Sun Datacenter InfiniBand Switch 36

Product Notes for Firmware Version 1.3

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Contents

Using This Documentation

This document provides late-breaking information about the Sun Datacenter InfiniBand Switch 36 firmware version 1.3 from Oracle. This document is written for technicians, system administrators, and authorized service providers who have advanced experience working with similar products..

Related Documentation

Documentation	Links
Sun Datacenter InfiniBand Switch 36	http://docs.oracle.com/cd/E19197-01
Oracle Integrated Lights Out Manager (ILOM) 3.0	http://docs.oracle.com/cd/E19860-01
All Oracle products	http://docs.oracle.com

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Sun Datacenter InfiniBand Switch 36 Product Notes

These product notes provide last-minute, late-breaking information regarding the Sun Datacenter InfiniBand Switch 36 from Oracle. These notes pertain to the release of the 1.3.5-1 firmware for the switch.

Known Problems

The following table describes known problems with the switch.

Bug	Description	Workaround
15560533	Setting an alert rule to `ipmipet` sometimes does not work.	There is no impact to the InfiniBand fabric. **Workaround**: After setting the alert rule to `ipmipet`, set the level to `disable`, and then set the level to the desired value.
15667851	Time zone setting is not preserved.	When upgrading or downgrading between the 1.1.3 and 1.3.5 firmware versions, the time zone setting is lost. **Workaround**: Reconfigure the time zone setting after the firmware upgrade or downgrade. See *Switch User Guide*, setting the time.
15679316	`snmpd` daemon experiences segmentation fault on reboot.	Sometimes when the management controller is rebooted, the `snmpd` daemon experiences a segmentation fault. In this situation, the daemon automatically restarts. **Workaround**: Wait a few seconds before accessing the `snmpd` daemon. Additionally, the `segfault` message in the `/var/log/messages` log file can be ignored.

Bug	Description	Workaround
15692350	LDA floods the log file.	If a host InfiniBand driver crashes or the host panics, the SMA is brought down. Though the respective InfiniBand link is still operational, the LDA writes noncritical messages to the `/var/log/messages` log file, flooding the log file with extraneous information. **Workaround**: Restart the host InfiniBand driver, or reboot the host.
15692591	error handling too strict in the `partitiond` daemon.	If the partitiond daemon is unable to signal the Subnet Manager when it transitions from secondary to primary (master), then the partition valid flag of the `/conf/configvalid` file might be set to false (`0`). In this situation, the Subnet Manager does not become fully operational. **Workaround**: Issue this command as the `root` user of the management controller: `# echo "1" > /conf/configvalid`
15696509	IP addresses within the Subnet Manager nodes file does not match those assigned by DHCP.	By default, the DHCP server is not assured to assign a consistent IP address to a Subnet Manager node upon reboot. **Workaround**: Manually configure the DHCP server to assign a specific and unique IP address to each Subnet Manager node.
15696667	IPMI service cannot be disabled.	Though it appears that the user has disabled the IPMI service from either the Oracle ILOM CLI or web interfaces, the service remains enabled. There is no workaround at this time.
15710409	Similarly named MIB files are not identical.	MIB files are included in the firmware download. You also can back up MIB files from the Oracle ILOM interfaces. The MIB files from these sources are not the same. **Workaround**: Use the MIB files included in the firmware download.
15714344	Incorrect message for full snapshot dataset.	When selecting the full dataset for snapshot in the Oracle ILOM CLI and web interfaces, or selecting diagnostic data for the custom dataset in the Oracle ILOM web interface, the text implies that a host reset might occur. In either case, this text can be ignored.

Bug	Description	Workaround
15714725	Host name property not supported in Oracle ILOM.	Performing a read action on the `sysName` OID does not return any value. There is no workaround at this time.
15715405	`generatetopology` command creates incorrect topology file.	The topology file created by the `generatetopology` command might have an incomplete entry. This situation occurs when the node descriptions for two or move InfiniBand devices are identical. The `generatetopology` command attempts to append the node GUID to the node discription to help discriminate the InfiniBand devices. In rare occurrences, this task is not completed correctly. If the `matchtopology` command is used to validate the topology file, the command returns an error. There is no simple workaround.
15723865	Using the `passwd` command is not supported.	Contrary to the switch documentation, the `passwd` command is not supported. **Workaround**: As the `ilom-admin` user of the Oracle ILOM CLI, use this command to set the user's password: `-> set /SP/users/`*username* `password` where *username* is the name of the user.

Hardware Information and Issues

▼ Undervoltage Condition

If a power supply experiences a temporary brownout or undervoltage condition, the `checkpower` command might indicate an `Alert` status for the power supply. The `Alert` does not reset upon supply voltage returning to nominal values. If the `checkpower` command reports an `Alert`, yet supplied voltage is known to be sufficient, perform the following task.

1. **Remove the power cord from the suspect power supply.**
2. **Remove the power supply from the switch chassis.**
3. **Wait for 1 minute.**
4. **Install the power supply into the switch chassis.**

5. **Attach the power cord to the power supply.**

Note – If the `checkpower` command still displays an `Alert` status for the power supply, see *Switch User's Guide*, troubleshooting the switch, to troubleshoot the power supply.

Supported Fan Configuration

For optimum thermal management, ensure that the three fans shipped with your switch are installed at the central fan slots, Fan 1, Fan 2, and Fan 3. Installing any one of the three fans in fan slots Fan 0 or Fan 4 is not supported.

Software Information and Issues

Firmware Version Numbers

When upgrading the management controller firmware, the procedure uses the variables *x*, *y*, *z*, and *w* in filename strings to identify the version number. For this release of the firmware, 1.3.5-1, the values are as follows:

- *x* is 1
- *y* is 3
- *z* is 5
- *w* is 1

Firmware Update Considerations

If you are going to downgrade the firmware to a version earlier than 2.0, you must remove user partitions and depopulate the Subnet Manager nodes list. See *Switch Administration*, removing partitions for firmware downgrade.

If you are going to downgrade from firmware 2.0.*x* to 1.3.5-1 or earlier, you might see these type of messages in the `/var/log/message` file after the downgrade:

```
lda: Unknown config parameter: ErrLogCount=100; .

lda: Unknown config parameter: ErrLogTimeInterval=100; .
```

The `ErrLogCount` and `ErrLogTimeInterval` configuration parameters introduced in firmware 2.0.*x* are unknown to firmware version 1.3.5-1 and earlier LDAs. The LDA logs these messages and ignores them from there on. The messages appear once per LDA startup and are harmless.

If you later upgrade from firmware 1.3.5-1 to 2.0.*x* and the `ErrLogCount` and `ErrLogTimeInterval` configuration parameters are absent, the 2.0.*x* LDA uses the compiled default values. Consequently, no LDA messages regarding these configuration parameters are recorded.

The following is a list of additional timezones supported only in firmware versions 1.3.4-1 and 1.3.5-1. They are not supported in firmware versions 1.1.x, 1.3.3-2, 2.0.4-1, or 2.0.5-2. If you downgrade the firmware to version 1.1.x or 1.3.3-2, or upgrade the firmware to version 2.0.4-1 or 2.0.5-2, you must set the timezone to somewhere other than these:

- America/Argentina/Salta
- America/Argentina/San_Luis
- America/Bahia_Banderas
- America/Kralendijk
- America/Lower_Princes
- America/Matamoros
- America/Metlakatla
- America/North_Dakota/Beulah
- America/Ojinaga
- America/Santa_Isabel
- America/Santarem
- America/Sitka
- Antarctica/Macquarie
- Asia/Ho_Chi_Minh
- Asia/Kathmandu

- Asia/Kolkata
- Asia/Novokuznetsk
- Pacific/Chuuk
- Pacific/Pohnpei

`smpartition` Command

Though the smpartition command appears in the list of commands displayed by the `help` command, the `smpartition` command is not supported at this time.

Oracle ILOM Issues

The following issues exist for the Oracle ILOM implementation in the 1.3.5-1 firmware:

- You must specify the value for the `email_custom_sender` property of an email alert rule. It does not use the `custom_sender` property of the `/SP/clients/smtp` target.

Documentation Information and Issues

`SUN-DCS-IB-MIB` MIB and Respective OIDs

The InfiniBand Management Information Base and respective Object Identifiers are incorrectly identified with the string `SUN-DCS-MIB`. Replace `SUN-DCS-MIB` with `SUN-DCS-IB-MIB` (note the `-IB-`) in text and command examples.

`chassis_led` Command Not Supported

Although the `chassis_led` command is documented for the switch, the command is not supported.

InfiniBand Node Description

In the output of some hardware and InfiniBand commands, the switch is identified by its node description. The node description is of the following format:

`SUN DCS 36P switch` *hostname*`.`*domain*

where:

- *hostname* is the host name of the management controller.
- *domain* is the fully qualified domain name where the host name resides.

An example node description might be:

```
SUN DCS 36P mnm34-97.example.com
```

Note – Often in the switch documentation, the node description is erroneously displayed with the string `36` and *not* `36P`. The correct string is `36P`.

Declaration of Conformity

To receive a copy of the latest Declaration of Conformity for the switch, either contact your local Oracle sales representative or create an online request at the following URL:

`https://www2.sun.de/dct/forms/reg_us_1607_755_0.jsp`

SNMP V3 Protocol Passwords

In sections of *Switch Remote Management*, authentication and privacy passwords are described for SNMP service user accounts and SNMP V3 protocol commands. For the user accounts and commands, the MD5 and SHA authentication passwords are 8 to 12 characters in length, and the DES privacy password must be exactly 8 characters long.

Temperature Sensor Thresholds Incorrect

Some of the temperature sensor thresholds described in the documentation are incorrect. This table provides correct threshold values.

Sensor	Upper Critical Threshold	Upper Nonrecoverable Threshold
/SYS/MB/T_SP	80°C	85°C
/SYS/MB/T_BACK	60°C	65°C
/SYS/MB/T_FRONT	60°C	65°C
/SYS/MB/T_I4A	90°C	95°C

Upgrading the Switch Firmware

In *Switch Remote Management*, firmware version numbers are provided as x.y, x.y.z, and x.y.z-w. Currently, these numbers are 1.3, 1.3.5, and 1.3.5-1 respectively. The following two procedures describe how to acquire and upgrade the firmware through the Oracle ILOM CLI.

Note – The switch must have version 1.1.3 firmware installed before the two following procedures can be used. Refer to *Switch Remote Management*, installing the firmware, for more information.

- "Acquire the Switch Firmware Package (CLI)" on page 8
- "Upgrade the Switch Firmware (CLI)" on page 10

▼ Acquire the Switch Firmware Package (CLI)

1. **Open a web browser on a host that is on the same Ethernet network as the management controller to receive the firmware update.**
2. **Go to this URL.**

   http://support.oracle.com

   Oracle's My Oracle Support page is displayed.
3. **Sign in if you already have an account.**

   The dashboard page is displayed.

Note – If you do not have an account, you must register.

4. **From the More... drop-down menu, select Patches & Updates.**

   The Patches and Updates page is displayed.

5. **In the Patch Search window, click the Search tab.**

   The Patch Search window updates.

6. **Click the Product or Family (Advance) link.**

   The Patch Search window updates.

7. **In the Product Is drop-down menu, select Sun Datacenter InfiniBand Switch 36.**

8. **In the Release Is drop-down menu, select Sun Datacenter InfiniBand Switch 36** *x.y.z***.**

   Where *x.y.z* is the version number of the firmware package to be acquired. For example, 1.3.5.

9. **Click outside of the drop-down menu.**

10. **Click Search.**

    The Patch Search window expands with the search results.

11. **In the Patch Name column, click the respective patch number link.**

    For example, `17567375`. The Patch Search window reformats.

12. **Click Read Me to display the README file.**

13. **Click Download.**

    The File Download window opens.

14. **Click the** *filename*`.zip` **link to initiate the download.**

    For example, `p17567375_135_Generic.zip`.

15. **Indicate where the file should be saved.**

    The file is downloaded and saved.

16. **In your receiving directory, decompress the** *filename*`.zip` **file.**

    The firmware is in the `SUN_DCS_36p_`*x*`.`*y*`.z.tar.gz` file.

    The readme file contains the latest information about the firmware release.

17. **Unpack the `.gz` file:**

```
$ gtar -zxvf SUN_DCS_36p_x.y.z.tar.gz
```

The extracted files are displayed.

18. **Move the switch firmware package (*filename*`.pkg`) to a directory on a host that is accessible by Oracle ILOM.**

19. **Upgrade the switch firmware.**

See "Upgrade the Switch Firmware (CLI)" on page 10 or *Switch Remote Administration*, upgrading the switch firmware.

▼ Upgrade the Switch Firmware (CLI)

1. **Open an SSH session as user `root` and connect to the management controller by specifying the controller's host name as configured with the DHCP server.**

For example:

```
% ssh -l root switch_name
root@switch_name's password: password
#
```

where *switch_name* is the host name of the management controller. The name might be the word `hostname`. Initially, the *password* is `changeme`.

2. **If the Subnet Manager is running on the management controller, disable it with the `disablesm` command.**

```
# disablesm
Stopping partitiond daemon.                                [  OK  ]
Stopping IB Subnet Manager..                               [  OK  ]
#
```

3. **Verify that there is at least 80 MB available in the `/` filesystem.**

```
# df -h /
Filesystem            Size  Used Avail Use% Mounted on
/dev/hda2             471M  287M 161M  65% /
#
```

In this example, there are 161 MB available. If not enough space is available, you must delete or move files from the `/` filesystem.

4. **Verify that there is at least 120MB available in the `/tmp` directory.**

```
# df -h /tmp
Filesystem            Size  Used Avail Use% Mounted on
tmpfs                 250M  240K 249M 1% /tmp
#
```

In this example, there are 249 MB available. If not enough space is available, you must delete files from the `/tmp` directory.

5. **Verify that there is at least 120 MB free memory available.**

```
# free -m
             total       used       free     shared    buffers     cached
Mem:           498        104        393          0         12         47
-/+ buffers/cache:         45        453
Swap:            0          0          0
#
```

In the `Mem:` row of the `free` column, there should be at least 120 MB free memory. In this example, there are 393 MB available. If not enough memory is available, you must exit nonessential applications that are running.

6. **Start the Oracle ILOM shell.**

```
# spsh
Sun(TM) Integrated Lights Out Manager
Version ILOM 3.0 r47111
Copyright 2009 Sun Microsystems, Inc. All rights reserved.
Use is subject to license terms.
->
```

You are now in the Oracle ILOM shell.

You can use the `exit` command to return to the Linux shell.

7. **Begin the upgrade process:**

```
-> load -source URI/pkgname
```

where:

URI is the uniform resource indicator for the host where the switch firmware package is located. The FTP and HTTP protocols are supported.

pkgname is the name of the firmware package in the transfer directory.

For example, using the FTP protocol:

```
-> load -source
ftp://root:changeme@123.45.67.99//tmp/sundcs_36p_repository_1.3.5_1.pkg
Downloading firmware image. This will take a few minutes.
```

The firmware is downloaded. The upgrade begins. A warning is displayed, and you are asked to commit to the upgrade.

```
NOTE: Firmware upgrade will upgrade the SUN DCS 36p firmware.
      ILOM will enter a special mode to load new firmware. No other tasks
      should be performed in ILOM until the firmware upgrade is complete.

Are you sure you want to load the specified file (y/n)?
```

8. **Answer** `y` **to the prompt to commit to the upgrade.**

The upgrade begins.

```
Setting up environment for firmware upgrade. This will take approximately 2
minutes.
Starting SUN DCS 36p FW update

==========================
Performing operation: I4 A
==========================
I4 fw upgrade from 7.2.0(INI:1) to 7.2.300(INI:1):
Upgrade started...
Upgrade completed.
INFO: I4 fw upgrade from 7.2.0(INI:1) to 7.2.300(INI:1) succeeded

==========================
Summary of Firmware update
==========================
I4 status                :  FW UPDATE - SUCCESS
I4 update succeeded on   :  A
I4 already up-to-date on :  none
```

```
I4 update failed on      :  none

========================================
Performing operation: SUN DCS 36p firmware update
========================================
SUN DCS 36p fw upgrade from 1.1.3-2 to 1.3.5-1:
Upgrade started...
Upgrade completed.
INFO: SUN DCS 36p fw upgrade from 1.1.3-2 to 1.3.5-1 succeeded

Firmware update is complete.
->
```

9. **Exit the Oracle ILOM CLI shell.**

```
-> exit
exit
#
```

10. **Reboot the switch to enable the new firmware.**

    See *Switch Administration*, restarting the entire switch.

Note – The restart process takes between 4 to 5 minutes to complete. The Oracle ILOM stack requires at least 2 minutes to become operational after a reboot.

---

11. **If previously disabled, log in as the** `root` **user and enable the Subnet Manager.**

```
% ssh -l root nm2name
root@nm2name's password: password
# enablesm
Starting IB Subnet Manager.                                [  OK  ]
Starting partitiond daemon.                                [  OK  ]
#
```

12. **Verify the firmware version.**

```
# version
SUN DCS 36p version: 1.3.5-1
Build time: Sep  3 2013 12:47:04
SP board info:
Manufacturing Date: 2011.01.11
Serial Number: "NCD680146"
Hardware Revision: 0x0006
Firmware Revision: 0x0000
BIOS version: SUN0R100
BIOS date: 06/22/2010
#
```

In the first line of the output is `SUN DCS 36p version` *x.y.z-w*, where *x.y.z-w* is the version of the firmware upgraded (or downgraded). For example, 1.3.5-1.