

**Sun Datacenter InfiniBand Switch 36  
Product Notes for Firmware Version 2.2**

**ORACLE**

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## Using This Documentation

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- **Overview** – Provides last minute information about the switch
- **Audience** – Technicians, system administrators, and authorized service providers
- **Required knowledge** – Advanced experience administering network hardware

## Product Documentation Library

Documentation and resources for this product and related products are available at [http://docs.oracle.com/cd/E76424\\_01/](http://docs.oracle.com/cd/E76424_01/).

## Feedback

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





## Late-Breaking Information

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These product notes provide last-minute, late-breaking information regarding the switch. These notes pertain to the 2.2.14-1 firmware for the switch.

- [“Features and Functionality Documented” on page 9](#)
- [“Known Problems” on page 10](#)
- [“General Information and Issues” on page 10](#)
- [“Software Information and Issues” on page 11](#)
- [“Hardware Information and Issues” on page 14](#)
- [“Documentation Information and Issues” on page 15](#)

## Features and Functionality Documented

Overall, Firmware Version 2.2 is similar to Firmware Version 2.1. Because of this, the Sun Datacenter InfiniBand Switch 36 Firmware Version 2.2 Documentation Library contains mostly documentation for Firmware Version 2.1. However, Firmware Version 2.2 has additional functionality:

- Toolbox CLI utility
- New Oracle ILOM targets and properties
- New Oracle ILOM web interface layout
- Bug fixes, updated procedures, and so on

To support these new features, these documents were either created or updated for Firmware Version 2.2:

- [Sun Datacenter InfiniBand Switch 36 Documentation Supplement for Firmware Version 2.2](#) – Provides updates to installation, administration, Oracle ILOM, service, and command reference documents.
- [Sun Datacenter InfiniBand Switch 36 Product Notes for Firmware Version 2.2](#) – Provides last-minute, late-breaking information regarding the switch.

- [Licensing Information User Manual Sun Datacenter InfiniBand Switch 36 Firmware Version 2.2](#) – Provides licensing information.

When seeking information about Firmware Version 2.2, read these documents first.

## Known Problems

Bug	Description	Workaround
25371165	The IB firmware upgrade is not supported in the BUI.	When running firmware 2.2, the BUI in the firmware upgrade does not work. The BUI also does not work for upgrades and downgrades between 2.2 firmware versions or downgrades to the 2.1 firmware. However, the BUI in the firmware upgrade from 2.1 to 2.2 works.  <b>Workaround:</b> Use the ILOM CLI upgrade and downgrade tool as a workaround.
24665004	The default location for the toolbox config files (cli and fabric conf) are not correct.	The default location for the toolbox config files are not in the config directory, so if using this default location, future firmware updates will overwrite the configuration and the user will need to re-enter the configuration.  <b>Workaround:</b> Do not use the default location for the toolbox config files, instead specify the location that will be used for future firmware versions, which is /config/conf/. using the toolbox CLI.
18129290	smpartition command fails from firmware version 2.0 switch with firmware version 2.1 or 2.2 peer.	In a mixed firmware fabric where the master Subnet Manager is on a switch with firmware version 2.0 and other gateways or switches in the fabric are firmware version 2.1 or 2.2, issuing the smpartition commit command fails.  <b>Workaround:</b> When you use the smpartition commands to partition the mixed firmware fabric, issue the commands from a master Subnet Manager on a switch or gateway with firmware version 2.1 or 2.2.
15703751	No way to set Fabric Monitor console timeout.	The Fabric Monitor will timeout after 15 minutes of idle time.  <b>Workaround:</b> You must log in to the web interface and start the Fabric Monitor again.

## General Information and Issues

### Snapshot Dataset Information

The normal, fruid, and full datasets of the snapshot utility are currently equivalent and contain the same data in the snapshot.

## Software Information and Issues

### Partition Configuration Consistency Checking

As of firmware 2.2.13, the consistency checking of the partition configuration for the switch with the Subnet Manager enabled has been improved. The contents of the current local partition configuration file is checked when a Subnet Manager becomes master, and during run-time whenever the contents is read due to that the master Subnet Manager needs to re-configure the IB subnet. If an inconsistency is detected during run-time, the Subnet Manager will restart. If an inconsistency is detected following the local Subnet Manager becoming master, then the Subnet Manager will refuse to configure the subnet until a new configuration version that passes the consistency check has been established. (typically by performing a new "smpartition commit" operation.) Note that there is no locally stored checksum for the partition configuration, hence the above checks do not include any checksum verification.

Any discovered inconsistencies are recorded in the `syslog` file, and an SNMP trap is generated (assuming an SNMP alert target has been defined in the switch ILOM).

In addition to the local consistency checks, there is also an automated periodic check that all switches defined in the `smnodes` list (normally all switches with enabled Subnet Manager) have a valid partition configuration and also that the checksum for the partition configuration is the same on each switch. The check is performed from the switch that at any point in time is hosting the master Subnet Manager and verifies that the checksum computed for the current partition configuration on the master is the same as the corresponding checksum computed for the local partition configuration on each switch with standby Subnet Manager. As with the local consistency checks, any detected problem is reported in the `syslog` file and generates an SNMP trap. (assuming an SNMP alert target has been defined in the switch ILOM.)

Consistent partition configuration for all `smnodes` can also be checked manually by invoking the `smpartition check` CLI command from the switch currently representing the master Subnet Manager. It is strongly recommended to run `smpartition check` commands after a new partition configuration has been committed (through the `smpartition commit` CLI commands). Also ensure that any detected inconsistencies during run-time are corrected immediately.

### Infiniband Switch Power Supplies With Part Number 7351491 Require Firmware 2.2.9-3 or Later

Due to a newer FRU format, IB switches produced after March 2018 with power supplies with part number 7351491 must use firmware version 2.2.9 or later.

## IPMI 2.0 is Reenabled After Upgrading From Firmware 2.1 to 2.2

When upgrading from firmware 2.1.x to 2.2.2-2.2.7, IPMI 2.0 is reenabled and must be disabled again.

IPMI is enabled and disabled in the switch's Oracle ILOM CLI or Web interface. The instructions are provided in the *Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Datacenter InfiniBand Switch 36 Firmware Version 2.1* guide, available at [https://docs.oracle.com/cd/E76424\\_01/pdf/E36270.pdf](https://docs.oracle.com/cd/E76424_01/pdf/E36270.pdf):

## New ip Command

Starting with firmware version 2.2.6, the `ip` command displays device attributes in the CLI.

### Syntax

```
ip link show up device [eth0] [lo] [dummy0] [ib0]
```

where:

- *device* is the network device. Valid values include `eth0`, `lo`, `dummy0`, and `ib0`.

This command has a subcommand. This table describes the subcommand and provides the syntax.

Subcommand	Description
up	Displays interfaces that are running.

## New ifconfig Command

Starting with firmware version 2.2.6, the `ifconfig` command shows information for an IP interface in the CLI.

### Syntax

```
ifconfig [-a | interface]
```

where:

- *interface* is the name of the IP interface. Valid values include `eth0`, `lo`, `dummy0`, and `ib0`.

## Options

Option	Description
-a	Displays the status of all interfaces, even those that are down.

## Management Ethernet Port Numbers Used in Firmware Version 2.2

The following Ethernet port numbers are used by Daemons in Firmware version 2.2 and should be open across the Ethernet Management Network:

- Port Number 1150
- Port Number 1151
- Port Number 1152

These numbers are used for internal communication and management communication between Infiniband Switches in the Infiniband Subnet.

## Inactive FIPS Target

Though the 2.2.14-1 firmware has an Oracle ILOM target of `/SP/services/fips`, this target is inactive.

## Main Board, Management Controller, and Chassis Serial Numbers

The switch documentation describes how to retrieve the chassis serial number using the `showfruinfo` command or the `/SYS/MB` Oracle ILOM target. These methods actually display the serial number of the main board and the management controller respectively, and not the switch chassis. The switch chassis serial number is provided on the pull-out tab on the left side front of the switch chassis, adjacent to power supply 0.

## High Availability in Partitions

To allow communication fail-over between HCAs belonging to the same operating system instance, the HCA ports must be members of the same partition and have identical membership type (full or limited).

Having both full and limited port memberships within a partition for the same operating system instance creates a configuration instability that might cause subtle communication problems.

## Email Alert Rules

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

## Hardware Information and Issues

### ▼ Reset 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 this 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, refer to the [Sun Datacenter InfiniBand Switch 36 Administration Guide for Firmware Version 2.1](#) for information on troubleshooting the switch and the power supply.

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## Documentation Information and Issues

### Correct Description of the `create_ipoib` Command

In the *Sun Datacenter InfiniBand Switch 36 Command Reference for Firmware Version 2.1*, the `p_key` parameter is incorrectly described as the partition key with valid values of 1 to 7fff or default. The correct description is that the `p_key` parameter is the 15-bits partition key plus the membership bit as the most significant bit, and when combined, makes a 16 bit parameter with a valid value of 1 to ffff or default.

### Correct Description of the `smsubnetprotection` Command

In the *Sun Datacenter InfiniBand Switch 36 Command Reference for Firmware Version 2.1*, the `tid` (transactionID) is listed as an option for the `setreplicationpassword` command. This is not correct. `tid` is not a valid option for that command.

### `autodisable` Command

The information in this section replaces sections in the [Sun Datacenter InfiniBand Switch 36 Administration Guide for Firmware Version 2.1](#) and the [Sun Datacenter InfiniBand Switch 36 Command Reference for Firmware Version 2.1](#).

Each connector has an autodisable mode for each supported cause that is either on or off. If the mode is on for a specific connector and cause then an automatic disable action will persistently set the associated link state to disabled whenever the situation defined by cause occurs.

Setting the autodisable mode to off will prevent any subsequent autodisable operations for the relevant connector and cause, but will not impact the current link state.

### Syntax

Subcommand Syntax	Descriptions
<code>autodisable add connector cause</code>	Turn auto-disabled mode on for the specified connector and cause.

Subcommand Syntax	Descriptions
autodisable all	Turn auto-disable mode on for all connectors, all causes.
autodisable del <i>connector cause</i>	Turn auto-disabled mode off for the specified connector and cause.
autodisable list	List connectors which have auto-disable mode turned on along with the specified cause.
autodisable none	Turn auto-disable mode off for all connectors, all causes.

where:

- *Connector* is the name of the connector (0A to 17A and 0B to 17B).
- *Cause* is the reason to disable the connector:
  - H – The error rate is higher than what the InfiniBand specification permits.
  - L – The link speed or width is less than optimal (Less than 4x QDR as long as the remote port supports 4x QDR ).

## Description

This hardware command creates an internal list of connectors that are to be automatically disabled, should the links through the connectors exhibit sub-standard performance. The autodisable list has two parts; one for connectors that experience high error rates on their links, the other for connectors that experience suboptimal link speed and width. A connector can be assigned to both parts of the list.

The H cause is configured for a high error rate such as the following:

- Symbol error count higher than allowed by the IB specification on the switch connector.
- Symbol error count higher than allowed by the IB specification on the remote HCA port (from firmware version 2.2.4).

## Upgrade and Downgrade Paths Supported

This table identifies supported firmware version upgrade and downgrade paths.

From	To			
	2.1.2 - 2.1.6	2.1.7 - 2.1.9	2.2.2 - 2.2.7	2.2.9 and later
2.1.2 - 2.1.6	Upgrade or Downgrade	Upgrade	Upgrade	



From	To			
	2.1.2 - 2.1.6	2.1.7 - 2.1.9	2.2.2 - 2.2.7	2.2.9 and later
2.1.7 - 2.1.9	Must downgrade to 2.1.6 first, and management controller must support.	Upgrade or Downgrade	Upgrade	
2.2.2 - 2.2.7	Must downgrade to 2.1.6 first, and management controller must support.	Must downgrade to 2.1.8 first.	Upgrade or Downgrade	Must first upgrade to 2.2.7-2 using the 2.2.7_2.pkg file. Then downgrade to required firmware version.
2.2.9 and later			Must first downgrade to 2.2.7-2 using the 2.2.7_2_signed.pkg file. Then downgrade to required firmware version.	Upgrade and Downgrade

For example, downgrading from firmware version 2.2.7 to 2.1.6 is supported, if the switch is configured with an older management controller. However, downgrading directly from firmware version 2.2.7 to 2.1.2 is not supported. If the switch is configured with an older management controller, you must first downgrade from firmware version 2.2.7 to 2.1.6 using the downgrade version of firmware 2.1.6. Then you can downgrade from 2.1.6 to 2.1.2.

See “[Firmware Update Guidelines](#)” on page 17 about upgrading and downgrading firmware.

## Firmware Update Guidelines

- Now that version 2.2.9 and newer firmware is signed firmware (all earlier versions are unsigned), all upgrades and downgrades are performed using the 2.2.7-2 pkg files that are available from My Oracle Support (<https://support.oracle.com>) patch ID 26575824.
- You can downgrade from firmware 2.2.7 to 2.1.8 or 2.1.7. You downgrade to firmware 2.1.8 using a special downgrade version of firmware 2.1.8. After this is done, you can then downgrade from firmware 2.1.8 to 2.1.6. The special downgrade version of the 2.1.8 firmware is part of patch 22173626 available at My Oracle Support. Ensure that you read the README file included in the patch.
- You can downgrade from firmware 2.2.7 to 2.1.6 if your management controller is of the older type. See “[Determine Management Controller Type](#)” on page 18. You downgrade to firmware 2.1.6 using a special downgrade version of firmware 2.1.6. After this is done, you can then downgrade from firmware 2.1.7 to any supported firmware. See “[Upgrade and Downgrade Paths Supported](#)” on page 16. The special downgrade version of the 2.1.7 firmware is part of patch 20380281 available at My Oracle Support. Ensure that you read the README file included in the patch.

- Newer management controllers cannot be downgraded to 2.1.7 or lower. To determine if your management controller is the newer type, see [“Determine Management Controller Type” on page 18](#).
- When upgrading or downgrading between 2.1.x and 2.2.2-2.2.7, the initial firmware upgrade or downgrade might display an error at the beginning and then exit. This is normal. An installer in the firmware has set or reset prerequisite values. Repeat the upgrade or downgrade.
- For greater security, ensure that all Sun Network QDR InfiniBand Gateway Switches and Sun Datacenter InfiniBand Switch 36 switches are upgraded to the latest firmware version. A miss-match of firmware versions reduces or negates secret M\_Key functionality, and compromises fabric security.  
  
For example, in a mixed 2.2.7 and 2.1.5 fabric, where SMs are running on both 2.2.7 and 2.1.5 switches, you must use the `-override-inconsistent-partition-configurations` option with the `smsubnetprotection` command. To do this is insecure.

## ▼ Determine Management Controller Type

1. **From the Oracle ILOM CLI, display the management controller part number.**

```
-> show /SYS/MB fru_part_number
/SYS/MB
  Properties:
    fru_part_number = 5111232
->
```

2. **In the output, record the 7-digit number of the `fru_part_number` property.**

For example, 5111232.

- If the part number is greater than 7057247, the management controller is the newer type, and you cannot downgrade to 2.1.6 or lower.
- If the part number is less than or equal to 7057247, the management controller is the older type, and you can downgrade to 2.1.6 or lower.

For this example, the part number is less than 7057247, and it is possible to downgrade to firmware 2.1.6 or lower.

## ▼ Replace a Switch

This procedure briefly outlines the steps to replace a switch within an InfiniBand fabric. Refer to the [Sun Datacenter InfiniBand Switch 36 Service Manual for Firmware Version 2.1](#), the

[Sun Datacenter InfiniBand Switch 36 Administration Guide for Firmware Version 2.1](#), and the [Sun Datacenter InfiniBand Switch 36 Installation Guide for Firmware Version 2.1](#) for more information. This procedure assumes that a secret M\_Key policy is in use and the fabric is partitioned.

1. **Set the priority of the switch to be removed to the lowest.**  
Wait for any handover to complete.
2. **Create a backup of the switch configuration for the switch to be removed.**
3. **Completely power off the switch.**
4. **Remove the switch from the fabric and management network.**
5. **Install and power on the replacement switch, but do not connect it to the fabric or the fabric's management network.**
6. **Configure the replacement switch with the same host name, IP address, as the switch removed.**
7. **Restore the switch configuration previously backed up.**
8. **Readout and store the SM priority from the restored switch configuration using `setsmpriority list` and then set the SM priority to the lowest in the Infiniband Subnet.**
9. **Completely power off the replacement switch.**
10. **Connect the replacement switch to the fabric's management network and the fabric.**
11. **Power on the replacement switch.**  
Wait for any negotiation and propagation to complete.
12. **Setup the `smnodes` list and fabric configuration file for the replacement switch, and ensure that the list and file are consistent with other switch and gateway lists and files.**
13. **Perform a `smpartition start` and `smpartition commit` from the master Subnet Manager.**  
Wait for the partition configuration to propagate to the replacement switch.

14. **Perform a `smsubnetprotection start` and `smsubnetprotection commit` from the master Subnet Manager.**

Wait for the secret M\_Key policy to propagate to the replacement switch.

15. **Set the priority of the replacement switch to that originally of the removed switch.**

Wait for any handover to complete.

## Multiple Subnet Managers in a Single Fabric

When a fabric has multiple Subnet Managers, you must configure some parameters uniquely and some identically.

- **Subnet Manager Priority** – Subnet Managers can have different Priority values. The overall priority is determined from both the switch's GUID and the Priority value. Configure the Subnet Managers with the highest Priority value first, then configure any remaining Subnet Managers.
- **Subnet Manager Prefix** – All Subnet Manager must use the same prefix. Configure the standby Subnet Managers first, then configure the master Subnet Manager.
- **Subnet Manager Controlled Handover** – All Subnet Manager must use the same configuration for controlled handover. Configure the standby Subnet Managers first, then configure the master Subnet Manager.
- **Subnet Manager Routing Algorithm** – All Subnet Manager must use the same routing algorithm. Configure the standby Subnet Managers first, then configure the master Subnet Manager.

## Upgrading the Switch Firmware

In the [Oracle Integrated Lights Out Manager \(ILOM\) 3.0 Supplement for the Sun Network QDR InfiniBand Gateway Switch Firmware Version 2.1](#), firmware version numbers are provided as *x.y*, *x.y.z*, and *x.y.z-w*. Currently, these numbers are 2.2, 2.2.14, and 2.2.14-1 respectively. The following two procedures describe how to acquire and upgrade the firmware through the ILOM CLI.

### ▼ 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.

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

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**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, 2.2.14.

**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, click 30303688. 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, p30303688\_2214\_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\_2.2.14-1/SUN\_DCS\_36p/sundcs\_36p\_repository\_2.2.14\_1.pkg file.

The readme\_SUN\_DCS\_36p\_2.2.14-1.txt file contains the latest information about the firmware release.

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

**18. Upgrade the switch firmware.**

See [“Upgrade the Switch Firmware \(CLI\)” on page 22.](#)

▼ **Upgrade the Switch Firmware (CLI)**

---

**Note** - Before upgrading or downgrading the switch firmware, read [“Firmware Update Guidelines” on page 17.](#)

---

**1. Open an SSH session as user `ilom-admin` and connect to the management controller by specifying the controller's host name.**

For example:

```
% ssh -l ilom-admin switch_name
ilom-admin@switch_name's password: password
->
```

where `switch_name` is the host name of the management controller. Initially, the `password` is `ilom-admin`.

**2. (Optional) If the Subnet Manager is running on the management controller, disable the Subnet Manager.**

```
-> start /SYS/Fabric_Mgmt
Are you sure you want to start /SYS/Fabric_Mgmt (y/n)? y
```

NOTE: `start /SYS/Fabric_Mgmt` will launch a restricted Linux shell.

User can execute switch diagnosis, SM Configuration and IB monitoring commands in the shell. To view the list of commands, use "help" at rsh prompt.

Use exit command at rsh prompt to revert back to ILOM shell.

```
FabMan@switch_name->disablesm
Stopping partitiond-daemon.                [ OK ]
Stopping IB Subnet Manager..                [ OK ]
FabMan@switch_name->exit
exit
->
```

### 3. 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, TFTP, and HTTP protocols are supported when upgrading from firmware 2.1. If upgrading from firmware 2.2, SFTP and SCP are also supported.
- *pkgname* is the name of the firmware package in the transfer directory.

For example, using the HTTP protocol:

```
-> load -source http://123.45.67.89/tmp/sundcs_36p_repository_2.2.14_1.pkg
Downloading firmware image. This will take a few minutes.
```

The firmware is downloaded. The upgrade begins. If you did not disable the Subnet Manager, a warning is displayed. 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.
```

```
WARNING: Subnet manager is running on the switch. Proceeding with
installation will stop it.
```

### 4. Answer y to the prompt to commit to the upgrade.

The upgrade begins.

```
Are you sure you want to load the specified file (y/n)? y
Setting up environment for firmware upgrade. This will take a few minutes.
```

Subnet manager has been temporarily disabled on this switch so that

firmware upgrade can go on. After the upgrade is done, please make sure that the SM is running again, using commands `sminfo` and `enablesm`.

Starting SUN DCS 36p FW update

```
=====
Performing operation: I4 A
=====
I4 A: I4 is already at the given version.
```

```
=====
Performing operation: SUN DCS 36p firmware update
=====
SUN DCS 36p Kontron module fw upgrade from 2.2.9-3 to 2.2.14-1:
Please reboot the system to enable firmware update of Kontron module. The
download of the Kontron firmware image happens during reboot.
```

After system reboot, Kontron FW update progress can be monitored in browser using URL [`http://system`] OR at OS command line prompt by using command [`telnet system 1234`] where `system` is the hostname or IP address of SUN DCS 36P or GW.

Firmware update is complete.

## 5. Restart the switch to enable the new firmware.

```
-> reset /SP
Are you sure you want to reset /SP (y/n)? y
Performing reset on /SP
Broadcast message from root@switch_name
      (unknown) at 9:36 ...
The system is going down for reboot NOW!
-> Connection to switch_name closed by remote host.
Connection to switch_name closed.
-bash-3.2$
```



---

**Caution** - Do not power cycle or reset the switch prior to completion of the reset process, as that will interrupt the firmware installation.

---

---

**Note** - The reset process takes about 4 to 5 minutes. However, it can take longer if management network or the server hosting the firmware has limited resources.

---

You can monitor the update progress through:

- **web browser** – `http://switch_name`
- **CLI** – `telnet switch_name 1234`



where *switch\_name* is the host name or IP address of the management controller.

---

**Note** - The Oracle ILOM stack requires at least 2 minutes to become operational after a reboot.

---

The next time you log in to the switch, this message is displayed:

```
FW upgrade completed successfully on Wed Aug 14 16:06:14 CET 2019.
Please run the "fwverify" CLI command to verify the new image.
This message will be cleared on next reboot.
```

## 6. Access the restricted Linux shell, and verify the firmware version.

```
% ssh -l ilom-admin switch_name
ilom-admin@switch_name's password: password
-> start /SYS/Fabric_Mgmt
Are you sure you want to start /SYS/Fabric_Mgmt (y/n)? y
```

NOTE: start /SYS/Fabric\_Mgmt will launch a restricted Linux shell.  
User can execute switch diagnosis, SM Configuration and IB monitoring commands in the shell. To view the list of commands, use "help" at rsh prompt.

Use exit command at rsh prompt to revert back to ILOM shell.

```
FabMan@switch_name->version
SUN DCS 36p version: 2.2.14-1
Build time: Aug 14 2019 08:48:04
SP board info:
Manufacturing Date: 2013.08.13
Serial Number: "NCDBW0097"
Hardware Revision: 0x0007
Firmware Revision: 0x0000
BIOS version: SUN0R100
BIOS date: 06/22/2010
FabMan@switch_name->
```

In the first line of the output for the version command 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, 2.2.14-1.

## 7. If you disabled the Subnet Manager in [Step 2](#), enable it now.

```
FabMan@switch_name-> enablesm
Starting IB Subnet Manager.           [ OK ]
Starting partitiond-daemon.          [ OK ]
FabMan@switch_name->
```

**8. Verify the firmware integrity.**

```
FabMan@switch_name->fwverify -s
```

```
Checking all present packages:
```

```
.....  
.....  
..... OK
```

```
Checking if any packages are missing:
```

```
.....  
.....  
..... OK
```

```
Checking FW Coreswitch:
```

```
FW Version: 7.4.3002 OK
```

```
PSID: SUN_NM2-36p_006 OK
```

```
Verifying image integrity OK
```

```
FabMan@switch_name->
```