannot access a device, it will not be able to list or update the device. As a result, no Intel network controllers will be listed in the `fwupdate list controller` output, though other updatable controllers will be listed.

- `fwupdate` produces a warning message in `dmesg/syslog`, for example:

  ```
  kernel: Program fwupdate tried to access /dev/mem between c4a00000-
  >c4a01000.
  ```

  This is an informational message that `fwupdate` attempted to access restricted memory and will not cause an issue with the operation of the OS. There will be one of these messages logged each time `fwupdate` is run with the kernel in strict MMIO access mode.

- If the `fwupdate` update command is run in quiet (silent) mode, no messages are displayed to the console. A warning that the command failed can be captured in the output xml inventory when using the `-o` option. You can then see a `<warning>` entry for each device affected by this issue. For example, in the output xml file you might see:

  ```
  <device>
    <devicetype>Controller</devicetype>
    <devicesubtype>NET</devicesubtype>
  ```

```
    <devicename>c10</devicename>
    <modelnumber>0x1528</modelnumber>
    <manufacturer>Intel</manufacturer>
    <node_id>Generic WWN:00:10:E0:57:7A:1E PCI Addr:82:00.0</node_id>
    <xml_support>N/A</xml_support>
    <pci_address>82:00.0</pci_address>
    <pci_vendor_id>0x8086</pci_vendor_id>
    <product_name>Intel X540 Gigabit Ethernet Controller</product_name>
    <warning>Firmware version data is not readable. Please see
Hardware Management Pack documentation and release notes for
more information on kernel configuration.</warning>
  </device>
```

Workaround

If you encounter this issue, perform one of the following actions to allow `fwupdate` to access and list or update these devices.

- Add `iomem=relaxed` to the kernel command line.
- Run with a kernel version that does not restrict MMIO memory access to the user space.

Host Might Not Power Back On After an Update That Includes a Power Cycle in Metadata (31163478, 31181631)

When updating system firmware using the `fwupdate` command with a metadata file that includes a system power cycle command, the host might not power back on during the power cycle portion of the update. The firmware has actually been updated to the new version, but the new version will not be used until the system has completed the power cycle and the host is back online.

Workaround

If you encounter this issue, manually power on the server (using the physical power button or Oracle ILOM).

Secure Boot Setting Can Affect fwupdate Commands on Intel-Based Network Controllers (32355015, 32409181)

On systems running Linux, when Secure Boot setting in the BIOS Setup Utility is enabled, `fwupdate` will not be able to see information on Intel-based network controllers. If `fwupdate` cannot detect information on a device, it cannot update its firmware.

> **Note:**
>
> If you encounter this issue, you might also see an "MMIO memory settings" warning message even if you performed the workaround described in Linux MMIO Kernel Configuration Can Affect fwupdate For Intel NIC/LOM Updates (25736189, 26006365, 25654252). In this case, you will also need to perform the Secure Boot workaround.

Workaround

Go into the BIOS Setup Utility and under the Security menu disable Secure Boot. Then restart the system, perform any firmware updates, and re-enable Secure Boot in the BIOS Setup Utility.

fwupdate Command Fails to Update the Oracle Dual Port 25G Ethernet Adapter (32856860, 32947677)

When updating an Oracle Dual Port 25G Ethernet Adapter (a Broadcom-based controller), manually specifying the controller number and the firmware binary file in the `fwupdate` command might cause the update to fail. This is due to an issue with a special tool invoked by `fwupdate` during the update process of a Broadcom card where the card might not be correctly recognized by the tool. Under this scenario, `fwupdate` might attempt to update a non-Broadcom controller in which case the update will fail during the discovery portion of command execution.

Workaround

To minimize this issue, use the `fwupdate` automatic mode to update card firmware, this uses metadata to correctly identify the card being updated. This issue will be completely addressed when the tool used by `fwupdate` for Boardcom cards is updated. For details on using the automatic mode, refer to the Updating Component Firmware With a Metadata File (Automatic Mode) in *Oracle Hardware Management Pack 2.4 Server CLI Tools User's Guide*.

fwupdate Command Fails to Correctly Identify the Location of the Oracle Flash Accelerator F640 PCIe Card v3 (32945516, 32947685)

For some servers, `fwupdate` might not correctly identify the slot location and NAC name of one or more Oracle Flash Accelerator F640 PCIe Card v3 in the system. This issue also affects the card slot information and mapping displayed in Oracle ILOM.

There is currently no workaround for this issue. However, a firmware update of the card using the `fwupdate` command is not impacted by this issue.

Host-to-ILOM Interconnect Issues

The following issues are related to the Host-to-ILOM interconnect.

- Host-to-ILOM Interconnect Not Supported for Oracle VM 3.0.3 (17256129)
- Internal Error When Enabling Host-to-ILOM Interconnect (29242138, 29344445)

Host-to-ILOM Interconnect Not Supported for Oracle VM 3.0.3 (17256129)

Do not install or enable the Host-to-ILOM interconnect on a system running Oracle VM 3.0.3. This is because Oracle VM 3.0.3 does not have the required LAN-over-USB Ethernet driver.

Workaround

If you need Host-to-ILOM functionality, update to Oracle VM 3.1.1 or later.

Internal Error When Enabling Host-to-ILOM Interconnect (29242138, 29344445)

In some cases, the local Host-to-ILOM interconnect (the USB Ethernet connection to the service processor) might fail in Oracle Linux due to a routing table issue. Attempting to re-enable the Host-to-ILOM interconnect using either `ilomconfig` or `itpconfig` commands fails with an `Internal error`. For example:

```
[root@test1 ~]# ilomconfig enable interconnect
Set 'state' to 'enabled'

ERROR: Internal error
[root@test1 ~]#
```

To check to see if this is a host-side routing table issue, do the following:

1. From the host, ping the service processor USB Ethernet interconnect port address.

   > **Note:**
   >
   > The USB Ethernet interconnect uses Oracle pre-assigned addresses; one on the host side and one on the service processor side. These addresses are not the same as the service processor NET MGT port IP address.

   ```
   [root@test1 ~]# ping 169.254.182.76
   PING 169.254.182.76 (169.254.182.76) 56(84) bytes of data.
   From 192.0.2.24 icmp_seq=1 Destination Host Unreachable
   From 192.0.2.24 icmp_seq=3 Destination Host Unreachable
   ^C
   --- 169.254.182.76 ping statistics ---
   3 packets transmitted, 0 received, +2 errors, 100% packet loss, time 2084ms
   ```

   If you see the error "Destination Host Unreachable" and ping statistic errors, you likely have a routing table issue.

2. Next, use the `route` command to check the routing table to see if the Host-to-ILOM interconnect USB interface destination is listed. Look for the `usb#` in the Iface column of the output. For example:

   ```
   [root@test1 ~]# route
   Kernel IP routing table
   Destination     Gateway         Genmask         Flags Metric Ref    Use Iface
   default         192.0.2.24      0.0.0.0         UG    100    0        0 eth0
   203.0.113.0     0.0.0.0         255.255.255.0   U     100    0        0 eth0
   203.0.113.15    0.0.0.0         255.255.255.0   U     0      0        0 virbr0
   ```

   If a destination for the Host-to-ILOM interconnect USB interface is missing, you will need to add it to the routing table.

Workaround

Add the network destination address to the Host-to-ILOM interconnect USB interface to the routing table:

1. From the host, enter the `route add` command as follows:

```
[root@test1 ~]# route add -net 169.254.182.0 netmask
255.255.255.0 usb0
```

2. Check to see if the destination address has been added to the routing table by entering the `route` command:

```
[root@test1 ~]# route
Kernel IP routing table
Destination     Gateway         Genmask         Flags Metric Ref    Use Iface
default         192.0.2.24      0.0.0.0         UG    100    0        0 eth0
169.254.182.0   0.0.0.0         255.255.255.0   U     0      0        0 usb0
203.0.113.0     0.0.0.0         255.255.255.0   U     100    0        0 eth0
203.0.113.15    0.0.0.0         255.255.255.0   U     0      0        0
virbr0
```

3. Ping the service processor USB Ethernet interconnect port address to confirm it can be found.

```
[root@test1 ~]# ping 169.254.182.76
PING 169.254.182.76 (169.254.182.76) 56(84) bytes of data.
64 bytes from 169.254.182.76: icmp_seq=1 ttl=64 time=0.507 ms
64 bytes from 169.254.182.76: icmp_seq=2 ttl=64 time=0.222 ms
64 bytes from 169.254.182.76: icmp_seq=3 ttl=64 time=0.239 ms
^C
--- 169.254.182.76 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2060ms
rtt min/avg/max/mdev = 0.222/0.322/0.507/0.132 ms
```

Once the routing table issue is fixed, you can use the Host-to-ILOM interconnect with Oracle Hardware Management Pack commands.

hwmgmtd Known Issues

The following issues are related to `hwmgmtd`.

- hwmgmtd Not Started When Oracle Hardware Management Pack 2.2.1 or 2.2.2 is Installed on an ESX 3.5 Server (15738417)
- hwmgmtd Can Crash When Getting Information From the InfiniBand Card Plugin (22066585)

hwmgmtd Not Started When Oracle Hardware Management Pack 2.2.1 or 2.2.2 is Installed on an ESX 3.5 Server (15738417)

After installing Management Pack 2.2.1 or 2.2.2 in a system running ESX 3.5 `hwmgmtd` does not start automatically.

Workaround

Start the `hwmgmtd` agent manually. Refer to the Oracle Server Management Agents 2.2 User's Guide for more information on running `hwmgmtd` manually.

hwmgmtd Can Crash When Getting Information From the InfiniBand Card Plugin (22066585)

On systems running Oracle Solaris 10, the management agent (`hwmgmtd`) might crash when obtaining information from the InfiniBand plugin (`mlnx_ib.so`).

Workaround

If you encounter this issue, rename the InfiniBand plugin file to `mlnx_ib.so.disable`. The default path to the InfiniBand plugin file is:

`/usr/lib/ssm/lib/plugins/framework/`

ilomconfig Known Issues

The following issues are related to the `ilomconfig` tool.

Start New Shell for Solaris ilomconfig After Uninstalling Oracle HMP ilomconfig (18277233)

After the Oracle Hardware Management Pack version of `ilomconfig` has been uninstalled from a system running Oracle Solaris 11.1, you need to start a new shell in order to use the Oracle Solaris version of `ilomconfig` again.

ilomconfig Commands Might Fail When Using ILOM 3.0.9 (15650623)

Oracle ILOM versions 3.0.9 and earlier have limitations that might cause the `ilomconfig` command to fail with the error `Cannot connect to BMC`. These errors can occur when multiple programs attempt to access the IPMI interface of Oracle ILOM.

If such errors do occur, Oracle ILOM must recover from this error. This recovery could mean a one or two minute disruption in the services provided by Oracle ILOM.

Workaround

To help avoid this error, disable the Hardware Management Agent and Storage Monitoring Agent before using `ilomconfig`. Also, any other IPMI access to Oracle ILOM, such as using ipmitool, should be avoided when running `ilomconfig`.

ilomconfig Export Config Fails (35265684)

The Oracle Hardware Management Pack `ilomconfig export config` command fails when run on systems with Oracle ILOM version 5.1.1. This issue is not seen on systems with Oracle ILOM versions earlier than 5.1.1.

There is currently no workaround for this issue.

ilomconfig Import Config Fails (35415235, 35550618)

The Oracle Hardware Management Pack `ilomconfig import config` *`filename`*`.xml` command fails when importing configuration data that includes sensitive informartion (such as a passphrase).

There is currently no workaround for this issue.

ipmitool Known Issues

The following issues are related to `ipmitool`.

- ipmitool Error Might Occur When SP Is Booted When SPARC T3-4 Host Is On (15719015, 15691003)
- ipmitool Connections Very Slow On Oracle Sun Server X3 Platforms Running Oracle Solaris 10 (25550538)
- ipmitool Error: SSL Certificate Cannot Be Verified (29395917, 29480162)

ipmitool Error Might Occur When SP Is Booted When SPARC T3-4 Host Is On (15719015, 15691003)

When the SPARC T3-4 host is powered on and the SP is booted, you might receive the following error:

```
SP communication failure....Please start IPMI
```

`ipmitool` will not function in this state.

Workaround

If you encounter this error, reboot the host to clear the error.

ipmitool Connections Very Slow On Oracle Sun Server X3 Platforms Running Oracle Solaris 10 (25550538)

This issue can be seen on Oracle Sun Server X3 series systems running Oracle Solaris 10 that do not have a version of Oracle ILOM that supports secure IPMI.

Workaround

Secure IPMI was introduced with Oracle Hardware Management Pack 2.4 and with Oracle ILOM 3.2.8 and later. If you have an earlier version of Oracle ILOM and see this issue, you can install Oracle Hardware Management Pack 2.3.8. However, if you use `ipmitool` with a version of Oracle Hardware Management Pack earlier than 2.4, the security features will not be available.

ipmitool Error: SSL Certificate Cannot Be Verified (29395917, 29480162)

When using `ipmitool` to remotely access a service processor over the network, you might receive the following error if you do not specify a supported `ipmitool` interface. For example:

```
# ipmitool -U root -H 192.0.2.16 -P password1 power status

Host '192.0.2.16' SSL certificate cannot be verified

issuer= /C=US/ST=California/L=Redwood Shores/O=Oracle America,
Inc/OU=Oracle Integrated Lights Out Manager/CN=ORACLESP-1603NM107W

SHA256 fingerprint:
4e:ae:97:e3:c5:84:3f:ce:4f:4a:26:0a:3e:a5:ba:73:b9:bc:87:2d:c8:43:87:26:d6:28:
78:87:fa:62:eb:0c

Unable to connect with 192.0.2.16
```

Oracle Hardware Management Pack for Solaris 11.4 uses TLS encryption support with SSL certificate checking with `ipmitool` by default. When remotely accessing a service processor over the network you should always use the most secure interface. The `orcltls` interface (the default) is the most secure interface to use and requires an SSL certificate obtained from the target service processor be configured on the host. Configuring a certificate on the host is described in the "Service Processor Access" section in the for the `fwupdate`, `ilomconfig` and `ubiosconfig` commands.

> **Note:**
>
> Oracle recommends using SSL public key infrastructure on your network. Note that a `--no-cert-check` option is available for use with the `ipmitool -I orcltls` interface to bypass certificate validation in a safe network environment. However, use of this option makes the TLS connections vulnerable to man-in-the-middle attacks.

Certificate validation is not performed when using `ipmitool` with the `lan` or `lanplus` interfaces. However, unless you have a safe network environment, use of these interfaces leaves connections vulnerable to man-in-the-middle attacks.

For additional information on using `ipmitool`, refer to the man page.

itpconfig Known Issues

The following issues are related to `itpconfig`.

- itpconfig Fails to Disable Trap Forwarding Cleanly on Systems Running Linux 7 (26941586)

itpconfig Fails to Disable Trap Forwarding Cleanly on Systems Running Linux 7 (26941586)

The `itpconfig disable trapforwarding` command might fail with an "ERROR: Cannot connect to BMC" on systems running Linux 7. For example:

```
# itpconfig disable trapforwarding

ERROR: Cannot connect to BMC
```

However, if you then run the `itpconfig list trapforwarding` command, you see that trapforwarding has been disabled:

```
# itpconfig list trapforwarding
Trap Forwarding
===============
Trap Forwarding is disabled
Trap Forwarding Destination:  127.0.0.1
Trap Forwarding Port:  162
Trap Forwarding Community:  public
```

If you encounter this issue, you should be able to ignore the error.

Workaround

If you no longer want SNMP traps to be generated, you can also disable traps when logged into Oracle ILOM with the following command:

```
-> set /SP/alertmgmt/rules/15 type=snmptrap level=disable
destination=0.0.0.0 destination_port=0
community_or_username=public
```

raidconfig Known Issues

The following issues are related to the `raidconfig` tool.

- Sun Flash Accelerator Cards Incorrectly Identified as RAID-Capable (18519959)
- Hot Spares Not Visible on SPARC System With MegaRAID SAS Controller (16729481)
- On SLES 11 SP 1 System, Disks Might Disappear (15845681)
- RAID Volume Might Not Be Visible in Oracle ILOM on SPARC Systems (15782246)
- RAID 1 Volume With More Than Two Disks Is Not Handled Correctly (15747500)
- When Running init Task on RAID Volume clear Tasks on Disks Always Show 0% Complete (15742034)
- Mounted Property for RAID Volumes is Not Visible When Using SGX-SAS6-R-REM-Z or SGX-SAS6-R-INT-Z (15666684)
- After Creating a RAID Volume With --name Option With LSI REM, Volume's Name is Still Null (15675209)
- Different RAID Volumes Have the Same Device Name When OS is VMWare ESX 3.5 Update 5 (15674922)
- RAID 10 Listed as Not Supported When Creating RAID Volume With raidconfig (22129034)

Sun Flash Accelerator Cards Incorrectly Identified as RAID-Capable (18519959)

The Sun Flash Accelerator F40 (LSI Logic 0x050a) and Sun Flash Accelerator F80 PCIe (LSI Logic 0x0581) cards are identified as RAID-capable controllers in the output of the raidconfig list command, though they are not available for RAID configuration.

The Sun Flash Accelerator F20 PCIe Card is correctly identified as a non-RAID controller and is hidden from the `raidconfig` list output.

Hot Spares Not Visible on SPARC System With MegaRAID SAS Controller (16729481)

If disks are added as dedicated spares to a RAID 1 volume, the hot spare disks are no longer visible with the command `raidconfig list disk`.

This happens on a SPARC system with a MegaRAID SAS controller.

On SLES 11 SP 1 System, Disks Might Disappear (15845681)

On a SLES 11 SP 1 system, disks that are used in RAID volumes or as hot-spares might not be listed in the raidconfig list output.

Workaround

Install an updated mpt2sas driver.

RAID Volume Might Not Be Visible in Oracle ILOM on SPARC Systems (15782246)

A RAID volume created using `raidconfig` might not be visible under the /STORAGE target in Oracle ILOM.

Workaround

Use the `raidconfig list all` command to view the newly created volume.

RAID 1 Volume With More Than Two Disks Is Not Handled Correctly (15747500)

For the SGX-SAS6-R-INT-Z HBA, no more than two disks can be used for creating a RAID 1 volume.

When Running init Task on RAID Volume clear Tasks on Disks Always Show 0% Complete (15742034)

When an init task is running on a RAID volume, the disks in that RAID volume have a clear task started on them. The percentage complete for the clear task always shows zero until the init task has finished.

A workaround is not required.

Mounted Property for RAID Volumes is Not Visible When Using SGX-SAS6-R-REM-Z or SGX-SAS6-R-INT-Z (15666684)

The Mounted property is missing from RAID volumes created when using the SGX-SAS6-R-INT-Z HBA or SGX-SAS6-R-REM-Z. `raidconfig` will not prevent you from deleting a mounted volume.

Workaround

1. Using the `raidconfig` command, retrieve the Device Name for the RAID volume.
2. Check the output of the mount command for an instance of the Device Name retrieved in Step 1.
3. If the Device Name is present in the output of the mount command, the RAID volume is currently mounted and should not be deleted using `raidconfig`.
4. Unmount the RAID volume first, then use `raidconfig` to delete the volume.

After Creating a RAID Volume With --name Option With LSI REM, Volume's Name is Still Null (15675209)

After creating a RAID volume on the RAID 0/1 Expansion Module (X4607A) using `raidconfig` with the `--name` option, the RAID volume name is still null, though the RAID volume is successfully created.

Different RAID Volumes Have the Same Device Name When OS is VMWare ESX 3.5 Update 5 (15674922)

When creating two RAID volumes on a RAID Expansion Module (X4620A) on a server running VMWare ESX 3.5 Update 5, the RAID volumes have the same device name.

RAID 10 Listed as Not Supported When Creating RAID Volume With raidconfig (22129034)

On a system with the Sun Storage 6 Gb/s SAS PCIe HBA (internal or external), attempting to create a RAID 10 volume using `raidconfig` with the `--level=10`

option will yield the following message: "ERROR: RAID level not supported by controller."

Workaround

The FCODE version 1.00.65 on the Sun Storage 6 Gb/s SAS PCIe HBA (internal or external) does not support RAID 10. It does support an even (four or more) or odd (3 or more) number of disks used in a RAID level 1e. Use RAID level 1e in place of RAID level 10.

For example, to create a RAID 1e volume on four disks in the system, type:

```
raidconfig create raid --level=1e -d c0d0,c0d1,c0d2,c0d3
```

This RAID volume will be seen as RAID 1e by `raidconfig`, but seen as RAID 10 by the HBA's configuration utility (sas2ircu).

This is expected behavior with the Sun Storage 6 Gb/s SAS PCIe HBA using FCODE version 1.00.65.

SNMP Agent Known Issues

The issues shown in the following table are related to SNMP Agent.

snmpwalk of the Storage MIB Results in a Timeout or Error Message (15694465)

When you use the `snmpwalk` command with a Storage MIB on a SPARC system, the storage information appears, but you might receive an error message or timeout at the end of the output.

This error message can safely be ignored.

SNMP Trap Issues

- `sunHwTrapProductName` can be empty on some platforms.
- `sunHwTrapSystemIdentifier` is empty when the service processor is running ILOM 2.0.

- `sunHwTrapAssocObjectId` is always set to `SNMPv2-SMI::zeroDotZero`.
- `sunHwTrapComponentName` is set to the IPMI name of the component rather than the name used by ILOM.
- On Sun Fire X4200 M2 servers, Hardware Management Agent sends `sunHwTrapComponentOK` or `sunHwTrapComponentError` instead of `sunHwTrapSlotOrConnectorOk` or `sunHwTrapSlotOrConnectorError`, which are sent by ILOM.

Workaround

You can access this information from ILOM or SNMP interfaces.

Sun X6250 Server Module Reports Wrong Service Processor Version Number

When you run the Hardware Management Agent on Sun X6250 server modules with older service processor firmware, the wrong version of service processor is reported.

Workaround

Oracle recommends that you upgrade to the latest firmware.

Parent FRU Name for Sensors on Shared Components in a Blade Chassis is Incorrect (15728111, 15688172)

`sunHwMon...SensorParentFruName` is incorrectly set to `/SYS` for sensors on shared field replaceable units (FRUs) in a blade chassis.

Workaround

Use ILOM to determine the correct parent name for these sensors.

Discrete Current Sensors Are Miscategorized on SPARC T3-Series Servers (15687547)

On SPARC T3-Series servers, discrete current sensors are miscategorized and listed in `sunHwMonDiscreateOtherSensorTable` instead of in `sunHwMonDiscreteCurrentSensorTable`.

Workaround

Use the `sunHwMonDiscreateOtherSensorTable` to view discrete current sensors.

SunHwMonInventoryTable Shows Incorrect Number of DIMMs (15566455)

On some platforms, DIMMs which are not present in the system are shown in `sunHwMonInvetoryTable`.

Workaround

View the `FruDescr`, `FruPartNumber`, `FruSerialNumber` and `FruManuacturer` objects. If these values are filled in, the DIMMs are present in the system. If there objects are not filled in, it indicates DIMMs that are not present and can be safely ignored.

SunHwMonDiscreteHardDriveSensorTable Incorrect Sensors

Due to platform limitations, `sunHwMonDiscreteHardDriveSensorTable` can contain sensors for disks not physically present on the host. These sensors have a `ParentFruIndex` of `-1` and end with `STATE-HIDDEN`. These sensors can be safely ignored.

Host Agent Might Generate Incorrect Notification (15675490)

Not all device types defined in recent releases of ILOM are recognized by the host agent, resulting in cases where the host agent generates a generic `sunHwTrapComponent` Notification rather than a device specific Notification (for example, `sunHwTrapSlotOrConnector`). This is due to a component error rather than a slot or connector.

Workaround

Use the NAC name from the MIB to determine the specific device for the Notification.

sunStorageVolumeOSMountPoint Not Showing Mount Point (15666684)

`sunStorageVolumeOSMountPoint` reports a device name instead of a mount point.

Incorrect DiskOSDeviceName on SPARC T3-2 System (15668518)

`DiskOSDeviceName` on a SPARC T3-2 server reports `02000000:0` and `02000000:2` as `OSDeviceName`. No such names can be found on the host OS.

Workaround

For multipath disks, `raidconfig` returns only the WWN for the device instead of the full path name. The format command returns the full path name of this device with the WWN embedded in it. You can correlate the device by using the WWN.

For example:

- This is the information that you get on a device using `raidconfig`: `Device: 5000CCA00A49BC1C`
- This is the information that you get on a device using the format command: `Device: c0t5000CCA00A49BC1Cd0`

Storage MIB Does Not Expose Dual Path Disks (15673745)

`sunStorageDiskTable` shows only a single disk instance when a physical disk is dual-pathed to two controllers.

Workaround

Use Oracle ILOM to determine the correct information about the disk.

Storage Poller Known Issues

The issues shown in the following table are related to the storage poller.

- Global Hot Spare for RAID 1 Volume Displayed as a Dedicated Hot Spare on Oracle Solaris (15586295)
- The max_disks Property Is Incorrect When Using Adaptec Disk Controller (SGXPCIESAS-R-INT-Z) (15584958)
- The write_cache_enabled Property Not Available for Adaptec Controllers (SGXPCIESAS-R-INT-Z) (15583722)
- M.2 SATA SSD Storage Not Always Reported Correctly in Oracle ILOM (26534520, 26149555)

Global Hot Spare for RAID 1 Volume Displayed as a Dedicated Hot Spare on Oracle Solaris (15586295)

The Oracle Hardware Management Pack storage poller running on an Oracle Solaris system configured with a global hot spare for a RAID 1 (Mirrored) RAID with a Sun Storagetek PCIe SAS RAID HBA (SGXPCIESAS-R-INT-Z) might show the details of the disk as a dedicated hot spare.

The max_disks Property Is Incorrect When Using Adaptec Disk Controller (SGXPCIESAS-R-INT-Z) (15584958)

The Oracle Hardware Management Pack storage poller might incorrectly display the max_disks property for a Sun Storagetek PCI-E SAS RAID HBA (SGXPCIESAS-R-INT-Z) as 0.

The write_cache_enabled Property Not Available for Adaptec Controllers (SGXPCIESAS-R-INT-Z) (15583722)

The `write_cache_enabled` property is not available for Adaptec Controllers (SGXPCIESAS-R-INT-Z).

M.2 SATA SSD Storage Not Always Reported Correctly in Oracle ILOM (26534520, 26149555)

Systems that include M.2 SATA SSDs might have their details show incorrectly in Oracle ILOM. This could include:

- The device type being mis-categorized as an "add on" disk instead of an M.2 SSD installed on a riser card.

- Details about the device listed incorrectly (such as the device target or NAC name) or missing.
- Duplicates of the device are listed with no detailed information.

In addition, device details could change after a system reboot.

This is due to an issue with the Oracle Hardware Management Pack storage poller that supplies host storage information to Oracle ILOM.

As this issue does not affect other Oracle Hardware Management Pack tools, you can use them to obtain information on M.2 SSDs in the system.

Using Oracle Hardware Management Pack With SPARC M5-32 and M6-32 Servers

The following sections cover specific information for using Oracle Hardware Management tools with the SPARC M5-32 and M6-32 servers:

- ilomconfig (16369886)
- fwupdate (26088403)
- hwmgmtcli (16507559)
- itpconfig (16508501, 16507898)
- hwmgmtd (15824059, 15824037)

ilomconfig (16369886)

The SPARC M5-32 and M6-32 servers have a pair of dual-redundant SPs (SP0 and SP1) in the chassis. It also has 4 SP proxies (SPP0, SPP1, SPP2, SPP3).

The host OS does not have direct access to all Oracle ILOM properties from the SPs, so you need to use Oracle ILOM to access Oracle ILOM properties from the SP, rather than `ilomconfig`.

For SPARC M5-32 and M6-32 servers, the Oracle Solaris host OS runs on the SPPs. `ilomconfig` accesses the Oracle ILOM SPP from the Oracle Solaris host OS.

The following table describes the properties of the SPs and SPPs.

Service Processor Type	Description	Tool to access SP
SP0, SP1 (redundant service processors)	These are the main service processors with all the standard Oracle ILOM properties. The SPs manage the SPPs.	Oracle ILOM
SPP0, SPP1, SPP2, SPP3 (service processor proxies)	Each SPP monitors a domain configurable unit (DCU). The host OS runs on the SPPs.	`ilomconfig`

- Oracle ILOM Properties Not Available From the SPARC Server M5-32 and M6-32 SPPs
- ilomconfig Commands Supported on SPARC M5-32 and M6-32 Server Platforms

Oracle ILOM Properties Not Available From the SPARC Server M5-32 and M6-32 SPPs

The following table lists the Oracle ILOM properties that are not available from SPARC M5-32 and M6-32 server SPPs.

Oracle ILOM Properties	ilomconfig Features
`/SP/config`	export, import
`/SP/users`	user
`/SP/services/snmp/communities`	snmp-community
`/SP/network/pending`	network mgmt (read-only)

ilomconfig Commands Supported on SPARC M5-32 and M6-32 Server Platforms

For SPARC M5-32 and M6-32 servers, the following `ilomconfig` subcommands and targets are supported:

- `list` subcommand targets:
  - `system-summary`
  - `network`
  - `network-ipv6`
  - `interconnect`
  - `identification`
- `enable` subcommand target:
  - `interconnect`
- `disable` subcommand target:
  - `interconnect`
- `modify` subcommand targets:
  - `interconnect`
  - `identification`

fwupdate (26088403)

When using `fwupdate` with M-series platforms, you can only update the main SP and must use the `--remote-hostname` and `--remote-username` options to in the command line. Attempts to run `fwupdate` against the local SP will result in an error and cancel the update.

Always refer to the specific README instructions included with firmware released for the M-series platforms as this issue might not be applicable to all versions of M-series firmware.

hwmgmtcli (16507559)

A new subsystem has been added for multi-domained systems, such as SPARC M5-32 and M6-32 servers:

`dcu` - Show details of dcu subsystem.

For SPARC M5-32 and M6-32 systems, `open_problems` diagnosed by Oracle ILOM are not reported by `hwmgmtcli` on PDOM hosts. In addition, `health`, and `health_details` information might be missiing or not reliable.

On multi-domain systems `hwmgmtcli` can only see the devices (such as controllers and storage) that are dedicated to the host domain where `hwmgmtcli` is being run. In contrast, Oracle ILOM obtains reports from all domains and therefore can report on all devices in the system.

itpconfig (16508501, 16507898)

The fault proxy cannot be enabled on the SPARC M5-32 and M6-32 servers. These servers have no Oracle ILOM alert management on the SPP, and there is no Host-to-ILOM interconnect between the SP and an OS, so there is no way for this tool to function.

hwmgmtd (15824059, 15824037)

`hwmgmtd` can be used on SPARC M5-32 and SPARC M6-32 servers to provide storage information to Oracle ILOM, but SNMP agent functionality of `hwmgmtd` should not be used, as it will provide erroneous data.