

Oracle Hardware Management Pack for Oracle Solaris 11.4 Release Notes



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Oracle Hardware Management Pack for Oracle Solaris 11.4 Release Notes,

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Using This Documentation

- **Overview** – Describes how to install the software
- **Audience** – Technicians, system administrators, and authorized service providers
- **Required knowledge** – Advanced experience troubleshooting and replacing hardware
- [Product Documentation Library](#)
- [Feedback](#)
- [Change History](#)

Product Documentation Library

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

Feedback

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

Change History

The following changes have been made to the document.

- August 2018. Initial publication.
- September 2018. Updated *Release Notes* for Oracle Solaris 11.4 SRU 1 release.
- January 2019. Updated *Release Notes* for Oracle Solaris 11.4 SRU 5 release.
- February 2019. Updated *Release Notes* for Oracle Solaris 11.4 SRU 6 release.
- March 2019. Updated *Release Notes* to describe new configurable management agent resource monitoring threads added to `hwmgmt.d.conf` file. Also added bug 29395917 to the "Known Issues" section.
- May 2019. Updated *Release Notes* to add support for Oracle Dual Port QDR InfiniBand Adapter M4 adapter.
- May 2020. Updated *Release Notes* for Oracle Solaris 11.4 SRU 21 release.
- February 2021. Updated *Release Notes* for Oracle Solaris 11.4 SRU 30 release.
- July 2021. Updated *Release Notes* for Oracle Solaris 11.4 SRU 35 release.
- October 2021. Updated *Release Notes* for Oracle Solaris 11.4 SRU 38 release.
- September 2022. Updated *Release Notes* for Oracle Solaris 11.4 SRU 49 release.

- May 2023. Updated *Release Notes* for Oracle Solaris 11.4 SRU 57 release.
- June 2023. Updated *Release Notes* for Oracle Solaris 11.4 SRU 58 release.
- August 2023. Updated *Release Notes* for Oracle Solaris 11.4 SRU 60 release.
- September 2023. Updated *Release Notes* for Oracle Solaris 11.4 SRU 61 release.
- February 2024. Updated *Release Notes* for Oracle Solaris 11.4 SRU 66 release.

1

Software Release Information

This section contains the following information:

- [Oracle Hardware Management Pack for Oracle Solaris](#)
- [Updates in Oracle Hardware Management Pack for Oracle Solaris 11.4](#)
- [Oracle Hardware Management Pack for Oracle Solaris Product Accessibility](#)

Oracle Hardware Management Pack for Oracle Solaris

This document applies to servers running Oracle Solaris 11.4. Oracle Hardware Management Pack for Oracle Solaris is a set of commands and agents to help you manage Oracle servers and is part of the Oracle Solaris 11.4 operating system.

Beginning with Oracle Solaris 11.2, Oracle Hardware Management Pack has become an integrated component of the operating system. 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. Updates to Oracle Hardware Management Pack for Solaris 11.4 are available with Oracle Solaris SRU releases.

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 for Oracle Solaris 11.4

This section describes changes in Oracle Hardware Management Pack (HMP) for Oracle Solaris 11.4 releases.

- [New Features](#)
- [Platform and Component Support](#)
- [Issues Fixed](#)

New Features

The following new features are part of the Oracle Solaris 11.4 release and subsequent SRU releases.

- [Release SRU 61 Features \(HMP version 2.4.9.1.1\)](#)
- [Release SRU 60 Features \(HMP version 2.4.9.1\)](#)
- [Release SRU 57 Features \(HMP version 2.4.9.0\)](#)
- [Release SRU 54 Features \(HMP version 2.4.8.0.3\)](#)

- [Release SRU 49 Features \(HMP version 2.4.8.0.2\)](#)
- [Release SRU 35 Features \(HMP version 2.4.8.0\)](#)
- [Release SRU 21 Features \(HMP version 2.4.7.0\)](#)
- [Release SRU 9 Features \(HMP version 2.4.6.0\)](#)
- [Release SRU 6 Features \(HMP version 2.4.5.0\)](#)
- [Release SRU 5 Features \(HMP version 2.4.4.2\)](#)
- [Oracle Solaris 11.4 Initial Release \(HMP version 2.4.4.0\)](#)

Release SRU 61 Features (HMP version 2.4.9.1.1)

Updated the Expat software to version 2.5.0. This software is used by the `biosconfig` command (35595131)

Release SRU 60 Features (HMP version 2.4.9.1)

- 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 Intel FVL tool to version FVL9.2. This tool is used by the `fwupdate` command to support Intel network interface cards
- Updated the Broadcom tool to version 222.0.148.0. This tool is used by the `fwupdate` command to support Broadcom network interface cards

Release SRU 57 Features (HMP version 2.4.9.0)

- 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 Server CLI Tools for Oracle Solaris 11.4 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 Server CLI Tools for Oracle Solaris 11.4 User's Guide](#).
- The `ilomconfig export config` command fails on systems running Oracle ILOM 5.1.1. See [ilomconfig Export Config Fails \(35265684\)](#).

Release SRU 54 Features (HMP version 2.4.8.0.3)

Updated to ensure compatibility with OpenSSL 3.0 (34739234).

Release SRU 49 Features (HMP version 2.4.8.0.2)

- 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 SRU 35 Features (HMP version 2.4.8.0)

- Add support for concurrent updates of NVMe devices to `fwupdate` (30651215)

Release SRU 21 Features (HMP version 2.4.7.0)

- Updated IPMItool from version 1.8.15 to version 1.8.18.

Release SRU 9 Features (HMP version 2.4.6.0)

- Added support for Oracle Flash Accelerator F640 PCIe Card v2 (part numbers 7120561, 7120562). See [Platform and Component Support](#).

Release SRU 6 Features (HMP version 2.4.5.0)

- 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](#).
- Added new configurable management agent service resource monitoring threads to `hwmgmt.d.conf` file. For more information, refer to the [Hardware Management Agent Configuration File](#) in *Oracle Server Management Agent for Oracle Solaris 11.4 User's Guide*.

Release SRU 5 Features (HMP version 2.4.4.2)

- Added support for Oracle 6.4 TB v2 2.5-inch SFF NVMe SSDs. See [Platform and Component Support](#).

Oracle Solaris 11.4 Initial Release (HMP version 2.4.4.0)

- 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 "Service Processor Access" section in or the man page for each of these utilities.

Platform and Component Support

For information on support for new platforms and components per Oracle Hardware Management Pack for Oracle Solaris 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 will be added to the main page which will include 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 for Oracle Hardware Management Pack that were fixed in Oracle Solaris 11.4 SRU releases. Oracle recommends that you always use the latest SRU.

- [Issues Fixed in Release SRU 66 \(HMP version 2.4.9.1.2\)](#)
- [Issues Fixed in Release SRU 61 \(HMP version 2.4.9.1.1\)](#)
- [Issues Fixed in Release SRU 60 \(HMP version 2.4.9.1\)](#)
- [Issues Fixed in Release SRU 58 \(HMP version 2.4.9.0.1\)](#)
- [Issues Fixed in Release SRU 55 \(HMP version 2.4.8.0.4\)](#)
- [Issues Fixed in Release SRU 49 \(HMP version 2.4.8.0.2\)](#)
- [Issues Fixed in Release SRU 38 \(HMP version 2.4.8.0.1\)](#)
- [Issues Fixed in Release SRU 35 \(HMP version 2.4.8.0\)](#)
- [Issues Fixed in Release SRU 30 \(HMP version 2.4.7.1\)](#)
- [Issues Fixed in Release SRU 21 \(HMP version 2.4.7.0\)](#)
- [Issues Fixed in Release SRU 6 \(HMP version 2.4.5.0\)](#)
- [Issues Fixed in Release SRU 5 \(HMP version 2.4.4.2\)](#)
- [Issues Fixed in Release SRU 1 \(HMP version 2.4.4.1\)](#)

Issues Fixed in Release SRU 66 (HMP version 2.4.9.1.2)

- `fwupdate` SIGSEGV (Segmentation Fault) code=1 (SEGV_MAPERR), addr=7d8 (36073344)
- `hwmgmt` dumps core after upgrading to ST_160 (36067106)

Issues Fixed in Release SRU 61 (HMP version 2.4.9.1.1)

Listing and updating Mellanox CX-5 and CX-6 cards using `fwupdate` does not work on Solaris (5626778)

Issues Fixed in Release SRU 60 (HMP version 2.4.9.1)

The `hwmgmt` daemon crashes in `resource_monitor` (35227047)

Issues Fixed in Release SRU 58 (HMP version 2.4.9.0.1)

- HMP tools fail during AK install when logs redirected with symlink (35479817)
- hwmgmtd dumps core after upgrading to SRU58 (35479791)
- Addition of serial_number to "sun-id" property breaks ILOM Storage Viewer (35479950)

Issues Fixed in Release SRU 55 (HMP version 2.4.8.0.4)

Rebuild ssm-incorporation packages to not declare OpenSSL v1.1 dependencies (35093898)

Issues Fixed in Release SRU 49 (HMP version 2.4.8.0.2)

- IPMI TLS authentication fails when using `fwupdate` to update the firmware of the service processor (33768204)
- Upgraded Expat software to version 2.4.8 for `biosconfig` command (34465909)

Issues Fixed in Release SRU 38 (HMP version 2.4.8.0.1)

- `fwupdate list controller` fails to show all working NVMe controllers (32588805)

Issues Fixed in Release SRU 35 (HMP version 2.4.8.0)

- Defunct processes being generated by `hwmgmtd` daemon (32039927)
- `fwupdate` gives 'platform not supported' error on some platforms (29545995)
- `fwupdate` doesn't dump or detect the PHY firmware version updates (29489760)
- Host profile files do not update automatically if they are installed on the wrong system type (31543039)

Issues Fixed in Release SRU 30 (HMP version 2.4.7.1)

- Defunct processes being generated by `hwmgmtd` daemon (27666506)
- `fwupdate` doesn't dump or detect the PHY firmware version updates (29545995)
- `fwupdate` returns "Storage library initialization failure" error on Fujitsu M12 platforms (31470391)
- Incorrect disk NAC names being reported on X3-2 (X4170-m3) and X4-2 platforms (31734145)

Issues Fixed in Release SRU 21 (HMP version 2.4.7.0)

- A crash could occur if no differences are detected between polling cycles (30569222)
- After a firmware update, Intel NICs report fatal error (26269419)
- `fwupdate` fails to update Sun Storage 6Gb SAS Internal HBA (SGX-SAS6-INT-Z) (28506756)
- `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)

- `fwupdate` command cannot update LAN-on-Motherboard (LOM) firmware on an Oracle Server X7-8 or X8-8 (30896097)
- `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)

Issues Fixed in Release SRU 6 (HMP version 2.4.5.0)

- Both PDOMs of SPARC M7-8 were rebooted after firmware was updated with `fwupdate` (28903649)
- All NVMe SFF SSD WWN are listed as the same in `/System/Storage/Disks` (28699154)
- `fwupdate` detects and lists update failure but gives a return code of zero (28585262)
- `hwmgmt` polling stops after some random time (28390320)
- `fwupdate` does not list Intel network cards if `local-mac-address?` is set (26445751)
- `fwupdate` exits with no error message displayed on SPARC M7/M8 (25839390)

Issues Fixed in Release SRU 5 (HMP version 2.4.4.2)

- Failure detected in firmware update has a return code of zero (28870953)
- `hwmgmt` holds onto NVMe device during hot plug disable action (28849266)

Issues Fixed in Release SRU 1 (HMP version 2.4.4.1)

- On some Oracle SPARC systems `fwupdate` might not list details of Intel network controllers after a hot plug event (28142401, 25830688 and 25862628)

Oracle Hardware Management Pack for Oracle Solaris 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/solarisdocs>

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 for Oracle Solaris at:

- <https://www.oracle.com/goto/ohmp/solarisdocs>

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

This section contains the following information:

- [Updating from Oracle Solaris 11/11.1 to Oracle Solaris 11.4 Requires Setting Repository](#)
- [Installing in Oracle Solaris Zones](#)

Updating from Oracle Solaris 11/11.1 to Oracle Solaris 11.4 Requires Setting Repository

If you have Oracle Solaris 11 or Oracle Solaris 11.1 with Oracle Hardware Management Pack installed and you want to update to Oracle Solaris 11.4, set the Oracle Hardware Management Pack repository *before* updating to Oracle Solaris 11.4. This is because the Oracle Hardware Management Pack packages were formerly in a repository called `mp-re` and are now in a repository called `SSM` (Single Server Management consolidation).

Workaround

Before updating to Oracle Solaris 11.4, type the following command:

```
# pkg set-publisher --non-sticky mp-re
```

Installing in Oracle Solaris Zones

Oracle Hardware Management Pack packages will install in all Oracle Solaris zones.

The Oracle Hardware Management Pack utilities have limited or no functionality in non-global zones.

The following Oracle Hardware Management Pack utilities do not work in a non-global zone:

- `biosconfig`
- `fwupdate`
- `ilomconfig`
- `itpconfig`
- `nvmeadm`
- `raidconfig`
- `ubiosconfig`
- `hwmgmtcli`
- `svc:/system/sp/management:default` (hardware management agent, also known as `hwmgmtd`)

This utility works only if the LAN interface is used in the non-global zone:

- `ipmitool`

3

Known Issues and Notes

This section contains the following information:

- [Common Oracle Hardware Management Pack Known Issues](#)
- [fwupdate Known Issues](#)
- [hwmgmtcli Known Issues](#)
- [ilomconfig Known Issues](#)
- [ipmitool Known Issues](#)
- [raidconfig Known Issues](#)
- [ubiosconfig Known Issues](#)
- [Hardware Management Agent and SNMP Known Issues](#)
- [Storage Poller Known Issues](#)
- [Using Oracle Hardware Management Pack With Oracle SPARC M Series Servers](#)

Common Oracle Hardware Management Pack Known Issues

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

- [Some Utilities Run Slowly on SPARC T3 Systems \(15720486, 15705545\)](#)

Some Utilities Run Slowly on SPARC T3 Systems (15720486, 15705545)

The `hwmgmtcli` 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 15631390.

Workaround

1. Disable the affected utility.
2. Read the `mdb` documentation and then enter the following commands:

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

3. Re-enable the utility.

fwupdate Known Issues

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

- [Firmware Versions Do Not Display With 16Gb Fibre Channel or Dual 10 GbE Card \(Emulex\) \(17037795\)](#)

- [Power Cycle Required to Update Oracle ILOM Version on Sun Fire X4170 M2 Server \(16562687\)](#)
- [Error Messages Can Be Disregarded When Updating Firmware for an Emulex Fiber Channel Card \(15762571\)](#)
- [fwupdate Cannot Downgrade Firmware \(15663490\)](#)
- [fwupdate Cannot Be Used to Update Firmware on Some SPARC Onboard Intel-Based Ethernet Controllers \(21616063, 21622963\)](#)
- [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 \(21920385\)](#)
- [fwupdate Displays Failed Message When Updating a SPARC M7 Service Processor \(21843467\)](#)
- [Automatic Credentials Might Not Work With fwupdate When Updating System Firmware and Fallback Boot Images \(25683463\)](#)
- [Intel-Based Ethernet Adapters Using the i40e Driver Output Messages to Syslog When fwupdate is Run \(26163087, 26194426, 26280974\)](#)
- [On Some Oracle SPARC Systems fwupdate Might Not List Details of Intel Network Controllers After a Hot Plug Event \(25862628\)](#)
- [After Updating an Intel Network Controller On an Oracle SPARC System FMA Might Report a Fault \(26566589\)](#)
- [Host-to-ILOM Interconnect Might Fail After SP Reset During Firmware Update \(26827865, 27133238\)](#)
- [fwupdate of Fallback Image Reports Failure But is Successful \(27315226, 27409466\)](#)
- [fwupdate Command Fails to Update the Oracle Dual Port 25G Ethernet Adapter \(32856860, 32947677\)](#)
- [fwupdate Fails to Display Network Controller Information \(35626863, 35654674\)](#)

Firmware Versions Do Not Display With 16Gb Fibre Channel or Dual 10 GbE Card (Emulex) (17037795)

When 16Gb Fibre Channel or Dual 10 GbE Card (Emulex) cards are in NIC or CNA mode, the `fwupdate list` command does not display the EFI, FCODE and BIOS versions.

This occurs regardless of the operating system on the server.

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

When upgrading Oracle 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.

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

When doing a firmware upgrade for a Emulex Fibre Channel Card, you might see the following error messages. These messages 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 loop
>>>> 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
```

fwupdate Cannot Downgrade Firmware (15663490)

If you attempt to downgrade firmware for a Hitachi H101414SC 146 GB disk drive using `fwupdate`, you might receive a message stating that the update was successful; however, `fwupdate` does not support firmware downgrades on this device.

Workaround

Compare the current firmware version with the version to which you want to update. If the current version is newer, do not update the firmware.

fwupdate Cannot Be Used to Update Firmware on Some SPARC Onboard Intel-Based Ethernet Controllers (21616063, 21622963)

On some SPARC systems with an onboard Ethernet controller (also called "LAN-On-Motherboard", or "LOM"), `fwupdate` is unable to obtain details about the controller. Without this information, `fwupdate` cannot be used to update the firmware of the controller.

Before attempting to update firmware on a SPARC system, display information using `fwupdate list`. If the output does not show device information (such as the current firmware version) for the system's onboard network controller, you cannot use `fwupdate` to update the controller firmware.

The `fwupdate` command can still be run successfully on other devices including PCIe Ethernet network adapter cards. For a list of systems and controllers supported for use with `fwupdate`, refer to the Support Matrices at: <http://www.oracle.com/goto/ohmp>.

If the onboard network controller firmware for these systems needs to be updated, contact Oracle Support.

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 the failure persists, contact Oracle Support.

fwupdate Displays Failed Message When Updating a SPARC M7 Service Processor (21843467)

When updating service processor firmware using the `fwupdate` command on an Oracle SPARC M7 series server, you see an "updating sp_bios: failed" message from the host and in the `fwupdate` log file. After seeing this message, the service processor will reset after some time. Although the `fwupdate` command will display a failed message upon completion, the update process actually succeeds.

From the host, after entering the `fwupdate` command, you might see output similar to the following:

```
# fwupdate update sp-bios-firmware -f
Sun_System_Firmware-9_4_3-SPARC_M7-Systems.pkg -n sp_bios -H sp_ip_address -U
username
@ Enter password (8 to 16 characters):
*****
```

The following components will be upgraded as shown:

```
=====
ID          Priority Action      Status      Old Firmware Ver.   Proposed Ver.
New Firmware Ver.   System Reboot
-----
sp_bios     1          Check FW    Success      3.2.5.5.bld_24     N/A
N/A         N/A
REMOTE HOST MAY SHUT DOWN DURING SP FIRMWARE UPDATE!
Do you wish to process all of the above component upgrades? [y/n]? y
Updating sp_bios: Failed
```

Execution Summary

```

=====
ID          Priority Action      Status      Old Firmware Ver.  Proposed Ver.
  New Firmware Ver.  System Reboot
-----
sp_bios    1          Update      Failure      3.2.5.5.bld_24    N/A
  N/A                N/A
      Error: Firmware download failed for component
ERROR: Firmware download failed for component

```

If you look in the `/var/log/ssm/fwupdate.log` file, you might see logged output similar to the following:

```

# tail fwupdate.log
ipmiflash[stdout] :Sending upgrade command
ipmiflash[stdout] :
ipmiflash[stdout] :Waiting for upgrade to start.....
ipmiflash[stdout] :Waiting for upgrade to
complete.....
.....xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xx
ipmiflash[stderr]: More robust algorithm supported.
ipmiflash[stderr]:
ipmiflash[stderr]: Upgrade failed (lost contact with host).
ipmiflash[stderr]: DO NOT RESET THE SP! Just try again.
ipmiflash[stderr]: Close Session command failed

```

There is no workaround for this issue. If you encounter this failure during a firmware update, wait for the `fwupdate` command to complete, and then power cycle the system. After that you can use the `fwupdate list sp_bios` command from the host to determine if the update was successful (the version listed should be later than the old version).

Note:

The `sp_bios` target was deprecated in Oracle Solaris 11.3 SRU 10 for both SPARC and x86 systems. Use the `sysfw` target instead.

If the service processor firmware did not get updated, even after a second attempt, contact Oracle Support.

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 hostname -U root
```

Where `hostname` is the hostname, Common Name (required for TLS encryption) IP address for the Oracle ILOM port of the Host-to-ILOM interconnect and `root` is the root user.

Intel-Based Ethernet Adapters Using the i40e Driver Output Messages to Syslog When fwupdate is Run (26163087, 26194426, 26280974)

If the system has an Intel-based Ethernet network interface card that uses the i40e driver (for example the Oracle Quad 10 Gb or Dual 40 Gb Ethernet Adapter, or the Oracle Quad 10 Gb Ethernet Adapter), output notice messages are captured in syslog when the `fwupdate` command is run. This affects system running Oracle Solaris 11.3 SRU 21 and later. For example:

```
Mon May 29 12:45:02 PDT 2017
May 29 12:44:58 sca05-0a818b90 i40e: [ID 611667 kern.info] NOTICE:
i40e0: i40e_nvmmupd command status: 0  errno; 0
May 29 12:44:58 sca05-0a818b90 i40e: [ID 611667 kern.info] NOTICE:
i40e0: i40e_nvmmupd command status: 0  errno; 0
...
May 29 12:44:58 sca05-0a818b90 i40e: [ID 611667 kern.info] NOTICE:
i40e0: i40e_nvmmupd command status: 0  errno; 0
May 29 12:44:58 sca05-0a818b90 i40e: [ID 611667 kern.info] NOTICE:
i40e0: i40e_nvmmupd command status: 0  errno; 0
```

These messages are from the i40e driver and are benign. You can safely ignore these messages.

On Some Oracle SPARC Systems fwupdate Might Not List Details of Intel Network Controllers After a Hot Plug Event (25862628)

This issue is fixed in Oracle Hardware Management for Oracle Solaris 11.4 SRU 1.

For some Oracle SPARC systems, such as the T series and M series, the `fwupdate` list and update commands might not work with Intel-based network controllers after performing a hot plug of a controller device. For example, after a hot plug of an Intel-based network controller, if you run the `fwupdate list` command you might not see

any Intel-based network controllers listed. If the `fwupdate` command cannot list the details of a device, it cannot update that device.

Workaround

If you encounter this issue, you need to reboot the server in order for the `fwupdate` command to see and list details of Intel-based network controllers in the system.

After Updating an Intel Network Controller On an Oracle SPARC System FMA Might Report a Fault (26566589)

For some Oracle SPARC systems, such as the T series and M series, Oracle Solaris FMA might report a fault after the update of an Intel network controller using the `fwupdate` command. If you use FMA commands to list faults, you might see:

```
# fmadm list-fault
-----
TIME EVENT-ID MSG-ID SEVERITY
-----
Jun 06 10:57:09 36153b84-0650-4751-8092-c7eb4c936c71 NIC-8000-1C Critical

Problem Status : open
Diag Engine : eft / 1.16
System Manufacturer : Oracle Corporation
Name : SPARC M7-8
Part_Number : 7325712
Serial_Number : AK00383556
Host_ID : 8647c249

-----
Suspect 1 of 2 :
Problem class : defect.io.nic.config
Certainty : 95%
Affects : mod:///mod-name=i40e/
Status : faulted but still in service

FRU
Status : faulty
FMRI :
"pkg://solaris/driver/network/ethernet/i40e@0.5.11,5.11-0.175.3.20.0.2.0:20170
422T000939Z
"
-----
Suspect 2 of 2 :
Problem class : fault.io.nic.config
Certainty : 5%
Affects : dev:///pci@31e/pci@1/network@0
Status : ok and in service

FRU
Status : repaired
Location : "/SYS/CMIOU6/PCIE2"
Manufacturer : unknown
Name : unknown
Part_Number : unknown
Revision : unknown
```

```
Serial_Number : unknown
Chassis
Manufacturer : Oracle Corporation
Name : SPARC M7-8
Part_Number : 7325712
Serial_Number : AK00383556
```

Description : The network device failed to configure a feature. A(n) invalid_state error has been detected during driver's runtime context causing a(n) config service impact.

Firmware: FW 5.1.42098 API 1.5 eetrack 0x80002559 NVM 0x1

Response : One or more device instances may be disabled.

Impact : Loss of services provided by the device instances associated with this fault.

Action : Use 'fmadm faulty' to provide a more detailed view of this event.

Please refer to the associated reference document at <http://support.oracle.com/msg/NIC-8000-1C> for the latest service procedures and policies regarding this diagnosis.

There is currently no workaround for this issue. Despite the fault, the update process should still complete. A system power cycle is required to use the new firmware.

Host-to-ILOM Interconnect Might Fail After SP Reset During Firmware Update (26827865, 27133238)

Occasionally, when using the `fwupdate` command to update system firmware that includes an SP reset as part of the update process, the Host-to-ILOM interconnect might fail to come back online after the SP reset. Even though the firmware update might have successfully completed, you will not be able to confirm it from the host due to the Host-to-ILOM interconnect failure.

The following example output shows what you might see with this issue:

```
# fwupdate update all -x metadata.xml
```

The following components will be upgraded as shown:

```
=====
ID          Priority Action      Status      Old Firmware Ver.  Proposed Ver.
  New Firmware Ver.  System Reboot
-----
sp          1          Check FW    Success      9.5.4.c           9.7.1.c
  N/A                N/A
```

Please set 'Credential' and enable 'Host Interconnect' - the LAN over USB path to SP then try again.

Execution Summary

```
=====
ID          Priority Action      Status      Old Firmware Ver.  Proposed Ver.
  New Firmware Ver.  System Reboot
-----
sp          1          Update      Aborted      9.5.4.c           9.7.1.c
```

```

N/A                N/A
ERROR: Cannot connect to BMC

```

Note that running the `ilomconfig list interconnect` command at this point might show the interconnect status as 'enabled', even though the connection is lost.

Workaround

If you encounter this issue, disable and then re-enable the Host-to-ILOM interconnect using the `ilomconfig` command. For example:

```

# ilomconfig disable interconnect
Host-to-ILOM interconnect disabled.
Set 'state' to 'disabled'

# ilomconfig enable interconnect
Set 'state' to 'enabled'
Host-to-ILOM interconnect successfully configured.

```

This should reset the interconnect and allow you to check to see if the new firmware is installed. For example:

```

# fwupdate list sysfw -v
=====
SP
=====
ID: sp
   Product Name: SPARC T7-1
   ILOM Version: v3.2.6.2.c
   BIOS/OBP Version: 9.7.1.c
   XML Support: YES

```

fwupdate of Fallback Image Reports Failure But is Successful (27315226, 27409466)

After an update using the `fwupdate update` command where only the fallback image is updated, you might see an error that states that the update was unverified. An example of output is shown below:

```

# fwupdate update all -x metadata.xml

The following components will be upgraded as shown:
=====
ID          Priority Action      Status      Old Firmware Ver.  Proposed Ver.
  New Firmware Ver.  System Reboot
-----
sp          1          Check FW    Success       11.3.28.4.0       11.3.27.4.0
N/A                N/A
HOST MAY SHUT DOWN DURING SP FIRMWARE UPDATE!
Do you wish to process all of the above component upgrades? [y/n]? y
Updating sp: Success

Verifying all priority 1 updates

Execution Summary
=====
ID          Priority Action      Status      Old Firmware Ver.  Proposed Ver.
  New Firmware Ver.  System Reboot

```

```
-----  
-----  
sp          1          Validate  Failure    11.3.28.4.0    11.3.27.4.0  
          11.3.28.4.0          N/A  
          Error: Version verification failed.  
ERROR: Version verification failed.
```

This issue can occur when updating SPARC system firmware if only the fallback mini-root image needs updating. If you encounter this issue when updating Oracle SPARC system firmware where only the fallback image is updated, you can safely ignore it. The update will have been successful even if `fwupdate` cannot verify it.

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 Server CLI Tools for Oracle Solaris 11.4 User's Guide*.

fwupdate Fails to Display Network Controller Information (35626863, 35654674)

In rare instances, the network controller discovery operation of `fwupdate` fails. Without this information, `fwupdate` cannot be used to update the firmware of installed network cards.

Workaround

If you encounter this issue, you need to change an OBP setting by running the following command as root:

```
# eeprom local-mac-address?=true
```

Then, reboot the system. When OS comes up, run the `fwupdate list controller` command which should now display the correct information about network cards.

hwmgmtcli Known Issues

The following issues are related to `hwmgmtcli`.

- [Running hwmgmtcli on a Sun Blade X6270 M2 Server Might Return Error Messages for Chassis Information \(15762248\)](#)
- [Sun Blade X6270 M2 Shows Incorrect Chassis Data \(15732926,15737206,15737199\)](#)

Running hwmgmtcli on a Sun Blade X6270 M2 Server Might Return Error Messages for Chassis Information (15762248)

When running `hwmgmtcli` commands, errors are returned for chassis information as follows:

```
Chassis Model: ERROR  
Chassis Address: ERROR
```

Workaround

To avoid this error, upgrade to Oracle ILOM 3.1.

Sun Blade X6270 M2 Shows Incorrect Chassis Data (15732926,15737206,15737199)

When using the `hwmgmtcli` command to view chassis information on a Sun Blade X6270 M2 server module, some information about the chassis is missing.

Workaround

Use Oracle ILOM CMM to view the chassis information.

ilomconfig Known Issues

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

- [ilomconfig Commands Might Fail When Using Oracle ILOM 3.0.9 \(15650623\)](#)
- [ilomconfig Host Credential Cache Feature Has Been Disabled \(21563538\)](#)
- [ilomconfig Export Config Fails \(35265684\)](#)

ilomconfig Commands Might Fail When Using Oracle 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, avoid any other IPMI access to Oracle ILOM, such as using `ipmitool`, when running `ilomconfig`.

ilomconfig Host Credential Cache Feature Has Been Disabled (21563538)

The host credential cache feature used to facilitate access to the Oracle ILOM service processor (SP) through the Host-to-ILOM Interconnect has been disabled. The `ilomconfig create credential` command will no longer create a credential cache file on the host to store Oracle ILOM username and password information. Nor will an existing credential cache be used for Oracle Hardware Management Pack commands accessing the Oracle ILOM SP.

This change affects the way some Oracle Hardware Management Pack commands are issued that access the system's local SP (like `fwupdate`, `ilomconfig` and `ubiosconfig`) and only on systems with an Oracle ILOM version earlier than 3.2.4. For these systems, if you want to use a LAN interface (for either the local Host-to-ILOM interconnect or a remote Ethernet network connection) you must manually include credentials using the `-H` and `-U` options for commands that access an SP. If credentials are not provided, these commands will default to the slower local KCS interface to access the local Oracle ILOM SP.

For systems with Oracle ILOM version 3.2.4 or later, credentials do not need to be included when running commands that access the local SP through the Host-to-ILOM interconnect. You still need to manually include credentials (using the `-H` and `-U` options) when running commands that access an SP using a network connection.

The capability to delete a previously saved host credential cache is still supported using the `ilomconfig delete credential` command.

Workaround

Oracle Hardware Management Pack commands that access the Oracle ILOM SP (versions earlier than 3.2.4) and require user credentials must be entered manually from the command line. The required password can also be piped in on stdin for scripting use.

Examples:

- ```
ilomconfig list system-summary --remote-hostname=sp_ip --remote-username=username
```
- ```
cat passwd.file | fwupdate list all --remote-hostname=sp_ip --remote-username=username
```

Where *sp_ip* is the hostname, Common Name (required for TLS encryption), or IP address of the Oracle ILOM SP, *username* is the Oracle ILOM user account with root privileges, and *passwd.file* is a file you create that contains the Oracle ILOM user account password.

Note:

In the example above, to use the local Host-to-ILOM interconnect instead of a network port to access the SP, obtain its IP address using the `ilomconfig list interconnect` command.

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.

ipmitool Known Issues

The following issues are related to `ipmitool`.

- [ipmitool Error Might Occur When SP Is Booted and SPARC T3-4 Host Is On \(15719015, 15691003\)](#)
- [ipmitool Error: SSL Certificate Cannot Be Verified \(29395917, 29480162\)](#)

ipmitool Error Might Occur When SP Is Booted and 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 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.

raidconfig Known Issues

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

- [User Warning: raidconfig Shows the System Boot Disk as Available \(20992189\)](#)
- [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 \(15675209\)](#)
- [RAID 10 Listed as Not Supported When Creating RAID Volume With raidconfig \(22129034\)](#)
- [JBOD Mode is Not Supported on All SAS Controllers \(27179388\)](#)

User Warning: raidconfig Shows the System Boot Disk as Available (20992189)

`raidconfig` can scan your controllers and connected disks and list disks that are either already in a RAID volume, or available to be included in a RAID volume. However, `raidconfig` cannot tell if an available disk has data on it, or if a disk is otherwise used as either a boot disk or logical disk for an application.

Before using `raidconfig` to create volumes (which will overwrite any existing data), use operating system tools to take an inventory of attached disks, their enumeration, and whether they contain data that you want to preserve.

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 you create 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.

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.

JBOD Mode is Not Supported on All SAS Controllers (27179388)

Some SAS3 Host Bus Adapters (HBA) with hardware RAID support might include an option to enable JBOD mode. JBOD mode allows the operating system to access a disk directly without first creating a RAID volume on it. If JBOD mode is not enabled, the operating system is not able to see the disk until the disk is included in a RAID volume.

The `raidconfig` man page incorrectly states that JBOD mode supported on the Oracle Storage 12 Gb SAS RAID PCIe HBA (Internal). The only way to confirm if JBOD mode is supported for your HBA is to check to see if the HBA documentation says that it's supported.

ubiosconfig Known Issues

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

- [ubiosconfig Cannot Connect to BMC On Systems With Oracle ILOM 3.2.6 \(24356013\)](#)

ubiosconfig Cannot Connect to BMC On Systems With Oracle ILOM 3.2.6 (24356013)

Fixed in Oracle Solaris SRU 11 (Hardware Management Pack for Oracle Solaris version 2.3.7.0).

On systems with Oracle ILOM version 3.2.6, attempting to run the `ubiosconfig` command to change system UEFI BIOS settings will fail with an error message about being unable to connect to the BMC. This issue has not been seen in other versions of Oracle ILOM.

Workaround

To make changes to UEFI BIOS settings for these systems, you must run the system's BIOS Setup Utility either at the local server console or from a remote console. Refer to your platform documentation for additional information on accessing the BIOS Setup Utility.

Hardware Management Agent and SNMP Known Issues

The following issues are related to the Hardware Management Agent and SNMP.

- [Some SNMP Traps Available in Oracle ILOM Are Not Generated \(15686011\)](#)
- [snmpwalk of the Storage MIB Results in a Timeout or Error Message \(15694465\)](#)
- [SNMP Trap Issues](#)
- [Sun Blade X6250 Server Module Reports Wrong Service Processor Version Number](#)
- [Parent FRU Name for Sensors on Shared Components in a Blade Chassis Is Incorrect \(15728111, 15688172\)](#)
- [Discrete Current Sensors Are Miscategorized on SPARC T3-Series Servers \(15687547\)](#)
- [sunHwMonFruStatus Does Not Reflect the Fault State of A Component \(15687574\)](#)
- [SunHwMonInventoryTable Shows Incorrect Number of DIMMs \(15566455\)](#)
- [SunHwMonDiscreteHardDriveSensorTable Incorrect Sensors](#)
- [Host Agent Might Generate Incorrect Notification \(15675490\)](#)
- [sunStorageVolumeOSMountPoint Not Showing Mount Point \(15666684\)](#)
- [Incorrect DiskOSDeviceName on SPARC T3-2 System \(15668518\)](#)
- [Storage MIB Does Not Expose Dual Path Disks \(15673745\)](#)
- [Management Agent Service Memory Leak Issue \(26830196\)](#)

Some SNMP Traps Available in Oracle ILOM Are Not Generated (15686011)

The following types of SNMP traps in Oracle ILOM might not be generated:

- Events that get reported for host state changes
- Events related to fault handling
- Events related to presence state changes of components on the platform

Workaround

You can access this information through Oracle ILOM or SNMP interfaces.

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 Oracle 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 Oracle ILOM.
- On Sun Fire X4200 M2 servers, Hardware Management Agent sends `sunHwTrapComponentOK` or `sunHwTrapComponentError` instead of `sunHwTrapSlotOrConnectorOk` or `sunHwTrapSlotOrConnectorError`, which are sent by Oracle ILOM.

Workaround

You can access this information through Oracle ILOM or SNMP interfaces.

Sun Blade X6250 Server Module Reports Wrong Service Processor Version Number

When you run the Hardware Management Agent on Sun Blade 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 Oracle 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.

`sunHwMonFruStatus` Does Not Reflect the Fault State of A Component (15687574)

A component's status, as represented by `sunHwMonFruStatus`, is a cumulative status of sensors on that component. This status can differ from the component status in Oracle ILOM.

Workaround

Check Oracle ILOM to determine whether or not a components is faulted.

`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 `FruManufacturer` objects. If these values are filled in, the DIMMs are present in the system. If the values 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 Oracle 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.

Management Agent Service Memory Leak Issue (26830196)

Due to a memory resource issue in one of the components of the Oracle Hardware Management Pack management agent service (`svc:/system/sp/management`) memory usage can grow over time. This is only an issue with Oracle Hardware Management Pack for Oracle Solaris 11.3 with SRU 21 through SRU 24.

As of Oracle Solaris 11.3 SRU 25 (Hardware Management Pack for Oracle Solaris version 2.4.2.1), the management agent service has been configured by default to restart each night at 3:00AM local time.

For earlier versions of Oracle Solaris S11.3, the management agent will need to be reset regularly to prevent the memory leak issue. You can create a cron job to reset the service nightly. For example, the following will reset the management agent service each night at 3:00AM local time.

 **Note:**

In Oracle Solaris 11.4 release SRU 6, this feature has been removed. To monitor possible memory leaks in Oracle Solaris 11.4, use the `resource_monitor_enabled` and `resource_monitor_threshold` threads described in the [Management Agent Resource Monitoring, Polling and SNMP Support](#) in *Oracle Server Management Agent for Oracle Solaris 11.4 User's Guide*.

1. Open the current crontab in the default editor to add the new job. Type:

```
# crontab -e
```

2. Add the following job command lines:

```
#The following will restart the management agent at 3:00AM local time:  
0 3 * * * /usr/sbin/svccadm restart svc:/system/sp/management
```

3. Save and exit the editor.

Disabling the agent is also an option, but doing so will cause the loss of some host storage inventory in the Oracle ILOM storage pages.

Storage Poller Known Issues

The following issues 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 Oracle SPARC M Series Servers

The following sections cover specific information for using Oracle Hardware Management tools with Oracle SPARC M series servers:

- [ilomconfig \(16369886\)](#)
- [fwupdate \(26088403\)](#)
- [hwmgmtcli \(16507559\)](#)
- [itpconfig \(16508501, 16507898\)](#)
- [Hardware Management Agent \(15824059, 15824037\)](#)

ilomconfig (16369886)

The Oracle SPARC M series servers have a pair of dual-redundant SPs (SP0 and SP1) in the chassis. These systems might also have 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 Oracle SPARC M series 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)	For the Oracle SPARC M series, 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.	<code>ilomconfig</code>

See also:

- [Oracle ILOM Properties Not Available From the SPARC Server M5-32 and M6-32 SPPs](#)
- [ilomconfig Commands Supported on SPARC M Series 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
<code>/SP/config</code>	export, import
<code>/SP/users</code>	user
<code>/SP/services/snmp/communities</code>	snmp-community
<code>/SP/network/pending</code>	network mgmt (read-only)

ilomconfig Commands Supported on SPARC M Series Server Platforms

For Oracle SPARC M series 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 Oracle SPARC 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 Oracle SPARC 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 the Oracle SPARC M series platforms:

`dcu` - Show details of `dcu` subsystem.

For Oracle SPARC M series servers, `open_problems` diagnosed by Oracle ILOM are not reported by `hwmgmtcli` on PDOM hosts. In addition, `health`, and `health_details` information might be missing 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 is not supported for use on the Oracle SPARC M series servers.

Hardware Management Agent (15824059, 15824037)

The hardware management agent `svc:/system/sp/management:default` (also known as `hwmgmtd`) can be used on Oracle SPARC M series servers to provide storage information to Oracle ILOM, but the SNMP component will not function correctly and provide erroneous data in non-physical domains in these systems.