

Sun Datacenter InfiniBand Switch 36

Command Reference for Firmware Version 2.0



Part No.: E26433-01
November 2011, Revision A

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Using This Documentation

This command reference provides information about the commands used to administer the Sun Datacenter InfiniBand Switch 36 from Oracle. This document is written for technicians, system administrators, and users who have advanced experience administering InfiniBand fabric hardware.

- “Product Notes” on page xv
- “Related Documentation” on page xvi
- “Feedback” on page xvi
- “Support and Accessibility” on page xvi

Product Notes

For late-breaking information and known issues about this product, refer to the product notes at:

<http://www.oracle.com/pls/topic/lookup?ctx=E26698-01>

Related Documentation

Documentation	Links
All Oracle products	http://www.oracle.com/documentation
Sun Datacenter InfiniBand Switch 36	http://www.oracle.com/pls/topic/lookup?ctx=E26698-01
Oracle Integrated Lights Out Manager (ILOM) 3.0	http://www.oracle.com/pls/topic/lookup?ctx=E19860-01

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Support and Accessibility

Description	Links
Access electronic support through My Oracle Support	http://support.oracle.com
	For hearing impaired: http://www.oracle.com/accessibility/support.html
Learn about Oracle's commitment to accessibility	http://www.oracle.com/us/corporate/accessibility/index.html

Understanding Hardware Commands

The hardware commands act upon or monitor the switch hardware. They are available through the Oracle ILOM CLI interface with the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` targets. See [“Linux Shells for Hardware Commands”](#) on page 3.

With the standard Linux shell CLI interface, only the `root` user of the management controller can run *all* of the hardware commands. The format of the hardware commands is as follows:

```
# command [arguments] [arguments] . . .
```

Command Syntax	Links
<code>checkboot</code>	“checkboot Command” on page 5
<code>checkpower</code>	“checkpower Command” on page 6
<code>checktopomax [-h] [-l] [-v]</code>	“checktopomax Command” on page 7
<code>checkvoltages</code>	“checkvoltages Command” on page 8
<code>connector <i>name</i> present portstate info dump [-h]</code>	“connector Command” on page 9
<code>dcsport [-guid <i>guid</i> -type DCS-36p -ibdev <i>ibdev</i>] -port <i>port</i> -connector <i>connector</i> -printconnectors</code>	“dcsport Command” on page 11
<code>disablecablelog</code>	“disablecablelog Command” on page 12
<code>disablelinklog</code>	“disablelinklog Command” on page 13
<code>disableesm</code>	“disableesm Command” on page 14
<code>disableswitchport [--reason=<i>reason</i>] <i>connector</i> <i>ibdev</i> <i>port</i></code>	“disableswitchport Command” on page 15
<code>enablecablelog</code>	“enablecablelog Command” on page 17
<code>enablelinklog</code>	“enablelinklog Command” on page 17
<code>enableesm</code>	“enableesm Command” on page 18
<code>enableswitchport [--reason=<i>reason</i>] <i>connector</i> <i>ibdev</i> <i>port</i></code>	“enableswitchport Command” on page 19

Command Syntax	Links
<code>env_test</code>	“env_test Command” on page 20
<code>exit</code>	“exit Command (Hardware)” on page 22
<code>fdconfig sub-command [-h]</code>	“fdconfig Command” on page 23
<code>fwverify</code>	“fwverify Command” on page 26
<code>generatetopology toplevel [-h]</code>	“generatetopology Command” on page 28
<code>getfanspeed</code>	“getfanspeed Command” on page 30
<code>getmaster [-l]</code>	“getmaster Command” on page 31
<code>getportstatus connector Switch port</code>	“getportstatus Command” on page 32
<code>help command class</code>	“help Command (Hardware)” on page 33
<code>listlinkup</code>	“listlinkup Command” on page 34
<code>matchtopology [-s systemname] toplevel [-h]</code>	“matchtopology Command” on page 35
<code>setcontrolledhandover state list</code>	“setcontrolledhandover Command” on page 37
<code>setmsmlocationmonitor state list [-h]</code>	“setmsmlocationmonitor Command” on page 39
<code>setsmkey m_key none list</code>	“setsmkey Command” on page 40
<code>setsmpriority priority list</code>	“setsmpriority Command” on page 41
<code>setsubnetprefix prefix list</code>	“setsubnetprefix Command” on page 43
<code>showfruinfo</code>	“showfruinfo Command” on page 44
<code>showpsufu slot</code>	“showpsufu Command” on page 45
<code>showsmlog [-h]</code>	“showsmlog Command” on page 47
<code>showtemps</code>	“showtemps Command” on page 48
<code>showtopology [-h]</code>	“showtopology Command” on page 49
<code>showunhealthy</code>	“showunhealthy Command” on page 52
<code>smconfigtest [-l][-h]</code>	“smconfigtest Command” on page 53
<code>smnodes add IP_address [IP_address ...] delete IP_address [IP_address ...] list</code>	“smnodes Command” on page 54
<code>smpartition sub-command [-h]</code>	“smpartition Command” on page 55
<code>version</code>	“version Command (Hardware)” on page 59

Related Information

- [“Understanding InfiniBand Commands” on page 61](#)
- [“Understanding SNMP MIB OIDs” on page 99](#)

Linux Shells for Hardware Commands

The preferred method of accessing the Linux shell is through the `/SYS/Switch_Diag`, and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Using the `show` command on the `/SYS/Switch_Diag` target opens a restricted Linux shell that enables the `ilom-admin` user, `ilom-operator` user, and users with similar permissions to run diagnostic commands.

Using the `show` command on the `/SYS/Fabric_Mgmt` target opens an other restricted Linux shell that enables the `ilom-admin` user and users with similar permissions to run diagnostic, switch, and fabric management commands.

Note – The `ilom-operator` user cannot access the Linux shell from the `/SYS/Fabric_Mgmt` target.

This table lists the hardware commands and their availability from the respective Linux shell targets. Typing the `help all` command from within the restricted shells lists the commands available to that shell.

Note – Hardware commands that are not listed are unavailable from the `/SYS/Switch_Diag` or `/SYS/Fabric_Mgmt` targets.

Command	<code>/SYS/Switch_Diag</code>	<code>/SYS/Fabric_Mgmt</code>
<code>checkboot</code>	Available	Available
<code>checkpower</code>	Available	Available
<code>checktopomax</code>		Available
<code>checkvoltages</code>	Available	Available
<code>connector</code>	Available	Available
<code>dcSPORT</code>	Available	Available
<code>disablecablelog</code>		Available
<code>disablelinklog</code>		Available
<code>disablesm</code>		Available
<code>disableswitchport</code>		Available
<code>enablecablelog</code>		Available

Command	/SYS/Switch_Diag	/SYS/Fabric_Mgmt
enablelinklog		Available
enablesm		Available
enableswitchport		Available
env_test	Available	Available
exit	Available	Available
fdconfig		Available
fwverify	Available	Available
generatetopology		Available
getfanspeed	Available	Available
getmaster	Available	Available
getportstatus	Available	Available
help	Available	Available
listlinkup	Available	Available
matchtopology		Available
setcontrolledhandover		Available
setmsmlocationmonitor		Available
setsmmkey		Available
setsmpriority		Available
setsubnetprefix		Available
showfruinfo	Available	Available
showpsufu	Available	Available
showsmlog	Available	Available
showtemps	Available	Available
showtopology	Available	Available
showunhealthy	Available	Available
smconfigtest		Available
smnodes		Available
smpartition		Available
version	Available	Available

Related Information

- [“Linux Shells for InfiniBand Commands” on page 62](#)

checkboot Command

Displays switch chip boot status.

Syntax

`checkboot`

Description

This hardware command checks the boot status of the switch chip. Output is a simplified OK for each.

The `checkboot` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to check the boot status of the switch chip with the `checkboot` command.

```
# checkboot
Switch OK
#
```

Related Information

- [“env_test Command” on page 20](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

checkpower Command

Displays power supply status.

Syntax

```
checkpower
```

Description

This hardware command checks the status of the power supplies. Output is a simplified OK.

The `checkpower` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to check the power supply status with the `checkpower` command.

```
# checkpower
PSU 0 present OK
PSU 1 present OK
All PSUs OK
#
```

Related Information

- [“checkvoltages Command” on page 8](#)
- [“env_test Command” on page 20](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

checktopomax Command

Displays size of topology.

Syntax

```
checktopomax [-h] [-l] [-v]
```

Description

This hardware command is a script that verifies if the number of switches and HCAs found in the InfiniBand fabric is less than the maximum values of 48 switch chips and 1500 CAs.

The `checktopomax` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Options

This table describes the options to the `checktopomax` command and their purposes.

Option	Purpose
-h	Provides help.
-l	Disables writing output to syslog.
-v	Verbose mode.

Example

This example shows how to verify the number of switches and HCAs within your InfiniBand fabric with the `checktopomax` command.

Note – The output for your InfiniBand fabric will differ from that in the example.

```
# checktopomax -v
checktopomax: INFO: You have allowed max number of Switch elements to be 48
checktopomax: INFO: You have allowed max number of CA      elements to be 1500
checktopomax: INFO: Number of Switch elements empiric found by application
/usr/sbin/ibnodes: 2
checktopomax: INFO: Number of Ca      elements empiric found by application
/usr/sbin/ibnodes: 7
#
```

Related Information

- [“ibnodes Command” on page 75](#)
- [“ibhosts Command” on page 68](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

checkvoltages Command

Verifies voltages.

Syntax

checkvoltages

Description

This hardware command displays the internal voltages for the main board. On the left side of the equals sign is the expected voltage. On the right side of the equals sign is the measured voltage. If the difference between the expected voltage and the measured voltage is more than 10%, the cause should be investigated. The command also provides a summary of the voltage conditions.

The checkvoltages command is available from the /SYS/Switch_Diag and /SYS/Fabric_Mgmt Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to check that voltages are at nominal values with the `checkvoltages` command.

```
# checkvoltages
Voltage ECB OK
Measured 3.3V Main = 3.27 V
Measured 3.3V Standby = 3.35 V
Measured 12V = 11.97 V
Measured 5V = 5.02 V
Measured VBAT = 3.24 V
Measured 2.5V = 2.52 V
Measured 1.8V = 1.78 V
Measured I4 1.2V = 1.22 V
All voltages OK
#
```

Related Information

- [“checkpower Command” on page 6](#)
- [“env_test Command” on page 20](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

connector Command

Reads QSFP cable information.

Syntax

```
connector name present|portstate|info|dump [-h]
```

where *name* is the name of the connector (0A – 17A or 0B – 17B).

Description

This hardware command performs a pass-fail test to verify that an InfiniBand cable is connected to a particular connector and to the switch chip port that the link routes. The command can also read the data registers of the cable and report FRU ID information.

The `connector` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Options

This table describes the options to the `connector` command and their purposes.

Option	Purpose
<code>present</code>	Checks for the presence of connector <i>number</i> .
<code>portstate</code>	Returns a mapping of the connector to the respective port of the switch chip.
<code>info</code>	Displays FRU ID information.
<code>dump</code>	Displays a raw hexadecimal dump of the FRU ID information.
<code>-h</code>	Provides help.

Example

This example shows how to display the FRU ID information for connector 1A with the `connector` command.

```
# connector 1A info
Cable connector 1A present
Identifier: QSFP
Connector type: Copper pigtail
Vendor: Amphenol
Vendor OUI: 415048
Partnumber: 568400005
Revision: C
Serialnumber: APF08510050019
Date: 081219
#
```

Related Information

- [“env_test Command” on page 20](#)
- [“listlinkup Command” on page 34](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

dcsport Command

Maps between switch chip ports and QSFP connectors.

Syntax

```
dcsport [-guid guid|-type DCS-36p -ibdev ibdev] -port  
port|-connector connector|-printconnectors
```

where:

- *guid* is the global unique identifier.
- *ibdev* is the InfiniBand device name (Switch)
- *port* is the number of the port (1–36).
- *connector* is the name of the connector (0A – 17A or 0B – 17B).

Description

This hardware command displays the mapping between I4 switch chip ports and QSFP connectors. You can specify either a *port* or a *connector*.

The `dcsport` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Options

This table describes the options to the `dcsport` command and their purposes.

Option	Purpose
-guid	Identifies the GUID of the IB device for mapping.
-ibdev	Identifies the name of the IB device for mapping.
-port	Identifies the <i>port</i> to provide the connector mapping.
-connector	Identifies the <i>connector</i> to provide the port mapping.
-printconnectors	Displays mapping for all connectors.

Note – If no *guid* or *ibdev* are specified, the command defaults to the local I4 switch chip.

Example

This example shows how to display the mapping for port 7 with the `dcSPORT` command.

```
# dcSPORT -port 7
DCS-36P Switch port 7 maps to connector 14A
#
```

Related Information

- [“enableSM Command” on page 18](#)
- [“setSPriority Command” on page 41](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

disablecablelog Command

Disables logging of cable events.

Syntax

`disablecablelog`

Description

This hardware command disables logging of cable events to the Syslog.

The `disablecablelog` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to disable logging of cable events to the Syslog with the `disablecablelog` command.

```
# disablecablelog
Stopping Environment daemon.           [ OK ]
Starting Environment daemon.           [ OK ]
#
```

Related Information

- [“enablecablelog Command” on page 17](#)
- [“disablelinklog Command” on page 13](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

disablelinklog Command

Disables logging of link events.

Syntax

`disablelinklog`

Description

This hardware command disables logging of link events to the Syslog.

The `disablelinklog` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to disable logging of link events to the Syslog with the `disablecablelog` command.

```
# disablelinklog
Stopping Environment daemon.          [ OK ]
Starting Environment daemon.          [ OK ]
#
```

Related Information

- [“enablelinklog Command” on page 17](#)
- [“disablecablelog Command” on page 12](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

disablesm Command

Disables the Subnet Manager within the management controller.

Syntax

```
disablesm
```

Description

This hardware command disables the Subnet Manager within the management controller of the switch. You use this command in the event that a Subnet Manager external to the switch is preferred.

The `disablesm` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to disable the Subnet Manager with the `disablesm` command.

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

Related Information

- [“enablesm Command” on page 18](#)
- [“setsmpriority Command” on page 41](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

disableswitchport Command

Disables a connector or switch chip port.

Syntax

```
disableswitchport [--reason=reason] connector|ibdev port
```

where:

- *reason* is the reason for disabling the port, `Blacklist` or `Partition`.
- *connector* is the number of the QSFP connector (0A–17B).
- *ibdev* is the InfiniBand device name (`Switch`)
- *port* is the number of the port (1–36).

Description

This hardware command disables a QSFP connector and port on the switch chip. The command addresses either the connector or the port on the switch chip.

The `--reason` option enables you to use a passphrase to lock the state of the port:

- **Blacklist** – A connector and port pair are identified as being inaccessible because of unreliable operation.
- **Partition** – A connector and port pair are identified as being isolated from the InfiniBand fabric.

Both the **Blacklist** and **Partition** passphrases survive reboot. You unlock these passphrases using the `enableswitchport` command with the `--reason` option.

The `disableswitchport` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to disable and blacklist connector 14A with the `disableswitchport` command.

```
# disableswitchport --reason=Blacklist 14A
Disable connector 14A Switch port 7 reason: Blacklist
MKEY 8 0000000000000000
Adminstate:.....Disabled
LinkWidthEnabled:.....1X or 4X
LinkWidthSupported:.....1X or 4X
LinkWidthActive:.....4X
LinkSpeedSupported:.....2.5 Gbps or 5.0 Gbps or 10.0 Gbps
LinkState:.....Down
PhysLinkState:.....Disabled
LinkSpeedActive:.....2.5 Gbps
LinkSpeedEnabled:.....2.5 Gbps or 5.0 Gbps or 10.0 Gbps
#
```

Related Information

- [“enableswitchport Command” on page 19](#)
- [“ibportstate Command” on page 77](#)
- [“getportstatus Command” on page 32](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

enablecablelog Command

Enables logging of cable events.

Syntax

```
enablecablelog
```

Description

This hardware command enables logging of cable events to the Syslog.

The `enablecablelog` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to enable logging of cable events to the Syslog with the `enablecablelog` command.

```
# enablecablelog
Stopping Environment daemon.          [ OK ]
Starting Environment daemon.          [ OK ]
#
```

Related Information

- [“enablecablelog Command” on page 17](#)
- [“enablelinklog Command” on page 17](#)

enablelinklog Command

Enables logging of link events.

Syntax

enablelinklog

Description

This hardware command enables logging of link events to the Syslog.

The enablelinklog command is available from the /SYS/Fabric_Mgmt Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to enable logging of link events to the Syslog with the enablelinklog command.

```
# enablelinklog
Stopping Environment daemon.          [ OK ]
Starting Environment daemon.          [ OK ]
#
```

Related Information

- [“disablelinklog Command” on page 13](#)
- [“enablecablelog Command” on page 17](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

enablesm Command

Enables the Subnet Manager within the management controller.

Syntax

enablesm

Description

This hardware command enables the Subnet Manager on the management controller.

The `enablesm` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to enable the Subnet Manager with the `enablesm` command.

```
# enablesm
Starting IB Subnet Manager.           [ OK ]
Starting partitiond daemon.          [ OK ]
#
```

Related Information

- [“disablesm Command” on page 14](#)
- [“setsmpriority Command” on page 41](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

enableswitchport Command

Enables a connector or switch chip port.

Syntax

```
enableswitchport [--reason=reason] connector|ibdev port
```

where:

- *reason* is the reason for disabling the port, `Blacklist` or `Partition`.
- *connector* is the number of the QSFP connector (0A–15B).
- *ibdev* is the InfiniBand device name (`Switch`)
- *port* is the number of the port (1–36).

Description

This hardware command enables a QSFP connector and port on the switch chip. The command addresses either the connector or the port on the switch chip.

The `--reason` option enables you to use the `Blacklist` or `Partition` passphrases to unlock the state of the port as locked using the `disableswitchport` command.

The `enableswitchport` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to enable and de-blacklist connector 14A with the `enableswitchport` command.

```
# enableswitchport --reason=Blacklist 14A
Enable connector 9A Switch port 14
MKEY 8 0000000000000000
Adminstate:.....Enabled
LinkWidthEnabled:.....1X or 4X
LinkWidthSupported:.....1X or 4X
LinkWidthActive:.....4X
LinkSpeedSupported:.....2.5 Gbps or 5.0 Gbps or 10.0 Gbps
LinkState:.....Down
PhysLinkState:.....Polling
LinkSpeedActive:.....2.5 Gbps
LinkSpeedEnabled:.....2.5 Gbps or 5.0 Gbps or 10.0 Gbps
#
```

Related Information

- [“disableswitchport Command” on page 15](#)
- [“ibportstate Command” on page 77](#)
- [“getportstatus Command” on page 32](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

env_test Command

Displays environmental status.

Syntax

env_test

Description

This hardware command performs a series of hardware and environmental tests of the switch. This command is an amalgamation of these commands:

- checkpower
- checkvoltages
- showtemps
- getfanspeed
- connector
- checkboot

The command output provides voltage and temperature values, pass-fail results, and error messages.

The env_test command is available from the /SYS/Switch_Diag and /SYS/Fabric_Mgmt Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to display the hardware and environmental status of the switch with the env_test command.

```
# env_test
Environment test started:
Starting Environment Daemon test:
Environment daemon running
Environment Daemon test returned OK
Starting Voltage test:
Voltage ECB OK
Measured 3.3V Main = 3.27 V
Measured 3.3V Standby = 3.35 V
Measured 12V = 11.97 V
Measured 5V = 5.02 V
Measured VBAT = 3.24 V
Measured 2.5V = 2.52 V
Measured 1.8V = 1.78 V
Measured I4 1.2V = 1.22 V
```

```
Voltage test returned OK
Starting PSU test:
PSU 0 present OK
PSU 1 present OK
PSU test returned OK
Starting Temperature test:
Back temperature 32
Front temperature 32
SP temperature 44
Switch temperature 44, maxtemperature 46
Temperature test returned OK
Starting FAN test:
Fan 0 not present
Fan 1 running at rpm 12075
Fan 2 running at rpm 11960
Fan 3 running at rpm 12075
Fan 4 not present
FAN test returned OK
Starting Connector test:
Connector test returned OK
Starting Onboard ibdevice test:
Switch OK
All Internal ibdevices OK
Onboard ibdevice test returned OK
Environment test PASSED
#
```

Related Information

- [“checkboot Command” on page 5](#)
- [“checkpower Command” on page 6](#)
- [“checkvoltages Command” on page 8](#)
- [“connector Command” on page 9](#)
- [“getfanspeed Command” on page 30](#)
- [“showtemps Command” on page 48](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

exit Command (Hardware)

Terminates the session.

Syntax

`exit`

Description

This hardware command immediately terminates the session with the management controller.

The `exit` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to terminate the session with the `exit` command.

```
# exit
Connection to 123.45.67.89 closed.
#
```

Related Information

- *Switch Remote Management*, `exit` command
- [“Linux Shells for Hardware Commands” on page 3](#)

fdconfig Command

Defines fabric elements monitored through the FabricMIB.

Syntax

`fdconfig sub-command [-h]`

This hardware command has sub-commands that determine its functionality. This table describes the *sub-commands* and provides their syntax.

Subcommand Syntax	Description
<code>start-fabric-config from-current</code>	Initiates a new configuration based upon a currently used configuration.
<code>start-fabric-config empty</code>	Initiates a new configuration from scratch.
<code>define-fabric-name <i>name</i></code>	Defines a fabric (or configuration) name.
<code>define-element -name <i>name</i> -ip <i>IP_address</i> -type <i>type</i> -role <i>role1</i> [-role <i>role2</i>]</code>	Defines an element of the fabric.
<code>redefine-element -name <i>name</i> [-ip <i>IP_address</i> -type <i>type</i> -role <i>role1</i>[-role <i>role2</i>]]</code>	Modifies an element of the fabric.
<code>remove-element -name <i>name</i></code>	Removes an element from the fabric.
<code>set-master <i>name</i></code>	Sets the element as master.
<code>reset-master <i>name</i></code>	Removes the master title from the element.
<code>complete-fabric-config</code>	Finalizes the configuration
<code>list-current-fabric-config</code>	Displays the current configuration
<code>list-in-progress-fabric-config</code>	Displays the configuration being modified.
<code>abort</code>	Abruptly ends the configuration process.

where:

- *name* is the identifier of the fabric or element (can be host name).
- *IP_address* is the IP address of an element.
- *type* is the identifier of the type of element:
 - sw36 – Sun Datacenter InfiniBand Switch 36
 - sw36gw – Sun Network QDR InfiniBand Gateway Switch
 - unknown – The element’s type is unknown.
- *role* is the purpose of the element:
 - gateway – The element acts as a gateway.
 - spineSwitch – The element acts as a spine switch.
 - leafSwitch – The element acts as a leaf switch.
 - unknown – The element’s role is unknown.

Description

This hardware command is used to configure a list of InfiniBand devices expected to be in the fabric. The Fabric Director node list file is used by the Fabric Directors to compile fabric MIBs that describe the InfiniBand fabric. For the file, InfiniBand devices are referred to as elements, and each internal element hosts a Fabric Director. Elements can be:

- internal – switches
- external – HCAs and TCAs
- gateway – BridgeX chips

Similar to Subnet Managers, there can only be one active master Fabric Director for a given InfiniBand fabric.

The `fdconfig` command is available from the `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Note – At this time, the `fdconfig` command is available to only the `root` user.

Options

This table describes the options to the `fdconfig` command and their purposes.

Option	Purpose
<code>-name</code>	Specifies the name of the fabric or element.
<code>-ip</code>	Specifies the IP address of the fabric element.
<code>-type</code>	Specifies the type of element.
<code>-role</code>	Specifies the role of the element.
<code>-h</code>	Provides help.

Example

This example shows how to list the current fabric configuration with the `fdconfig` command.

Note – The output for your InfiniBand fabric will differ from that in the example.

# fdconfig list-current-fabric-config				
Name		IP Addr	Type	Role(s)
isMaster	Fabricname			
-----	-----	-----	-----	-----
primary		10.172.144.66	sw36	leafSwitch
yes	test			
secondary		10.172.144.70	sw36gw	gateway
no	test			
#				

Related Information

- [“Linux Shells for Hardware Commands” on page 3](#)



fwverify Command

Checks firmware integrity.

Syntax

fwverify

Description

This hardware command checks if the firmware installed is corrupted or has been tampered with. The command first makes a comparison of the installed RPM packages to a predefined list of what RPM packages should be installed for the given firmware version. This list was generated at the time of the firmware image build. The fwverify command then performs a verification for each installed package using the rpm --verify command.

Should the command find a missing, corrupt, or additional package or file, the command will display the package or file name, and its location in the filesystem. The conditions of the error are displayed as an 8-character string of flags, **SM5DLUGT**, where:

- **S** – File size differs.
- **M** – Mode (including permissions and file type) differs.
- **5** – MD5 sum differs.
- **D** – Device major/minor number mis-match.
- **L** – readlink(2) path mis-match.
- **U** – User ownership differs.
- **G** – Group ownership differs.
- **T** – mtime differs.
- **.** – Flag was not set (no error).

Note – The `fwverify` command might indicate that files in the `/config/fwutils` directory have changed. The error can safely be ignored.

The `fwverify` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to verify the firmware integrity with the `fwverify` command.

```
# fwverify
Checking all present packages:
..... OK
Checking if any packages are missing:
..... OK
Verifying installed files:
..... FAILED
* Package nm2-phs-2.0.5-1.i386:
S.5....T /etc/init.d/dcs
#
```

In this example, within the `nm2-phs-2.0.5-1.i386` RPM package, the `/etc/init.d/dcs` file size differs, the MD5 sum differs, and the time differs

This example shows a successful verification.

```
# fwverify
Checking all present packages:
..... OK
Checking if any packages are missing:
..... OK
Verifying installed files:
..... OK
#
```

Related Information

- [“version Command \(Hardware\)” on page 59](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

generatetopology Command

Creates topology file.

Syntax

```
generatetopology topofile | [-h]
```

where *topofile* is the filename and path to the topology file.

Description

This hardware command creates a topology file of the InfiniBand fabric. This file is not compatible with the topology file created by the `ibnetdiscover` command. The `generatetopology` command is used with the `matchtopology` and `showtopology` commands to determine changes in the InfiniBand fabric. The `-h` option provides help.

The `generatetopology` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to create a topology file called `Topo.conf` with the `generatetopology` command.

```
# generatetopology AUG22.topo
It will take some time to generate a topology file. Please wait!
topo.conf file is created. Will now start generating the topo file
Wrote Topology file: AUG22.topo
#
```

This is a portion of a topology file created by the `generatetopology` command.

Note – Your topology file will differ.

```
DEV26418_02P mnm34-45_HCA-1
  P1 -4x-10G-> SUNDCS36QDR mnm34-170 C-0A
  P2 -4x-10G-> SUNDCS36QDR mnm34-170 C-0B

SUNDCS36QDR mnm34-170
  P1 -4x-10G-> SUNIBQDRGW mnm34-97 C-7A
  P2 -4x-10G-> I4_GENERIC mnm34-98 P33

SUNIBQDRGW mnm34-97
  C-17A -4x-10G-> SUNDCS36QDR mnm34-170 C-17B
  C-17B -4x-10G-> SUNDCS36QDR mnm34-170 C-17A
  C-16A -4x-10G-> SUNDCS36QDR mnm34-170 C-16B
  C-16B -4x-10G-> SUNDCS36QDR mnm34-170 C-16A
  C-15A -4x-10G-> SUNDCS36QDR mnm34-170 C-15B
  C-15B -4x-10G-> SUNDCS36QDR mnm34-170 C-15A
  C-14A -4x-10G-> SUNDCS36QDR mnm34-170 C-13A
  C-14B -4x-10G-> SUNDCS36QDR mnm34-170 C-8A
.
.
.
DEV26418_02P mnm34-39_HCA-1
  P1 -4x-10G-> SUNDCS36QDR mnm34-170 C-12A
  P2 -4x-10G-> SUNDCS36QDR mnm34-170 C-13B

# Created from mnm34-170 at Wed Sep  8 14:18:52 CEST 2010
```

Related Information

- [“matchtopology Command” on page 35](#)
- [“showtopology Command” on page 49](#)

- [“ibnetdiscover Command” on page 70](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

getfanspeed Command

Displays fan speed.

Syntax

getfanspeed

Description

This hardware command displays the speed of the fans. The command also indicates if the fan is not present or has stopped.

The getfanspeed command is available from the /SYS/Switch_Diag and /SYS/Fabric_Mgmt Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to display fan speeds with the getfanspeed command.

```
# getfanspeed
Fan 0 not present
Fan 1 running at rpm 12075
Fan 2 running at rpm 11960
Fan 3 running at rpm 12075
Fan 4 not present
#
```

Related Information

- [“env_test Command” on page 20](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

getmaster Command

Displays primary (or Master) Subnet Manager node information.

Syntax

```
getmaster [-l]
```

Description

This hardware command returns information about the node that hosts the primary (or master) Subnet Manager of the InfiniBand fabric. The `-l` option provides a short historical list of Subnet Manager activity.

The `getmaster` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to display information about the node that hosts the master Subnet Manager with the `getmaster` command.

```
# getmaster -l
Local SM enabled and running
Last ring buffer history listed:
20111018 19:16:12 whereismaster started
20111018 19:16:12 Master SubnetManager on sm lid 0 sm guid 0x212856cfe2c0a0 :
20111018 19:16:29 Master SubnetManager on sm lid 6 sm guid 0x212856cfe2c0a0 :
SUN IB QDR 36p switch mnm34-98
#
```

Related Information

- [“Linux Shells for Hardware Commands” on page 3](#)

getportstatus Command

Displays port status.

Syntax

```
getportstatus connector | Switch port
```

where:

- *connector* is the name of the connector (0A – 17A or 0B – 17B).
- *port* is the number of the port (1–36).

Description

This hardware command returns the status of the specified *connector* or *port* of the switch chip.

The `getportstatus` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to display the status of connector 9A with the `getportstatus` command.

Note – The parameters with the string `Active` indicate the current conditions.

```
# getportstatus 9A
Port status for connector 9A Switch Port 14
Adminstate:.....Enabled
LinkWidthEnabled:.....1X or 4X
LinkWidthSupported:.....1X or 4X
LinkWidthActive:.....4X
LinkSpeedSupported:.....2.5 Gbps or 5.0 Gbps or 10.0 Gbps
LinkState:.....Active
PhysLinkState:.....LinkUp
```



```
LinkSpeedActive:.....10.0 Gbps
LinkSpeedEnabled:.....2.5 Gbps or 5.0 Gbps or 10.0 Gbps
#
```

help Command (Hardware)

Displays help for a command.

Syntax

`help command | class`

where:

- *command* is the command for which you need help.
- *class* is the category of commands.

Description

This hardware command provides help information for supported commands. Typically, the same information is provided using the `-h` option.

The `help` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to get help with the `help` command.

```
# help
List of available classes:
general  -- General commands
diag     -- Switch diagnostics commands
ibdiag   -- Infiniband diagnostics commands
sm       -- Subnet Manager administration commands
other    -- Other management commands
all      -- Show all commands
```

Type "help" followed by a class name for a list of commands in that class.
Type "help" followed by a command name for description and usage of the command.
#

Related Information

- *Switch Remote Management*, help command
- [“Linux Shells for Hardware Commands” on page 3](#)

listlinkup Command

Displays links presence.

Syntax

```
listlinkup
```

Description

This hardware command lists the presence of links and the up-down state of the associated ports on the switch chip. The `listlinkup` command also accepts these arguments:

- `link` – Displays additional information about the links.
- `peer` – Displays additional information about the peer ports.
- `internal` – Displays only links between the I4 switch chip and the BridgeX chips.
- `all` – Displays all link types.
- `connected` – Displays only links that are connected to other nodes.

The `listlinkup` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to display link presence and associated ports with the `listlinkup` command.

```
# listlinkup
Connector 0A Not present
Connector 1A Not present
Connector 2A Not present
Connector 3A Not present
Connector 4A Present <-> Switch Port 28 is down (Enabled)
.
.
Connector 0B Not present
Connector 1B Not present
.
.
.
Connector 17B Not present
#
```

Related Information

- [“ibportstate Command” on page 77](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

matchtopology Command

Compares topology file to InfiniBand fabric.

Syntax

```
matchtopology [-s systemname] topofile [-h]
```

where:

- *systemname* is the local system name in the topology file, should it be other than the host name.
- *topofile* is the filename and path to the topology file used for matching.

Description

This hardware command compares the topology file created with the `generatetopology` command with the current InfiniBand fabric topology. An error is displayed upon mismatch.

The `matchtopology` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Options

This table describes the options to the `kommand` command and their purposes.

Option	Purpose
-s	Increases compatibility with topology files not created by the <code>generatetopology</code> command. Use this option and specify the local system name used in the topology file. .
-h	Provides help.

Example

This example shows how to compare the topology file to the current topology with the `matchtopology` command.

```
# matchtopology AUG22.topo
Topology matching will take some time. Please wait!
-I-----
-I- Topology matching results
-I-----
-I- The topology defined in topo1.topo perfectly matches the
discovered fabric.
-----
#
```

Related Information

- [“generatetopology Command” on page 28](#)
- [“showtopology Command” on page 49](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

setcontrolledhandover Command

Enables or disables controlled handover.

Syntax

```
setcontrolledhandover state|list
```

where *state* is either TRUE, or FALSE.

Description

This hardware command enables or disables the controlled handover feature. The TRUE option enables and the FALSE option disables the action. The list option provides a listing of the Subnet Manager settings in respect to priority, controlled handover, and subnet prefix.

Note – You must stop or disable the Subnet Manager before using the setcontrolledhandover command. See [“disablesm Command” on page 14](#).

The InfiniBand specification identifies two parameters used to negotiate a master Subnet Manager - the Subnet Manager priority and the port GUID. Should two or more Subnet Managers have the same highest configured priority, the Subnet Manager with the lowest GUID becomes the master Subnet Manager.

If an un-controlled or automatic handover state exists, when the primary-and-master Subnet Manager fails, the secondary-and-standby Subnet Manager takes on the role of the new master Subnet Manager. During this time, traffic is temporarily suspended as the secondary-and-master Subnet Manager discovers and sets up the InfiniBand fabric.

If the primary Subnet Manager is able to recover from the failure, reboot, and reinitialize itself, it identifies itself as the intended master Subnet Manager. Again, traffic is temporarily suspended as the primary-and-master Subnet Manager re-discovers and sets up the InfiniBand fabric. The secondary Subnet Manager returns to the standby status.

If controlled handover is enabled, then some priority values become reserved. The Subnet Managers dynamically adjust their respective priorities to avoid the dual handover situation. A secondary Subnet Manager that became a master Subnet

Manager due to a handover raises its priority to a reserved value and retains its master Subnet Manager status. Regardless if the primary Subnet Manager comes back online, the second handover does not occur.

The user-configured priorities of the Subnet Managers are retained, only during a handover are reserved priorities used.

The result of this scheme is that the user-configured priority is respected during system boot, but dual handover does not occur because the primary Subnet Manager loses its master Subnet Manager status (secondary Subnet Manager priority changes to reserve).

Note – Manually starting Subnet Managers individually is equivalent to the system boot sequence.

The `setcontrolledhandover` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to enable a controlled handover of Subnet Managers with the `setcontrolledhandover` command.

```
# setcontrolledhandover TRUE
Current SM settings:
smpriority 5
controlled_handover TRUE
subnet_prefix 0xabbababe
M_Key None
#
```

Related Information

- [“enablesm Command” on page 18](#)
- [“setsmpriority Command” on page 41](#)
- [“setsubnetprefix Command” on page 43](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

setmsmlocationmonitor Command

Sets monitoring of the Subnet Manager.

Syntax

```
setmsmlocationmonitor state|list [-h]
```

where *state* is either `enable` or `disable`.

Description

This hardware command sets the state of monitoring the location and condition of the primary (or Master) Subnet Manager for the InfiniBand fabric. You can set the state of monitoring to either `enabled` or `disabled`. When enabled, information about the MSM is displayed in the user interface.

Note – If the monitor is located on a spine switch and the MSM is on another spine switch, the MSM might not be reachable through LID routed path. This situation gives the false impression in the user interface that there is no MSM in the fabric. Under these conditions, disable MSM monitoring

The `list` option displays the current state of monitoring.

The `setmsmlocationmonitor` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to display the state of the Subnet Manager monitor with the `setmsmlocationmonitor` command.

```
# setmsmlocationmonitor list
Current state of Master Subnet Manager monitoring: enable
#
```

Related Information

- [“disablesm Command” on page 14](#)
- [“enablesm Command” on page 18](#)

setsmmkey Command

Sets the mkey for the Subnet Manager.

Syntax

```
setsmmkey m_key|none|list
```

where *m_key* is a 12-digit hexadecimal number

Description

This hardware command adds an extra layer of security to administering the Subnet Managers of the InfiniBand fabric. The Management Key (M_Key) is a 48-bit value that is used like a password to authorize access to the Subnet Manager Agent, thereby regulating control of the HCAs, switches, and other InfiniBand devices within the fabric. Any attempt to initialize or configure an InfiniBand node without the correct M_Key will fail.

The M_Key provides for two specific security features:

- Any unauthorized host-based Subnet Manager cannot assume control of the InfiniBand fabric.
- Prevents unauthorized modification of the Subnet Manager Agent from outside of the Subnet Manager.

The `none` and `list` arguments of the `setsmmkey` command disable the M_Key functionality or display the current M_Key value respectively.

Note – The same M_Key value must be configured on all Subnet Managers in the InfiniBand fabric. Additionally, you must disable the Subnet Manager before setting the M_Key value, and re-enable the Subnet Manager after setting the M_Key value.

Note – Once the M_Key is configured, the `ibportstate` command can no longer enable, disable, or reset a port. However, the `enableswitchport` and `disableswitchport` commands are still functional.

The `setsmmkey` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to set the M_Key for the Subnet Manager to `0xabbababe0001` with the `setsmmkey` command.

```
# setsmmkey 0xabbababe0001
Current SM settings:
smpriority 5
controlled_handover TRUE
subnet_prefix 0xfe80000000000000
M_Key 0xabbababe0001
#
```

Related Information

- [“disablesm Command” on page 14](#)
- [“enablesm Command” on page 18](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

setsmpriority Command

Sets the Subnet Manager priority.

Syntax

```
setsmpriority priority|list
```

where *priority* is a number from 0 (lowest) to 13 (highest).

Description

This hardware command sets the priority of the Subnet Manager within the management controller. You use this command when there are multiple Subnet Managers in the InfiniBand fabric. By setting a Subnet Manager to a higher priority than another Subnet Manager, it becomes the primary (or Master) Subnet Manager. When you set a Subnet Manager to a priority lower than another Subnet Manager, it becomes the secondary Subnet Manager. The `list` option provides a listing of the Subnet Manager settings in respect to priority, controlled handover, and subnet prefix.

The `setsmpriority` command writes the value of *priority* to the `sm_priority` parameter of the configuration file.

Note – You must stop or disable the Subnet Manager before using the `setsmpriority` command. See [“disablesm Command” on page 14](#).

Note – Setting Subnet Managers of the same fabric to the same priority can have undesirable results.

The `setsmpriority` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to set the priority of the Subnet Manager to 5 using the `setsmpriority` command.

```
# setsmpriority 5
Current SM settings:
smpriority 5
controlled_handover FALSE
subnet_prefix 0xfe80000000000000
M_Key None
#
```

This example shows how to display the current settings of the Subnet Manager priority, controlled handover, subnet prefix, and M_Key value, with the `list` argument of the `setsmpriority` command.

```
# setsmpriority list
smpriority 0
controlled_handover FALSE
subnet_prefix 0xfe80000000000000
M_Key None
#
```

Related Information

- [“enablesm Command” on page 18](#)
- [“setcontrolledhandover Command” on page 37](#)
- [“setsubnetprefix Command” on page 43](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

setsubnetprefix Command

Sets the subnet prefix.

Syntax

```
setsubnetprefix prefix|list
```

where *prefix* is the hexadecimal prefix.

Description

This hardware command sets the subnet prefix for the InfiniBand fabric. The prefix is entered in hexadecimal, starting with 0x and having lower case alphanumeric characters. The `list` option provides a listing of the Subnet Manager settings in respect to priority, controlled handover, and subnet prefix.

The `setsubnetprefix` command writes the value of *prefix* to the `subnet_prefix` parameter of the configuration file.

Note – You must stop or disable the Subnet Manager before using the `setsubnetprefix` command. See [“disableesm Command” on page 14](#).

The `setsubnetprefix` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to set the subnet prefix to `0xabbababe` with the `setsubnetprefix` command.

```
# setsubnetprefix 0xabbababe
Current SM settings:
smpriority 5
controlled_handover TRUE
subnet_prefix 0xabbababe
M_Key None
#
```

Related Information

- [“enableesm Command” on page 18](#)
- [“setcontrolledhandover Command” on page 37](#)
- [“setsmpriority Command” on page 41](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

showfruinfo Command

Displays chassis FRU information.

Syntax

`showfruinfo`

Description

This hardware command displays the contents of the chassis FRU ID registers.

The `showfruinfo` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to display the chassis FRU ID registers with the `showfruinfo` command.

```
# showfruinfo
UNIX_Timestamp32           : Tue Mar 23 17:02:15 2010
Sun_Fru_Description        : ASSY,NM2-36P
Vendor_ID_Code             : 11 E1
Vendor_ID_Code_Source      : 01
Vendor_Name_And_Site_Location : 4577 CELESTICA CORP. SAN JOSE CA US
Sun_Part_Number            : 5413495
Sun_Serial_Number          : 0110SJC-1010NG0045
Serial_Number_Format       : 4V3F1-2Y2W2X4S
Initial_HW_Dash_Level      : 01
Initial_HW_Rev_Level       : 50
Sun_Fru_Shortname          : NM2, 36 ports
Sun_Hazard_Class_Code      : YL
Sun_SpecPartNo             : 885-1507-01
#
```

Related Information

- [“showpsufu Command” on page 45](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

showpsufu Command

Displays power supply FRU ID information.

Syntax

`showpsufru slot`

where *slot* is the power supply slot (0 or 1).

Description

This hardware command displays FRU ID information for the power supplies.

The `showpsufru` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to display the FRU ID information for power supply 0 with the `showpsufru` command.

```
# showpsufru 0
Sun_SpecPartNo       : 885-1390-01
UNIX_Timestamp32     : Sun Jan  3 15:35:39 2010
Sun_Part_Number      : 3002234
Sun_Serial_No        : BF15WA
Vendor_ID_Code       : 03ad
Initial_HW_Dash_Level : 02
PSU_Voltage 1        : 0x04b0 (1200)
PSU_Current 1        : 0x186a (6250)
PSU_Voltage 2        : 0x014a (330)
PSU_Current 2        : 0x012c (300)
Sun_Hazard_Class_Code : Y
IPMI_Board_Manufacturer : Delta Energy Systems
IPMI_Board_Product_Name : A236
IPMI_Board_Serial_Number : 1357ZHO-0952BF15WA
IPMI_Board_Part_Number  : 300-2234-01
#
```

Related Information

- [“showfruinfo Command” on page 44](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

showsmlog Command

Displays the Subnet Manager log.

Syntax

```
showsmlog [-h]
```

Description

This hardware command displays the log entries for the Subnet Manager within the management controller. Tapping the space bar displays the next screen of the log. Pressing the Q key quits. The -h option provides help.

The showsmlog command is available from the /SYS/Switch_Diag and /SYS/Fabric_Mgmt Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to display the Subnet Manager log with the showsmlog command.

Note – The output of the example is a very small portion and will differ from your output.

```
# showsmlog
Jun 30 14:44:11 008981 [B6694B90] 0x02 -> osm_ucast_mgr_process: minhop tables
configured on all switches
Jun 30 14:44:11 011981 [B6694B90] 0x02 -> SUBNET UP
Jun 30 14:44:11 025981 [B6694B90] 0x02 -> Fabric has 1 switches - topology is
not fat-tree. Falling back to default routing
Jun 30 14:44:11 025981 [B6694B90] 0x01 -> ucast_mgr_route: ftree: cannot build
lid matrices.
Jun 30 14:44:11 025981 [B6694B90] 0x02 -> osm_ucast_mgr_process: minhop tables
configured on all switches
Jun 30 14:44:11 027981 [B6694B90] 0x02 -> SUBNET UP
```

.
. .
.

Related Information

- [“Linux Shells for Hardware Commands” on page 3](#)

showtemps Command

Displays switch temperatures.

Syntax

`showtemps`

Description

This hardware command displays internal temperatures for the switch.

The `showtemps` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to display switch temperatures with the `showtemps` command.

```
# showtemps
Back temperature 32
Front temperature 32
SP temperature 44
Switch temperature 45, maxtemperature 46
All temperatures OK
#
```


Related Information

- [“env_test Command” on page 20](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

showtopology Command

Displays the topology.

Syntax

```
showtopology [-h]
```

Description

This hardware command displays the InfiniBand fabric topology. The `showtopology` command displays the topology in a format different than the `ibnetdiscover` command.

The output of the `showtopology` command follows this basic format for each node:

```
device_type device_name
panel_label link_status-> connected_device_type connected_device_name connected_panel_label
and
panel_label link_status-> connected_device_type connected_device_name connected_panel_label
.
.
for each subsequent port of that device_type
```

Where:

- *device_type* is the type of InfiniBand device. If the device is a Sun product, the *device_type* might be:
 - SUNBQNEM48 – Sun Blade 6048 InfiniBand QDR Switched Network Express Module
 - DEV26418_01P – Single-port Sun Blade X6275 Server Module
 - DEV26418_02P – Dual-port Sun Blade X6275 Server Module
 - SUNDCS36QDR – Sun Datacenter InfiniBand Switch 36

- SUNDCS72QDR – Sun Datacenter InfiniBand Switch 72
- SUNDCS648QDR – Sun Datacenter InfiniBand Switch 648
- SUNIBQDRGW – Sun Network QDR InfiniBand Gateway Switch
- I4_GENERIC – An I4 switch ship
- *device_name* is the node description of the device, the hostname and number, or the modified GUID.
- *panel_label* is the name of the connector, hard wire link, or port as defined by the `ibnl` files. For example, C-6A is connector 6A, A-SW is switch chip A, and P1 is port 1.
- *link_status* is one of these:
 - -1x-2.5G – single data rate (SDR)
 - -2x-5G – dual data rate (DDR)
 - -4x-10G – quad data rate (QDR)
- *connected_device_type* is the device type at the other end of the link.
- *connected_device_name* is the name of the device at the other end of the link.
- *connected_panel_label* is the name of the connector or port at the other end of the link.

For example:

```
SUNDCS36QDR mnm34-170
C-17A -4x-10G-> SUNDCS36QDR mnm34-170 C-17B
C-17B -4x-10G-> SUNDCS36QDR mnm34-170 C-17A
C-16A -4x-10G-> SUNDCS36QDR mnm34-170 C-16B
C-16B -4x-10G-> SUNDCS36QDR mnm34-170 C-16A
.
.
.
```

The `showtopology` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to display the InfiniBand fabric topology with the `showtopology` command.

Note – The output for your InfiniBand fabric will differ from that in the example.

```
# showtopology
DEV26418_02P mnm34-45_HCA-1
    P1 -4x-10G-> SUNDCS36QDR mnm34-170 C-0A
    P2 -4x-10G-> SUNDCS36QDR mnm34-170 C-0B

SUNDCS36QDR mnm34-170
    C-17A -4x-10G-> SUNDCS36QDR mnm34-170 C-17B
    C-17B -4x-10G-> SUNDCS36QDR mnm34-170 C-17A
    C-16A -4x-10G-> SUNDCS36QDR mnm34-170 C-16B
    C-16B -4x-10G-> SUNDCS36QDR mnm34-170 C-16A
    C-15A -4x-10G-> SUNDCS36QDR mnm34-170 C-15B
    C-15B -4x-10G-> SUNDCS36QDR mnm34-170 C-15A
    C-14A -4x-10G-> SUNDCS36QDR mnm34-170 C-13A
    C-14B -4x-10G-> SUNDCS36QDR mnm34-170 C-8A
    C-13A -4x-10G-> SUNDCS36QDR mnm34-170 C-14A
    C-13B -4x-10G-> DEV26418_02P mnm34-39_HCA-1 P2
    C-12A -4x-10G-> DEV26418_02P mnm34-39_HCA-1 P1
    C-12B -4x-10G-> DEV26418_02P mnm34-41_HCA-1 P1
    C-9B -4x-10G-> SUNDCS36QDR mnm34-170 C-6A
    C-9A -4x-10G-> DEV26418_02P mnm34-44_HCA-1 P1
    C-10B -4x-10G-> DEV26418_02P mnm34-44_HCA-1 P2
    C-10A -4x-10G-> DEV26418_02P mnm34-42_HCA-1 P1
    C-11B -4x-10G-> DEV26418_02P mnm34-41_HCA-1 P2
    C-11A -4x-10G-> DEV26418_02P mnm34-42_HCA-1 P2
    C-0B -4x-10G-> DEV26418_02P mnm34-45_HCA-1 P2
    C-0A -4x-10G-> DEV26418_02P mnm34-45_HCA-1 P1
    C-1B -4x-10G-> SUNDCS36QDR mnm34-170 C-1A
    C-1A -4x-10G-> SUNDCS36QDR mnm34-170 C-1B
    C-2B -4x-10G-> SUNDCS36QDR mnm34-170 C-2A
    C-2A -4x-10G-> SUNDCS36QDR mnm34-170 C-2B
    C-3B -4x-10G-> SUNDCS36QDR mnm34-170 C-3A
    C-3A -4x-10G-> SUNDCS36QDR mnm34-170 C-3B
    C-4B -4x-10G-> SUNDCS36QDR mnm34-170 C-4A
    C-4A -4x-10G-> SUNDCS36QDR mnm34-170 C-4B
    C-5B -4x-10G-> SUNDCS36QDR mnm34-170 C-5A
    C-5A -4x-10G-> SUNDCS36QDR mnm34-170 C-5B
    C-8A -4x-10G-> SUNDCS36QDR mnm34-170 C-14B
    C-7A -4x-10G-> SUNDCS36QDR mnm34-170 C-7B
    C-7B -4x-10G-> SUNDCS36QDR mnm34-170 C-7A
    C-6A -4x-10G-> SUNDCS36QDR mnm34-170 C-9B
    C-6B -4x-10G-> DEV26418_02P mnm33-59_HCA-1 P1

DEV26418_02P mnm34-41_HCA-1
    P2 -4x-10G-> SUNDCS36QDR mnm34-170 C-11B
```

```

P1 -4x-10G-> SUNDCS36QDR mnm34-170 C-12B

DEV26418_02P mnm33-59_HCA-1
P1 -4x-10G-> SUNDCS36QDR mnm34-170 C-6B

DEV26418_02P mnm34-44_HCA-1
P1 -4x-10G-> SUNDCS36QDR mnm34-170 C-9A
P2 -4x-10G-> SUNDCS36QDR mnm34-170 C-10B

DEV26418_02P mnm34-42_HCA-1
P1 -4x-10G-> SUNDCS36QDR mnm34-170 C-10A
P2 -4x-10G-> SUNDCS36QDR mnm34-170 C-11A

DEV26418_02P mnm34-39_HCA-1
P1 -4x-10G-> SUNDCS36QDR mnm34-170 C-12A
P2 -4x-10G-> SUNDCS36QDR mnm34-170 C-13B

# Created from mnm34-170 at Wed Sep  8 14:29:37 CEST 2010

```

Related Information

- [“generatetopology Command” on page 28](#)
- [“matchtopology Command” on page 35](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

showunhealthy Command

Displays problematic components.

Syntax

```
showunhealthy
```

Description

This hardware command shows a list of switch components that appear to have a problem. Unlike the `env_test` command, the `showunhealthy` command *only* displays messages for components that have failed testing.

The `showunhealthy` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to display a list of unhealthy components in the switch with the `showunhealthy` command.

```
# showunhealthy  
OK - No unhealthy sensors  
#
```

Related Information

- [“env_test Command” on page 20](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

smconfigtest Command

Tests Subnet Manager configuration.

Syntax

```
smconfigtest [spine|leaf] [-l] [-h]
```

Description

This hardware command tests the Subnet Manager configuration and reports if it is corrupt.

The `smconfigtest` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Options

This table describes the options to the `smconfigtest` command and their purposes.

Option	Purpose
<code>spine</code>	Performs additional spine tests: • Routing engine is ftree. • Priority is 5 or 8. • Controlled handover is TRUE.
<code>leaf</code>	Performs additional leaf tests: • Routing engine is ftree. • Priority is 5. • Controlled handover is TRUE.
<code>-l</code>	Does not output to syslog.
<code>-h</code>	Provides help.

Example

This example shows how to test the Subnet Manager configuration with the `smconfigtest` command.

```
# smconfigtest
#
```

Related Information

- [“getmaster Command” on page 31](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

smnodes Command

Manages the Subnet Manager nodes file.

Syntax

```
smnodes add IP_address [IP_address ...] | delete IP_address [IP_address ...] | list
```

where *IP_address* is the IP address of the Subnet Manager nodes.

Description

This hardware command adds to , deletes from , or lists the Subnet Manager nodes of the Subnet Manager nodes file. The file is used when partitioning the InfiniBand fabric, to make partition managers aware of each other.

The `smnodes` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Example

This example shows how to list the Subnet Manager nodes of the file with the `smnodes` command.

```
# smnodes list
123.45.67.89
123.45.67.90
#
```

Related Information

- [“smpartition Command” on page 55](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

smpartition Command

Manages the partition configuration.

Syntax

`smpartition sub-command [-h]`

This hardware command has sub-commands that determine its functionality. This table describes the *sub-commands* and provides their syntax.

Subcommand Syntax	Description
<code>start</code>	Initiates a new configuration based upon a currently used configuration.
<code>create -n partition_name -pkey p_key [-flag [ipoib, mtu mtu, rate rate, sl sl, scope scope]] [-m defmember]</code>	Creates a new partition. The -m option configures the default membership for the partition.
<code>delete -n partition_name -pkey p_key</code>	Deletes a partition.
<code>add -n partition_name -pkey p_key -port port ALL ALL_CAS ALL_SWITCHES ALL_ROUTERS SELF [-m member]</code>	Adds one or more ports to the partition. The -m option sets the membership for the port(s).
<code>remove -n partition_name -pkey p_key -port port ALL ALL_CAS ALL_SWITCHES ALL_ROUTERS SELF</code>	Removes one or more ports to the partition.
<code>modify -n partition_name -pkey p_key [-flag [ipoib, mtu mtu, rate rate, sl sl, scope scope]] [-port port ALL ALL_CAS ALL_SWITCHES ALL_ROUTERS SELF [-m member]]</code>	Modifies a partition flag or port membership. The -m option sets the membership for the port(s).
<code>list active modified</code>	Displays the active or modified configuration.
<code>commit</code>	Commits the modified configuration to become the active configuration.
<code>abort</code>	Abruptly ends the configuration session. All modified configuration information is lost and the active configuration remains unchanged.

where:

- *partition_name* is the identifier of the InfiniBand partition.
- *p_key* is the partition key (1 – 7fff or default).
- *mtu* is the value of the MTU.
- *rate* is the throughput of a link (link width + link speed) in Gbps from 2.5, 5, 10, 20, 30 to a maximum of 40.
- *sl* is the service level.
- *scope* is the multicast address scope value (0 – F).

Note – The `mtu`, `rate`, `sl`, and `scope` parameters are for the multicast group created when `ipoib` (IP over InfiniBand) is configured for the partition.

- *defmember* is the default membership type (`full`, `limited`, or `both`) for the partition.

Note – If ports are added to the partition without specifying the membership type, the default membership type is applied to the port

- *port* is the GUID of the port, or the special parameter, to add, remove, or modify:
 - `ALL` – All of the CAs, switches, and routers in the InfiniBand fabric.
 - `ALL_CAS` – All CAs in the InfiniBand fabric.
 - `ALL_SWITCHES` – All switches.
 - `ALL_ROUTERS` – All routers.
 - `SELF` – The Master Subnet Manager.
- *member* is the membership type (`full`, `limited`, or `both`) for the port.

Description

This hardware command is used to manage the InfiniBand partition and is available only on management controllers that are hosting the primary (or Master) Subnet Manager. There are two configurations for the InfiniBand partition, the active configuration and the modified configuration. When configuring a partition, you must initiate the configuration session with the `smpartition start` command. During the session, you create a modified copy of the active configuration. To end the session, you must use the `smpartition commit` command to make the modified configuration the active configuration. Once committed, the active configuration is distributed to all Subnet Managers in the InfiniBand fabric where the management controller's IP addresses are listed in the Subnet Manager nodes file.

The Subnet Manager nodes file must exist in every management controller file system. The file contains a list of IP addresses of all active management controllers hosting a Subnet Manager in your fabric. The file should have an entry for every Sun Datacenter InfiniBand Switch 36 and Sun Network QDR InfiniBand Gateway Switch that runs a Subnet Manager in your InfiniBand fabric.

Note – If the Subnet Manager nodes of your InfiniBand fabric ever change (disabled, added, and so on), you must update all copies of the Subnet Manager nodes file.

Options

This table describes the options to the `smpartition` command and their purposes.

Option	Purpose
-n	Specifies the partition name.
-pkey	Specifies the partition key.
-flag	Specifies these flags: • <code>ipoib</code> – If present, IP over InfiniBand is to be supported. • <code>mtu</code> – Sets the MTU. • <code>rate</code> is the throughput of a link (link width + link speed) in Gbps from 2.5, 5, 10, 20, 30 to a maximum of 40. • <code>sl</code> – Sets the service level. • <code>scope</code> – Sets the multicast address scope.
-m	Specifies the membership type. If the <code>-m</code> option is used in the <code>smpartition create</code> command, the default membership type of the partition is specified. If the <code>-m</code> option is used with the <code>smpartition add</code> command or <code>smpartition modify</code> command, the membership type of the port is specified. If ports are added to the partition without specifying the membership type, the default membership type for the partition is applied to the port.
-port	Specifies the port or ports to be acted upon: • <code>port</code> – The GUID of the port to be acted upon. Alternatively, one these special parameters is specified instead of a GUID. • <code>ALL</code> – All of the CAs, switches, and routers in the InfiniBand fabric. • <code>ALL_CAS</code> – All CAs in the InfiniBand fabric. • <code>ALL_SWITCHES</code> – All switches. • <code>ALL_ROUTERS</code> – All routers. • <code>SELF</code> – The Master Subnet Manager.
-h	Provides help.

Example

This example shows how to display the active configuration of the InfiniBand partition with the `smpartition` command.

```
# smpartition list active
# Sun DCS IB partition config file
# This file is generated, do not edit
```

```
#! version_number : 16
Default=0x7fff, ipoib : ALL_CAS=full, ALL_SWITCHES=full, SELF=
full;
SUN_DCS=0x0001, ipoib : ALL_SWITCHES=full;
part1 = 0x9001, ipoib:
0x0002c90300089138=full,
0x0002c9030008923b=full,
0x0002c9030008923c=full,
0x0002c90300089103=limited,
0x0002c90300089104=full,
0x0002c90300089137=limited;
part2 = 0x9002, ipoib:
0x0003ba000100e389=full,
0x0002c903000890cb=limited,
0x0002c903000890cc=full,
0x0002c903000890c8=full,
0x0002c903000890c7=limited;
#
```

Related Information

- *Switch Administration*, partitioning the InfiniBand fabric
- [“Linux Shells for Hardware Commands” on page 3](#)

version Command (Hardware)

Displays switch version.

Syntax

```
version
```

Description

This hardware command shows the hardware and software versions, and date information for the switch and management controller.

The version command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Example

This example shows how to display the version information with the `version` command.

```
# version
SUN DCS 36p version: 2.0.5-1
Build time: Nov 25 2011 12:20:22
SP board info:
Manufacturing Date: 2009.02.19
Serial Number: "NCD2S0133"
Hardware Revision: 0x0100
Firmware Revision: 0x0102
BIOS version: NOW1R112
BIOS date: 04/24/2009
#
```

Related Information

- *Switch Administration*, displaying firmware version
- [“fwverify Command” on page 26](#)
- [“Linux Shells for Hardware Commands” on page 3](#)

Understanding InfiniBand Commands

The InfiniBand commands act upon or monitor many aspects of the InfiniBand fabric. The commands are available through the Oracle ILOM CLI interface with the /SYS/Switch_Diag and /SYS/Fabric_Mgmt targets. See [“Linux Shells for InfiniBand Commands” on page 62](#).

The format of the InfiniBand commands is typically as follows:

```
# command [option] [option] ...
```

Command Syntax	Links
ibdiagnet [-c count] [-v] [-r] [-o outputdir] [-t topology] [-s system] [-i device] [-p port] [-wt topology] [-pm] [-pc] [-P PM = value] [-lw 1x 4x 12x] [-ls 2.5 5 10] [-skip checks] [-load_db file] [-h] [-V]	“ibdiagnet Command” on page 63
ibhosts [-h] [topology] [-C ca_name] [-P ca_port] [-t timeout]	“ibhosts Command” on page 68
ibnetdiscover [-d] [-e] [-v] [-s] [-l] [-g] [-H] [-S] [-R] [-C ca_name] [-P ca_port] [-t timeout] [-V] [-p] [-h] [topology]	“ibnetdiscover Command” on page 70
ibnetstatus [-h]	“ibnetstatus Command” on page 73
ibnodes [-h] [topology] [-C ca_name] [-P ca_port] [-t timeout]	“ibnodes Command” on page 75
ibportstate [-d] [-D] [-e] [-G] [-h] [-s smlid] [-v] [-C ca_name] [-P ca_port] [-t timeout] lid dr_path guid port [op]	“ibportstate Command” on page 77
ibroute [-d] [-a] [-n] [-D] [-e] [-G] [-h] [-M] [-s smlid] [-v] [-V] [-C ca_name] [-P ca_port] [-t timeout] [lid dr_path guid [startlid [endlid]]]	“ibroute Command” on page 80
ibrouters [-h] [topology] [-C ca_name] [-P ca_port] [-t timeout]	“ibrouters Command” on page 82
ibstat [-d] [-e] [-h] [-l] [-s] [-p] [-v] [-V] ca_name [ca_port]	“ibstat Command” on page 83

Command Syntax	Links
<code>ibswitches [-h] [topology] [-C ca_name] [-P ca_port] [-t timeout]</code>	“ibswitches Command” on page 85
<code>ibtracert [-d] [-D] [-G] [-h] [-m mlid] [-s smlid] [-v] [-V] [-C ca_name] [-P ca_port] [-t timeout] [lid dr_path guid [startlid [endlid]]]</code>	“ibtracert Command” on page 87
<code>perfquery [-d] [-e] [-G] [-h] [-a] [-l] [-r] [-R] [-v] [-V] [-C ca_name] [-P ca_port] [-t timeout] [lid guid [[port] [reset_mask]]]</code>	“perfquery Command” on page 89
<code>saquery [-h] [-d] [-p] [-N] [-D] [-S] [-I] [-L] [-l] [-G] [-O] [-U] [-c] [-s] [-g] [-m] [-x] [-C ca_name] [-P ca_port] [-t timeout] [--src-to-dst source:destination] [--sgid-to-dgid source-destination] [name lid guid]</code>	“saquery Command” on page 91
<code>smpquery [-d] [-D] [-e] [-G] [-h] [-v] [-V] [-C ca_name] [-P ca_port] [-t timeout] lid dr_path guid [op params]</code>	“smpquery Command” on page 94

Related Information

- [“Understanding Hardware Commands” on page 1](#)
- [“Understanding SNMP MIB OIDs” on page 99](#)

Linux Shells for InfiniBand Commands

The preferred method of accessing the Linux shell is through the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Using the `show` command on the `/SYS/Switch_Diag` target opens a restricted Linux shell that enables the `ilom-admin` user, `ilom-operator` user, and users with similar permissions to run diagnostic commands.

Using the `show` command on the `/SYS/Fabric_Mgmt` target opens an other restricted Linux shell that enables the `ilom-admin` user and users with similar permissions to run diagnostic, switch, and fabric management commands.

Note – The `ilom-operator` user cannot access the Linux shell from the `/SYS/Fabric_Mgmt` target.

This table lists the InfiniBand commands and their availability from the respective Linux shell targets. Typing the `help all` command from within the restricted shells lists the commands available to that shell.

Note – InfiniBand commands that are not listed are unavailable from the /SYS/Switch_Diag or /SYS/Fabric_Mgmt targets.

Command	/SYS/Switch_Diag	/SYS/Fabric_Mgmt
ibdiagnet		Available
ibhosts	Available	Available
ibnetstatus	Available	Available
ibnodes	Available	Available
ibportstate	Available	Available
ibroute	Available	Available
ibrouters	Available	Available
ibstat	Available	Available
ibswitches	Available	Available
ibtracert	Available	Available
perfquery	Available	Available
saquery		Available
smpquery	Available	Available

Related Information

- [“Linux Shells for Hardware Commands” on page 3](#)

ibdiagnet Command

Performs InfiniBand fabric diagnostic.

Syntax

```
ibdiagnet [-c count] [-v] [-r] [-o outputdir] [-t topology] [-s system] [-i device] [-p port] [-wt topology] [-pm] [-pc] [-P PM = value] [-lw 1x|4x|12x] [-ls 2.5|5|10] [-skip checks] [-load_db file] [-h] [-V]
```

where:

- *count* is the number of packets.
- *outputdir* is the output directory.
- *topology* is the topology file.
- *system* is the local system name.
- *device* is the index of the device connecting to the InfiniBand fabric.
- *port* is the port of the device.
- *PM* is the Performance Manager counter number.
- *value* is the threshold of the Performance Manager counter.
- *checks* is one or more strings that identify the checks made:
 - *dup_guids*
 - *zero_guids*
 - *pm*
 - *logical_state*
 - *part*
 - *ipoib*
 - *all*
- *file* is the subnet database `.db` file.

Description

This InfiniBand command scans the InfiniBand fabric using directed route packets, extracting all the available information regarding the connectivity and devices. This command produces a set of files in the output directory. By default, the output directory is `/tmp`. This table describes the files.

File Name	Description
<code>ibdiagnet.log</code>	Dump of all the application reports generated according to the provided flags.
<code>ibdiagnet.lst</code>	List of all the nodes, ports, and links in the fabric.
<code>ibdiagnet.fdb</code>	Dump of the unicast forwarding tables of the fabric switches.
<code>ibdiagnet.mcfdb</code>	Dump of the multicast forwarding tables of the fabric switches.
<code>ibdiagnet.masks</code>	In case of duplicate port/node GUIDs, this file includes the map between masked GUIDs and real GUIDs.
<code>ibdiagnet.sm</code>	List of all the Subnet Manager (state and priority) in the fabric.
<code>ibdiagnet.pm</code>	Dump of the Performance Manager counters values, for the fabric links.

File Name	Description
<code>ibdiagnet.pkey</code>	Dump of the existing partitions and their member host ports.
<code>ibdiagnet.mcg</code>	Dump of the multicast groups, their properties, and member host ports.
<code>ibdiagnet.db</code>	Dump of the internal subnet database. You can load this file in later runs using the <code>-load_db</code> option.

During the discovery phase, the command also checks for duplicate node/port GUIDs in the InfiniBand fabric. If such an error is detected, it is displayed on the standard output.

After the discovery phase is completed, directed route packets are sent multiple times to detect possible problematic paths on which packets might be lost. A report of suspected bad links is displayed on the standard output.

If requested with the `-r` option, a full report of fabric qualities is displayed, including:

- Subnet Manager report
- Number of nodes and systems
- Hop-count information containing maximal hop-count, an example path, and a hop-count histogram
- All CA-to-CA paths traced
- Credit loop report
- MGID-MLID-HCAs multicast group and report
- Partitions report
- IPoIB report

Note – If the InfiniBand fabric includes only one CA, then CA-to-CA paths are not reported. Additionally, if a topology file is provided, the `ibdiagnet` command uses the names defined in the topology file for the output reports.

The `ibdiagnet` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Options

This table describes the options to the `ibdiagnet` command and their purposes.

Option	Purpose
-c	Sets the minimum number of packets sent across each link.
-v	Provides verbose output.
-r	Provides a report of fabric qualities.
-t	Specifies the topology file name.
-s	Specifies the local system name.
-i	In the case of multiple devices on the local system, this option specifies the index of the device of the port used to connect to the InfiniBand fabric.
-p	Specifies the local device port number used to connect to the InfiniBand fabric.
-o	Specifies the output directory.
-lw	Specifies the expected link width.
-ls	Specifies the expected link speed.
-pm	Dumps all the fabric link Performance Manager counters into <code>ibdiagnet.pm</code> .
-pc	Resets all the fabric link Performance Manager counters.
-P	Uses the Performance Manager counter of PM set to the threshold of value.
-skip	Skips the executions of the selected checks. One or more checks can be specified.
-wt	Writes out the discovered topology into the given file.
-load_db	Loads subnet data from the given <code>.db</code> file and skips the subnet discovery stage. Note - Some checks require actual subnet discovery and are disabled if <code>load_db</code> is specified. Those checks are for duplicate/zero GUIDs, link state, and Subnet Manager status.
-h	Provides help.
-V	Displays the version information.

Example

This example shows how to test the InfiniBand fabric with the `ibdiagnet` command. The command checks for 4x link width and 10 Gbyte/sec speed, dumps the Performance Manager counters, and then clears the counters.

Note – The output for your InfiniBand fabric will differ from that in the example.

```
# ibdiagnet -lw 4x -ls 10 -pm -pc -skip dup_guids
Loading IBDIAGNET from: /usr/lib/ibdiagnet1.2
-W- Topology file is not specified.
  Reports regarding cluster links will use direct routes.
Loading IBDM from: /usr/lib/ibdml.2
-I- Using port 0 as the local port.
-I- Discovering ... 2 nodes (1 Switches & 1 CA-s) discovered.
-I-----
-I- Bad Guids/LIDs Info
-I-----
-I- No bad Guids were found
-I-----
-I- Links With Logical State = INIT
-I-----
-I- No bad Links (with logical state = INIT) were found
-I-----
-I- PM Counters Info
-I-----
-I- No illegal PM counters values were found
-I-----
-I- Links With links width != 4x (as set by -lw option)
-I-----
-I- No unmatched Links (with width != 4x) were found
-I-----
-I- Links With links speed != 10 (as set by -ls option)
-I-----
-I- No unmatched Links (with speed != 10) were found
-I-----
-I- Fabric Partitions Report (see ibdiagnet.pkey for a full hosts list)
-I-----
-I-----
-I- IPoIB Subnets Check
-I-----
-I- Subnet: IPv4 PKey:0x7fff QKey:0x00000b1b MTU:2048Byte rate:10Gbps SL:0x00
-W- No members found for group
-I-----
-I- Bad Links Info
-I- No bad link were found
-I-----
-I-----
-I- Stages Status Report:
  STAGE                               Errors Warnings
  Bad GUIDs/LIDs Check                0         0
  Link State Active Check              0         0
```

```

Performance Counters Report           0      0
Specific Link Width Check             0      0
Specific Link Speed Check             0      0
Partitions Check                     0      0
IPoIB Subnets Check                 0      1
Please see /tmp/ibdiagnet.log for complete log
-----
-I- Done. Run time was 2 seconds.
#

```

Related Information

- [ibdiagnet man page](#)
- [“Linux Shells for InfiniBand Commands” on page 62](#)

ibhosts Command

Displays host nodes.

Syntax

```
ibhosts [-h] [topology] [-C ca_name] [-P ca_port] [-t timeout]
```

where:

- *topology* is the topology file.
- *ca_name* is the channel adapter name.
- *ca_port* is the channel adapter port.
- *timeout* is the timeout in milliseconds.

Description

This InfiniBand command is a script that discovers the InfiniBand fabric topology or uses the existing topology file to extract the channel adapter nodes.

The `ibhosts` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Options

This table describes the options to the `ibhosts` command and their purposes.

Option	Purpose
-h	Provides help.
-C	Uses the specified channel adapter name.
-P	Uses the specified channel adapter port.
-t	Overrides the default timeout.

Example

This example shows how to display the host node GUIDs with the `ibhosts` command.

Note – The output in the example is a portion of the full output and varies for each InfiniBand topology.

```
# ibhosts
Ca      : 0x00212800013e9312 ports 2 "mnm56 HCA-1"
Ca      : 0x00212800013e93f6 ports 2 "mnm57 HCA-1"
Ca      : 0x002128312345c000 ports 2 "SUN IB QDR GW switch mnm-gw-1 10.172.144.69
Bridge 0"
Ca      : 0x002128312345c040 ports 2 "SUN IB QDR GW switch mnm-gw-1 10.172.144.69
Bridge 1"
.
.
.
#
```

Related Information

- [ibhosts man page](#)
- [“ibnetdiscover Command” on page 70](#)
- [“ibnodes Command” on page 75](#)
- [“Linux Shells for InfiniBand Commands” on page 62](#)

ibnetdiscover Command

Discovers the InfiniBand topology.

Syntax

```
ibnetdiscover [-d] [-e] [-v] [-s] [-l] [-g] [-H] [-S] [-R] [-C ca_name] [-P  
ca_port] [-t timeout] [-V] [--node-name-map map] [-p] [-h] [topology]
```

where:

- *ca_name* is the channel adapter name.
- *ca_port* is the channel adapter port.
- *timeout* is the timeout in milliseconds.
- *map* is the file name of the node name map.
- *topology* is the topology file.

Description

This InfiniBand command performs InfiniBand fabric discovery and outputs a human readable topology file. Nodes, node types, node descriptions, links, port numbers, port LIDs, and GUIDs are displayed. The output is directed to a topology file, if the file name is specified.

The output of the topology file follows this basic format for each node:

```
vendid=vendor_ID_in_hex  
devid=device_ID_in_hex  
and  
sysimgguid=GUID_in_hex  
and/or  
switchguid=GUID_in_hex (portGUID_in_hex)  
Switch ports_total "type-nodeGUID_in_hex" # "NodeDescription" base port 0 lid LID lmc 0  
or  
caguid=GUID_in_hex  
Ca ports_total "type-nodeGUID_in_hex" # "NodeDescription"  
and  
[port] "type-nodeGUID_in_hex" [port] (portGUID_in_hex) # "NodeDescription" lid LID widthspeed  
[port] "type-nodeGUID_in_hex" [port] (portGUID_in_hex) # "NodeDescription" lid LID widthspeed
```

.
.
.

For example:

```
vendid=0x2c9
devid=0xbd36
sysimgguid=0x21283a8389a0a3
switchguid=0x21283a8389a0a0(21283a8389a0a0)
Switch 36 "S-0021283a8389a0a0" # "Sun DCS 36 QDR switch localhost" enhanced
port 0 lid 15 lmc 0
[23] "H-0003ba000100e388"[2](3ba000100e38a) # "mn33-43 HCA-1" lid 14 4xQDR
.
```

Note – The `ibnetdiscover` command is available to only the `root` user.

Options

This table describes the options to the `ibnetdiscover` command and their purposes.

Option	Purpose
-d	Sets the debug level. Can be used several times to increase the debug level.
-e	Displays send and receive errors.
-v	Provides verbose output.
-s	Shows more information.
-l	Lists the connected nodes.
-g	Shows the grouping and switch external ports correspondence.
-H	Lists the connected channel adapters.
-S	Lists the connected switches.
-R	Lists the connected routers.
-C	Uses the specified channel adapter name.
-P	Uses the specified channel adapter port.

Option	Purpose
-t	Overrides the default timeout.
-V	Displays the version information.
--node-name-map	Reads the node name map file.
-p	Returns a list of connected ports, including status information: • LID • portnum • GUID • link width • link speed • NodeDescription
-h	Provides help.

Example

This example shows how to discover the InfiniBand fabric topology with the `ibnetdiscover` command.

Note – The output for your InfiniBand fabric will differ from that in the example.

```
# ibnetdiscover
#
# Topology file: generated on Sat Apr 13 22:28:55 2002
#
# Max of 1 hops discovered
# Initiated from node 0021283a8389a0a0 port 0021283a8389a0a0
vendid=0x2c9
devid=0xbd36
sysimgguid=0x21283a8389a0a3
switchguid=0x21283a8389a0a0(21283a8389a0a0)
Switch 36 "S-0021283a8389a0a0" # "Sun DCS 36 QDR switch localhost" enhanced port
0 lid 15 lmc 0
[23]      "H-0003ba000100e388"[2](3ba000100e38a) # "mnm33-43 HCA-1" lid 14 4xQDR

vendid=0x2c9
devid=0x673c
sysimgguid=0x3ba000100e38b
caguid=0x3ba000100e388
```



```
Ca      2 "H-0003ba000100e388" # "mnm33-43 HCA-1"  
[2](3ba000100e38a)      "S-0021283a8389a0a0"[23] # lid 14 lmc 0 "Sun DCS 36 QDR  
switch localhost" lid 15 4xQDR  
#
```

Related Information

- [ibnetdiscover man page](#)

ibnetstatus Command

Displays status of the InfiniBand fabric.

Syntax

```
ibnetstatus [-h]
```

Description

This InfiniBand command provides a short status report of the InfiniBand fabric. It provides output equivalent to `ibdiagnet -ls 10 -lw 4x`.

The `ibnetstatus` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Options

The `-h` option provides help.

Example

This example shows how to display the status of the InfiniBand fabric with the `ibnetstatus` command.

Note – The output for your InfiniBand fabric will differ from that in the example.

```
# ibnetstatus
Loading IBDIAGNET from: /usr/lib/ibdiagnet1.2
-W- Topology file is not specified.
  Reports regarding cluster links will use direct routes.
Loading IBDM from: /usr/lib/ibdm1.2
-I- Using port 0 as the local port.
-I- Discovering ... 9 nodes (2 Switches & 7 CA-s) discovered.
-I-----
-I- Bad Guids/LIDs Info
-I-----
-I- skip option set. no report will be issued
-I-----
-I- Links With Logical State = INIT
-I-----
-I- No bad Links (with logical state = INIT) were found
-I-----
-I- PM Counters Info
-I-----
-W- lid=0x0010 guid=0x00212856cfe2c0a0 dev=48438 Port=1
  Performance Monitor counter      : Value
  symbol_error_counter             : 0xffff (overflow)
-W- lid=0x0010 guid=0x00212856cfe2c0a0 dev=48438 Port=2
  Performance Monitor counter      : Value
  symbol_error_counter             : 0xffff (overflow)
-W- lid=0x0010 guid=0x00212856cfe2c0a0 dev=48438 Port=3
  Performance Monitor counter      : Value
  symbol_error_counter             : 0xffff (overflow)
-W- lid=0x0010 guid=0x00212856cfe2c0a0 dev=48438 Port=4
  Performance Monitor counter      : Value
  symbol_error_counter             : 0xffff (overflow)
-I-----
-I- Links With links width != 4x (as set by -lw option)
-I-----
-I- No unmatched Links (with width != 4x) were found
-I-----
-I- Links With links speed != 10 (as set by -ls option)
-I-----
-I- No unmatched Links (with speed != 10) were found
-I-----
-I- Fabric Partitions Report (see ibdiagnet.pkey for a full hosts list)
-I-----
-I-----
-I- IPoIB Subnets Check
-I-----
```

```

-I- Subnet: IPv4 PKey:0x0001 QKey:0x00000b1b MTU:2048Byte rate:10Gbps SL:0x00
-W- No members found for group
-I- Subnet: IPv4 PKey:0x7fff QKey:0x00000b1b MTU:2048Byte rate:10Gbps SL:0x00
-W- No members found for group
-I-----
-I- Bad Links Info
-I- No bad link were found
-I-----
-I- Stages Status Report:
  STAGE                               Errors Warnings
  Bad GUIDs/LIDs Check                 0         0
  Link State Active Check               0         0
  Performance Counters Report           0         4
  Specific Link Width Check             0         0
  Specific Link Speed Check             0         0
  Partitions Check                     0         0
  IPoIB Subnets Check                  0         2
-----
-I- Done. Run time was 22 seconds.
#

```

Related Information

- [ibnetstatus man page](#)
- [“ibdiagnet Command” on page 63](#)
- [“Linux Shells for InfiniBand Commands” on page 62](#)

ibnodes Command

Displays InfiniBand nodes in topology.

Syntax

```
ibnodes [-h] [topology] [-C ca_name] [-P ca_port] [-t timeout]
```

where:

- *topology* is the topology file.
- *ca_name* is the channel adapter name.
- *ca_port* is the channel adapter port.

- *timeout* is the timeout in milliseconds.

Description

This InfiniBand command is a script that discovers the InfiniBand fabric topology or uses the existing topology file to extract the InfiniBand nodes of the channel adapters, switches, and routers.

The `ibnodes` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Options

This table describes the options to the `ibnodes` command and their purposes.

Option	Purpose
-h	Provides help.
-C	Uses the specified channel adapter name.
-P	Uses the specified channel adapter port.
-t	Overrides the default timeout.

Example

This example shows how to display the node GUIDs with the `ibnodes` command.

Note – The output for your InfiniBand fabric will differ from that in the example.

```
# ibnodes
Ca      : 0x0003ba000100e388 ports 2 "mnm33-43 HCA-1"
Switch  : 0x0021283a8389a0a0 ports 36 "Sun DCS 36 QDR switch localhost" enhanced
port 0 lid 15 lmc 0
#
```

Related Information

- `ibnodes` man page

- “[ibnetdiscover Command](#)” on page 70
- “[Linux Shells for InfiniBand Commands](#)” on page 62

ibportstate Command

Manages the state and link speed of an InfiniBand port.

Syntax

```
ibportstate [-d] [-D] [-e] [-G] [-h] [-s smlid] [-v] [-C ca_name] [-P  
ca_port] [-t timeout] lid|dr_path|guid port [op]
```

where:

- *smlid* is the Subnet Manager LID.
- *topology* is the topology file.
- *ca_name* is the channel adapter name.
- *ca_port* is the channel adapter port.
- *timeout* is the timeout in milliseconds.
- *lid* is the local identifier.
- *dr_path* is the directed path.
- *guid* is the global unique identifier.
- *port* is the port being validated.
- *op* is the operation to perform on the port:
 - enable
 - disable
 - reset
 - speed *number* (where *number* is 1 for SDR, 2 for DDR, and 4 for QDR)
 - query (default)

Description

This InfiniBand command queries the logical and physical state of an InfiniBand port. The command can return the link width and speed of a switch chip port, as well as enabling, disabling, or resetting the port. The command can also set the link speed of any InfiniBand port.

Note – State changes made with the `ibportstate` command are not recognized by the `disableswitchport`, `enableswitchport`, or `listlinkup` commands.

Note – Speed changes are not affected until the port undergoes link renegotiation. Additionally, speed values are additive for enabling. For example, `speed 7` is 2.5, 5.0, and 10.0 Gbyte/sec.

The `ibportstate` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Options

This table describes the options to the `ibportstate` command and their purposes.

Option	Purpose
-d	Sets the debug level. Can be used several times to increase the debug level.
-D	Uses the directed path address. The path is a comma-delimited sequence of out ports.
-e	Displays send and receive errors.
-G	Uses the port GUID address.
-h	Provides help.
-s	Uses <i>smlid</i> as the target LID for Subnet Manager or Subnet Administrator queries.
-v	Provides verbose output.
-C	Uses the specified channel adapter name.
-P	Uses the specified channel adapter port.
-t	Overrides the default timeout.

Example

This example shows how to query the state and link speed of LID 15, port 23 with the `ibportstate` command.

```
# ibportstate 15 28
PortInfo:
# Port info: Lid 15 port 28
LinkState:.....Active
PhysLinkState:.....LinkUp
LinkWidthSupported:.....1X or 4X
LinkWidthEnabled:.....1X or 4X
LinkWidthActive:.....4X
LinkSpeedSupported:.....2.5 Gbps or 5.0 Gbps or 10.0 Gbps
LinkSpeedEnabled:.....2.5 Gbps or 5.0 Gbps or 10.0 Gbps
LinkSpeedActive:.....10.0 Gbps
Peer PortInfo:
# Port info: Lid 15 DR path slid 1; dlid 65535; 0,28 port 28
LinkState:.....Active
PhysLinkState:.....LinkUp
LinkWidthSupported:.....1X or 4X
LinkWidthEnabled:.....1X or 4X
LinkWidthActive:.....4X
LinkSpeedSupported:.....2.5 Gbps or 5.0 Gbps or 10.0 Gbps
LinkSpeedEnabled:.....2.5 Gbps or 5.0 Gbps or 10.0 Gbps
LinkSpeedActive:.....10.0 Gbps
#
```

Related Information

- [ibportstate man page](#)
- [“disableswitchport Command” on page 15](#)
- [“enablesm Command” on page 18](#)
- [“listlinkup Command” on page 34](#)
- [“Linux Shells for InfiniBand Commands” on page 62](#)

ibroute Command

Queries InfiniBand switch forwarding tables.

Syntax

```
ibroute [-d] [-a] [-n] [-D] [-e] [-G] [-h] [-M] [-s smlid] [-v] [-V] [-C  
ca_name] [-P ca_port] [-t timeout] [lid|dr_path|guid [startlid [endlid]]]
```

where:

- *smlid* is the Subnet Manager LID.
- *ca_name* is the channel adapter name.
- *ca_port* is the channel adapter port.
- *timeout* is the timeout in milliseconds.
- *lid* is the local identifier.
- *dr_path* is the directed path.
- *guid* is the global unique identifier.
- *startlid* is the starting local identifier.
- *endlid* is the ending local identifier.

Description

This InfiniBand command uses SMPs to display the forwarding tables for the specified switch LID and optionally, the LID range. By default, the range is all valid entries from 1 to FDBTop.

The `ibroute` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Options

This table describes the options to the `ibroute` command and their purposes.

Option	Purpose
-a	Shows all LIDs in the range, including invalid entries.
-n	Does not try to resolve destinations.
-d	Sets the debug level. Can be used several times to increase the debug level.
-D	Uses the directed path address. The path is a comma-delimited sequence of out ports.
-e	Displays send and receive errors.
-G	Uses the port GUID address.

Option	Purpose
-h	Provides help.
-M	Shows multicast forwarding tables.
-s	Uses <i>smlid</i> as the target LID for Subnet Manager or Subnet Administrator queries.
-v	Provides verbose output.
-V	Displays the version information.
-C	Uses the specified channel adapter name.
-P	Uses the specified channel adapter port.
-t	Overrides the default timeout.

Example

This example shows how to display the forwarding table for LID 15 with the `ibroute` command.

Note – The output for your InfiniBand fabric will differ from that in the example.

```
# ibroute 15
Unicast lids [0x0-0xf] of switch Lid 15 guid 0x0021283a8389a0a0 (Sun DCS 36 QDR
switch localhost):
  Lid  Out  Destination
    Port    Info
0x000e 023 : (Channel Adapter portguid 0x0003ba000100e38a: 'mnm33-43 HCA-1')
0x000f 000 : (Switch portguid 0x0021283a8389a0a0: 'Sun DCS 36 QDR switch
localhost')
2 valid lids dumped
#
```

Related Information

- [ibroute man page](#)
- [“ibtracert Command” on page 87](#)
- [“Linux Shells for InfiniBand Commands” on page 62](#)

ibrouters Command

Displays InfiniBand router nodes in topology.

Syntax

```
ibrouters [-h] [topology] [-C ca_name] [-P ca_port] [-t timeout]
```

where:

- *topology* is the topology file.
- *ca_name* is the channel adapter name.
- *ca_port* is the channel adapter port.
- *timeout* is the timeout in milliseconds.

Description

This InfiniBand software command is a script that discovers the InfiniBand fabric topology or uses an existing topology file to extract the router nodes.

The `ibrouters` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Options

This table describes the options to the `ibrouters` command and their purposes.

Option	Purpose
-h	Provides help.
-C	Uses the specified channel adapter name.
-P	Uses the specified channel adapter port.
-t	Overrides the default timeout.

Example

This example shows how to display router nodes with the `ibrouters` command.

Note – The output in the example is a portion of the full output and varies for each InfiniBand topology.

```
# ibrouters
#
```

Related Information

- `ibrouters` man page
- [“ibnetdiscover Command” on page 70](#)
- [“ibnodes Command” on page 75](#)
- [“Linux Shells for InfiniBand Commands” on page 62](#)

ibstat Command

Queries basic status of InfiniBand devices.

Syntax

```
ibstat [-d] [-e] [-h] [-l] [-s] [-p] [-V] ca_name [ca_port]
```

where:

- *ca_name* is the channel adapter name.
- *ca_port* is the channel adapter port.

Description

This InfiniBand software command displays basic information retrieved from the local InfiniBand driver. Output of the command includes:

- LID
- SMLID

- port logical state
- link width
- port physical state

The `ibstat` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Options

This table describes the options to the `ibstat` command and their purposes.

Option	Purpose
-d	Sets the debug level. Can be used several times to increase the debug level.
-e	Displays send and receive errors.
-h	Provides help.
-l	Lists all InfiniBand devices.
-s	Provides short output.
-p	Shows port list.
-v	Displays the version information.

Example

This example shows how to display the basic status from the local InfiniBand driver with the `ibstat` command.

```
# ibstat
Switch 'is4_0'
  Switch type: MT48436
  Number of ports: 0
  Firmware version: 7.3.0
  Hardware version: a0
  Node GUID: 0x00212856cfe2c0a0
  System image GUID: 0x00212856cfe2c0a3
  Port 0:
    State: Active
    Physical state: LinkUp
    Rate: 40
    Base lid: 16
    LMC: 0
```

```
SM lid: 16
Capability mask: 0x4250084a
Port GUID: 0x00212856cfe2c0a0
```

```
#
```

Related Information

- `ibstat` man page
- [“Linux Shells for InfiniBand Commands” on page 62](#)

ibswitches Command

Displays InfiniBand switch node in the topology.

Syntax

```
ibswitches [-h] [topology] [-C ca_name] [-P ca_port] [-t timeout]
```

where:

- *topology* is the topology file.
- *ca_name* is the channel adapter name.
- *ca_port* is the channel adapter port.
- *timeout* is the timeout in milliseconds.

Description

This InfiniBand command is a script the discovers the InfiniBand fabric topology or uses an existing topology file to extract the switch nodes.

The `ibswitches` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Options

This table describes the options to the `ibswitches` command and their purposes.

Option	Purpose
-h	Provides help.
-C	Uses the specified channel adapter name.
-P	Uses the specified channel adapter port.
-t	Overrides the default timeout.

Example

This example shows how to display the switch GUIDs with the `ibswitches` command.

Note – The output for your InfiniBand fabric will greatly differ from that in the example.

```
# ibswitches
Switch : 0x03ba01234567a0a0 ports 36 "SUN DCS 36P QDR mnm-36p-2 10.172.144.66"
enhanced port 0 lid 1 lmc 0
Switch : 0x002128312345c0a0 ports 36 "SUN IB QDR GW switch mnm-gw-1
10.172.144.69" enhanced port 0 lid 15 lmc 0
#
```

Related Information

- [ibswitches man page](#)
- [“ibnetdiscover Command” on page 70](#)
- [“ibnodes Command” on page 75](#)
- [“Linux Shells for InfiniBand Commands” on page 62](#)

ibtracert Command

Traces the InfiniBand path.

Syntax

```
ibtracert [-d] [-D] [-G] [-h] [-m mlid] [-s smlid] [-v] [-V] [-C  
ca_name] [-P ca_port] [-t timeout] [lid|dr_path|guid [startlid [endlid]] ]
```

where:

- *mlid* is the multicast LID.
- *smlid* is the Subnet Manager LID.
- *ca_name* is the channel adapter name.
- *ca_port* is the channel adapter port.
- *timeout* is the timeout in milliseconds.
- *lid* is the local identifier.
- *dr_path* is the directed path.
- *guid* is the global unique identifier.
- *startlid* is the starting LID for a range.
- *endlid* is the ending LID for a range.

Description

This InfiniBand command uses SMPs to trace the path from a source GID or LID to a destination GID or LID. Each responding hop in the path is displayed. The `-m` option enables multicast path tracing between source and destination nodes.

The `ibtracert` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Options

This table describes the options to the `ibtracert` command and their purposes.

Option	Purpose
-d	Sets the debug level. Can be used several times to increase the debug level.
-D	Uses the directed path address. The path is a comma-delimited sequence of out ports.
-G	Uses the port GUID address.
-h	Provides help.

Option	Purpose
-m	Shows the multicast trace of the specified MLID.
-s	Uses <i>smlid</i> as the target LID for Subnet Manager or Subnet Administrator queries.
-v	Provides verbose output.
-V	Displays the version information.
-C	Uses the specified channel adapter name.
-P	Uses the specified channel adapter port.
-t	Overrides the default timeout.

Example

This example shows how to display the path from LID 15 to LID 14 with the `ibtracert` command.

Note – The output for your InfiniBand fabric will differ from that in the example.

```
# ibtracert 15 14
From switch {0x0021283a8389a0a0} portnum 0 lid 15-15 "Sun DCS 36 QDR switch
localhost"
[23] -> ca port {0x0003ba000100e38a}[2] lid 14-14 "mnm-43 HCA-1"
To ca {0x0003ba000100e388} portnum 2 lid 14-14 "mnm-43 HCA-1"
#
```

Related Information

- [ibtracert man page](#)
- [“ibroute Command” on page 80](#)
- [“Linux Shells for InfiniBand Commands” on page 62](#)

perfquery Command

Queries InfiniBand port counters.

Syntax

```
perfquery [-d] [-e] [-G] [-h] [-a] [-l] [-r] [-R] [-v] [-V] [-C ca_name] [-P  
ca_port] [-t timeout] [lid|guid [[port] [reset_mask]]]
```

where:

- *ca_name* is the channel adapter name.
- *ca_port* is the channel adapter port.
- *timeout* is the timeout in milliseconds.
- *lid* is the local identifier.
- *guid* is the global unique identifier.
- *port* is the port being queried.
- *reset_mask* is the two-byte mask.

Description

This InfiniBand command uses the performance management GMPs to acquire the PortCounters or PortExtendedCounters from the Performance Manager agent at the node or port specified.

Note – The data values retrieved from PortCounters and PortExtendedCounters are represented as octets divided by 4.

Note – Providing a *port* value of 255 ensures that the operation is performed on all ports.

The perfquery command is available from the /SYS/Switch_Diag and /SYS/Fabric_Mgmt Linux shell targets of the Oracle ILOM CLI interface.

Options

This table describes the options to the perfquery command and their purposes.

Option	Purpose
-d	Sets the debug level. Can be used several times to increase the debug level.
-e	Shows extended port counters.

Option	Purpose
-a	Shows aggregate counters for all ports.
-G	Uses the port GUID address.
-h	Provides help.
-l	Loops through all ports.
-r	Resets the counters after reading.
-R	Resets counters only.
-v	Provides verbose output.
-V	Displays the version information.
-C	Uses the specified channel adapter name.
-P	Uses the specified channel adapter port.
-t	Overrides the default timeout.

Example

This example shows how to display all port counters for LID 15, port 28 with the `perfquery` command.

```
# perfquery 15 28
# Port counters: Lid 15 port 28
PortSelect:.....28
CounterSelect:.....0x1b01
SymbolErrors:.....0
.
.
.
VL15Dropped:.....0
XmtData:.....33791184
RcvData:.....33789168
XmtPkts:.....469322
RcvPkts:.....469294
#
```

Related Information

- `perfquery` man page
- [“Linux Shells for InfiniBand Commands” on page 62](#)

saquery Command

Queries InfiniBand fabric administration attributes.

Syntax

```
saquery [-h] [-d] [-p] [-N] [-D] [-S] [-I] [-L] [-l] [-G] [-O] [-U] [-c] [-s]
[-g] [-m] [-x] [-C ca_name] [-P ca_port] [-t timeout] [--src-to-dst
source:destination] [--sgid-to-dgid source-destination] [name | lid | guid]
```

where:

- *ca_name* is the channel adapter name.
- *ca_port* is the channel adapter port.
- *timeout* is the timeout in milliseconds.
- *lid* is the local identifier.
- *guid* is the global unique identifier.
- *name* is the query name described in this table.

Query Names	Alias for <i>name</i>	Format
ClassPortInfo	CPI	
NodeRecord	NR	
PortInfoRecord	PIR	
SL2VLTableRecord	SL2VL	[[<i>lid</i>]/[<i>in_port</i>]/[<i>out_port</i>]]
PKeyTableRecord	PKTR	[[<i>lid</i>]/[<i>port</i>]/[<i>block</i>]]
VLArbitrationTableRecord	VLAR	[[<i>lid</i>]/[<i>port</i>]/[<i>block</i>]]
InformInfoRecord	IIR	
LinkRecord	LR	[[<i>from_lid</i>]/[<i>from_port</i>]] [[<i>to_lid</i>]/[<i>to_port</i>]]
ServiceRecord	SR	
PathRecord	PR	
MCMemberRecord	MCMR	
LFTRRecord	LFTR	[[<i>lid</i>]/[<i>block</i>]]
MFTRRecord	MFTR	[[<i>mlid</i>]/[<i>position</i>]/[<i>block</i>]]

Description

This InfiniBand command performs the selected Subnet Administrator query. Node records are queried by default.

The `saquery` command is available from the `/SYS/Fabric_Mgmt` Linux shell target of the Oracle ILOM CLI interface.

Options

This table describes the options to the `saquery` command and their purposes.

Option	Purpose
-h	Provides help.
-d	Sets the debug level. Can be used several times to increase the debug level.
-p	Displays the PathRecord information.
-N	Displays the NodeRecord information.
-D	Displays the NodeDescriptions of channel adapters only.
-S	Displays ServiceRecord information.
-I	Displays InformInfoRecord information.
-L	Returns the LIDs of the specified name.
-l	Returns the unique LID of the specified name.
-G	Returns the GUIDs of the specified name.
-O	Returns the name of the specified LID.
-U	Returns the name of the specified GUID.
-G	Uses the port GUID address.
-c	Displays the Subnet Administrator class port information.
-s	Returns the PortInforRecords with the <code>isSM</code> or <code>isSMdisabled</code> capability mask bit enabled.
-g	Displays multicast group information.
-m	Displays multicast member information. If a group is specified, provides only the GUID and node description for each entry.
-x	Displays LinkRecord information.
--src-to-dst	Displays a PathRecord for <i>source:destination</i> , where <i>source</i> and <i>destination</i> are either node names or LIDs.

Option	Purpose
--sgid-to-dgid	Displays a PathRecord for <i>source-destination</i> , where <i>source</i> and <i>destination</i> are GIDs in an IPv6 format acceptable to inet_pton.
-C	Uses the specified channel adapter name.
-P	Uses the specified channel adapter port.
-t	Overrides the default timeout.

Example

This example shows how to produce a node record dump of every LID in the InfiniBand fabric with the `saquery` command.

Note – The output in the example is a portion of the full output.

```
# saquery
NodeRecord dump:
  lid.....0xE
  reserved.....0x0
  base_version.....0x1
  class_version.....0x1
  node_type.....Channel Adapter
  num_ports.....0x2
  sys_guid.....0x0003ba000100e38b
  node_guid.....0x0003ba000100e388
  port_guid.....0x0003ba000100e38a
  partition_cap.....0x80
  device_id.....0x673C
  revision.....0xA0
  port_num.....0x2
  vendor_id.....0x2C9
  NodeDescription.....mnm33-43 HCA-1
NodeRecord dump:
  lid.....0xF
  reserved.....0x0
.
.
.
#
```

Related Information

- `saquery` man page

smpquery Command

Queries InfiniBand fabric management attributes.

Syntax

```
smpquery [-d] [-D] [-e] [-G] [-h] [-v] [-V] [-C ca_name] [-P ca_port] [-t  
timeout] op lid|dr_path|guid [params]
```

where:

- *ca_name* is the channel adapter name.
- *ca_port* is the channel adapter port.
- *timeout* is the timeout in milliseconds.
- *op* is the supported operation.
- *lid* is the local identifier.
- *dr_path* is the directed path.
- *guid* is the global unique identifier.
- *params* is the parameter of the operation.

Description

This InfiniBand command permits a subset of the standard SMP queries, including these:

- Node information
- Node description
- Switch information
- Port information

Output is in human-readable format.

Supported operations and parameters are as follows:

- *nodeinfo addr*
- *nodedesc addr*

- `portinfo addr [portnum]`
- `switchinfo addr`
- `pkeys addr [portnum]`
- `sl2v1 addr [portnum]`
- `vlarb addr [portnum]`
- `guids addr`

where:

- *addr* is the address.
- *portnum* is the port number.

The `smpquery` command is available from the `/SYS/Switch_Diag` and `/SYS/Fabric_Mgmt` Linux shell targets of the Oracle ILOM CLI interface.

Options

This table describes the options to the `smpquery` command and their purposes.

Option	Purpose
-d	Sets the debug level. Can be used several times to increase the debug level.
-D	Uses the directed path address. The path is a comma-delimited sequence of out ports.
-e	Displays send and receive errors.
-G	Uses the port GUID address.
-h	Provides help.
-v	Provides verbose output.
-V	Displays the version information.
-C	Uses the specified channel adapter name.
-P	Uses the specified channel adapter port.
-t	Overrides the default timeout.

Example

This example shows how to display node information for LID 15 with the `smpquery` command.

```
# smpquery nodeinfo 15
# Node info: Lid 15
BaseVers:.....1
ClassVers:.....1
NodeType:.....Switch
NumPorts:.....36
SystemGuid:.....0x002128312345c0a3
Guid:.....0x002128312345c0a0
PortGuid:.....0x002128312345c0a0
PartCap:.....8
DevId:.....0xbd36
Revision:.....0x000000a1
LocalPort:.....28
VendorId:.....0x0002c9
#
```

Related Information

- [smpquery man page](#)
- [“saquery Command” on page 91](#)
- [“Linux Shells for InfiniBand Commands” on page 62](#)

Understanding SNMP MIB OIDs

These topics provide tables of object identifiers (OIDs) for their respective management information bases (MIBs).

- [“OID Tables Overview” on page 99](#)
- [“Understanding the SUN-DCS-IB-MIB MIB OIDs” on page 100](#)
- [“Understanding the SUN-FABRIC-MIB MIB OIDs” on page 113](#)
- [“Understanding the SUN-HW-TRAP-MIB MIB OIDs” on page 123](#)
- [“Understanding the SUN-ILOM-CONTROL-MIB MIB OIDs” on page 127](#)
- [“Understanding the SUN-PLATFORM-MIB MIB OIDs” on page 138](#)
- [“Understanding the ENTITY-MIB MIB OIDs” on page 146](#)

Related Information

- [“Understanding Hardware Commands” on page 1](#)
- [“Understanding InfiniBand Commands” on page 61](#)

OID Tables Overview

Each OID table has three columns of information. From left to right, the columns are:

- **Description of Task or Activity** – The text under this heading describes what you want to do or information you want to see.
- **Action** – The verbs under this heading describe the action respective to the SNMP client software interface. For example, a verb of `read` means to use the `snmpget`, `snmpwalk`, or `snmptable` command in the NetSNMP CLI client.
- **MIB OID** – The string under this heading is the object identifier of the respective MIB that is used to accomplish the task or activity.

Note – The OID provided in the right column might not be complete. You might need to append the OID with a .0 if the OID is a scalar OID or a .x (where x is 1 to a maximum value) if the OID is a tabular OID.

A table OID has a `Table` suffix, and the OIDs listed beneath it are most likely to be columns of that table.

An index OID has an `Index` suffix, and while the OID is not directly accessible, the OID is still used to return a specific row of a table OID.

Related Information

- [“Understanding the SUN-DCS-IB-MIB MIB OIDs” on page 100](#)
- [“Understanding the SUN-FABRIC-MIB MIB OIDs” on page 113](#)
- [“Understanding the SUN-HW-TRAP-MIB MIB OIDs” on page 123](#)
- [“Understanding the SUN-ILOM-CONTROL-MIB MIB OIDs” on page 127](#)
- [“Understanding the SUN-PLATFORM-MIB MIB OIDs” on page 138](#)
- [“Understanding the ENTITY-MIB MIB OIDs” on page 146](#)

Understanding the SUN-DCS-IB-MIB MIB OIDs

This topic provides tables of the hardware, Subnet Manager, Performance Manager, and SNMP trap object identifiers.

Tables of object identifiers are provided in these topics:

- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)
- [“Enclosure OIDs” on page 102](#)
- [“Enclosure Nodes OIDs” on page 102](#)
- [“Neighbor Node OIDs” on page 103](#)
- [“Subnet Manager Info OIDs” on page 104](#)
- [“Subnet Manager Agent Data Port OIDs” on page 105](#)
- [“Understanding Performance Manager Agent OIDs” on page 107](#)
- [“Understanding SNMP Trap OIDs” on page 110](#)

Related Information

- “OID Tables Overview” on page 99
- “Understanding the SUN-FABRIC-MIB MIB OIDs” on page 113
- “Understanding the SUN-HW-TRAP-MIB MIB OIDs” on page 123
- “Understanding the SUN-ILOM-CONTROL-MIB MIB OIDs” on page 127
- “Understanding the SUN-PLATFORM-MIB MIB OIDs” on page 138
- “Understanding the ENTITY-MIB MIB OIDs” on page 146

SUN-DCS-IB-MIB MIB OID Command Syntax

When you use the object identifiers in a command syntax, you must include the SUN-DCS-IB-MIB MIB name. For example, using the V2c protocol:

```
$ command -v2c -c public mc_IP SUN-DCS-IB-MIB::object_id argument
```

Or using the V3 protocol:

```
$ command -v3 -u snmp_user -l security_level -a authentication_protocol -A authentication_password  
-x DES -X privacy_password mc_IP SUN-DCS-IB-MIB::object_id argument
```

where:

- *command* is the command of the SNMP client that performs the action.
- *snmp_user* is a configured user of the SNMP services.
- *security_level* is:
 - noAuthNoPriv – There is no authentication or privacy.
 - authNoPriv – There is authentication, but no privacy.
 - authPriv – There is authentication and privacy.
- *authentication_protocol* is either MD5 or SHA
- *authentication_password* is the *snmp_user*’s authentication password.
- *privacy_password* is the *snmp_user*’s privacy password.
- *mc_IP* is the IP address of the management controller.
- *object_id* is the object identifier, as listed in the right column of the tables.
- *argument* is a combination of options and variables that support the object identifier.

For example, to securely display the version of the MIB on the management controller with IP address of 123.45.67.89:

```
$ snmpget -v3 -u usersnmp -l authPriv -a MD5 -A authpass -x DES -X privpass 123.45.67.89 SUN-DCS-IB-MIB::mibVersion
```

Related Information

- [“SUN-FABRIC-MIB MIB OID Command Syntax” on page 114](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)
- [“SUN-PLATFORM-MIB MIB OID Command Syntax” on page 139](#)
- [“ENTITY-MIB MIB OID Command Syntax” on page 146](#)

Enclosure OIDs

This table lists enclosure object identifiers supported by the SUN-DCS-IB-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display the MIB version.	read	mibVersion
Display the type of platform (Sun DCS 36p, and so on).	read	platformName
Display the service processor firmware version.	read	spFwVersion
Display the FPGA/CPLD firmware version.	read	fpgaVersion

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)

Enclosure Nodes OIDs

This table lists enclosure node object identifiers supported by the SUN-DCS-IB-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of information about the InfiniBand nodes belonging to the enclosure.	read	ibEncNodesTable
Display a row of the <code>ibEncNodesTable</code> .	read	ibEncNodesEntry
Display an index of InfiniBand nodes belonging to the enclosure.	read	ibEncNodesIndex
Display the type of InfiniBand node (switch, CA, and so on).	read	ibEncNodesType
Display the GUID of the node.	read	ibEncNodesGuid
Display the number of ports of the node.	read	ibEncNodesPorts
Display the <code>NodeDescription</code> of the node.	read	ibEncNodesDescr
Display the LID of the node.	read	ibEncNodesLid
Display the firmware version of the node.	read	ibEncNodesFwVersion
Display the board or FRU on which the InfiniBand node is located.	read	ibEncNodesBoard
Display additional identification information of the InfiniBand node.	read	ibEncNodesName

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)

Neighbor Node OIDs

This table lists neighbor node object identifiers supported by the SUN-DCS-IB-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of information about neighboring InfiniBand nodes.	read	ibNeighborTable
Display a row of the <code>ibNodeNeighborTable</code> .	read	ibNeighborEntry
Display an index of neighboring InfiniBand nodes.	read	ibNeighNodeIndex

Description of Task or Activity	Action	MIB OID
Display an index of neighboring InfiniBand node data ports.	read	ibNeighPortIndex
Display the type of remote InfiniBand node (switch, CA, and so on).	read	ibNeighRemoteNodeType
Display the GUID of the remote node.	read	ibNeighRemoteNodeGuid
Display the number of ports of the remote node.	read	ibNeighRemoteNodePort
Display the NodeDescription of the remote node.	read	ibNeighRemoteNodeDescr
Display the LID of the remote node.	read	ibNeighRemoteNodeLid
Display a mapping of neighboring InfiniBand device port to connector.	read	ibNeighPortConnectorPosition

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)

Subnet Manager Info OIDs

This table lists Subnet Manager object identifiers supported by the SUN-DCS-IB-MIB MIB.

Description of Task or Activity	Action	MIB OID
Identify the master Subnet Manager in the subnet.	read	smMasterSMPresent
Display the LID of the master Subnet Manager.	read	smMasterSMLid
Display the GUID of the master Subnet Manager.	read	smMasterSMGuid
Display information about the Subnet Manager. Disable or enable the Subnet Manager.	read write	smLocalSMRunning
Display the state of the Subnet Manager.	read	smLocalSMState

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)

Subnet Manager Agent Data Port OIDs

This table lists SMA object identifiers supported by the SUN-DCS-IB-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of SMA PortInfo information.	read	ibSmaPortInfoTable
Display a row of the ibSmaPortInfoTable.	read	ibSmaPortInfoEntry
Display an index of SMA InfiniBand nodes.	read	ibSmaNodeIndex
Display an index of SMA InfiniBand data ports.	read	ibSmaPortIndex
Display SMA enabled link width.	read	ibSmaPortLinkWidthEnabled
Display SMA supported link width.	read	ibSmaPortLinkWidthSupported
Display SMA currently active link width.	read	ibSmaPortLinkWidthActive
Display SMA supported link speed.	read	ibSmaPortLinkSpeedSupported
Display the SMA link state of the port.	read	ibSmaPortLinkState
Display the SMA physical state of the port.	read	ibSmaPortPhysState
Display the SMA LinkDownDefault state.	read	ibSmaPortLinkDownDefaultState
Display the SMA LID mask control count for multipath support of CA and router ports.	read	ibSmaPortLidMaskCount
Display the currently active SMA link speed.	read	ibSmaPortLinkSpeedActive
Display the enabled SMA link speed.	read	ibSmaPortLinkSpeedEnabled
Display the active maximum MTU enabled on the SMA port for transmit.	read	ibSmaPortNeighborMtu
Display the virtual lane configuration supported on the SMA port.	read	ibSmaPortVirtLaneSupport
Display the number of high priority packets that are transmitted before a low priority packet is sent.	read	ibSmaPortVlHighPriorityLimit
Display the number of virtual lane - weight pairs supported on the SMA port in the ibSmaHiPrivlArbTable for high priority.	read	ibSmaPortVlArbHighCapacity
Display the number of virtual lane - weight pairs supported on the SMA port in the ibSmaHiPrivlArbTable for low priority.	read	ibSmaPortVlArbLowCapacity
Display the maximum MTU supported by the SMA port.	read	ibSmaPortMtuCapacity

Description of Task or Activity	Action	MIB OID
Display or specify the number of sequential packets dropped that causes the SMA port to enter the VLStalled state.	read	ibSmaPortVlStallCount
Display or specify the time a packet can live at the head of a virtual lane queue.	read	ibSmaPortHeadOfQueueLife
Display the virtual lanes operational on the SMA port.	read	ibSmaPortOperationalVls
Display support of optional inbound partition enforcement.	read	ibSmaPortPartEnforceInbound
Display support of optional outbound partition enforcement.	read	ibSmaPortPartEnforceOutbound
Display support of optional inbound raw packet enforcement.	read	ibSmaPortFilterRawPktInbound
Display support of optional outbound raw packet enforcement.	read	ibSmaPortFilterRawPktOutbound
Display the local physical error threshold value. When the threshold is exceeded, a local link integrity error is determined.	read	ibSmaPortLocalPhysErrorThreshold
Display overrun error threshold value. When the number of buffer overruns exceeds the threshold, an excessive buffer overrun error is determined.	read	ibSmaPortOverrunErrorThreshold
Display a mapping of an InfiniBand device SMA port to connector.	read	ibSmaPortConnectorPosition

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)

Understanding Performance Manager Agent OIDs

Performance Manager object identifiers are provided in these tables:

- [“PMA Port Counters Table OIDs” on page 107](#)
- [“PMA Extended Port Counters Table OIDs” on page 109](#)

Related Information

- [“Understanding SNMP Trap OIDs” on page 110](#)

- [“OID Tables Overview” on page 99](#)
- [“Understanding the SUN-HW-TRAP-MIB MIB OIDs” on page 123](#)
- [“Understanding the SUN-ILOM-CONTROL-MIB MIB OIDs” on page 127](#)
- [“Understanding the SUN-PLATFORM-MIB MIB OIDs” on page 138](#)
- [“Understanding the ENTITY-MIB MIB OIDs” on page 146](#)

PMA Port Counters Table OIDs

This table lists PMA port counter object identifiers supported by the SUN-DCS-IB-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of PMA Port Counters information.	read	ibPmaPortCntrsTable
Display a row of the ibPmaPortCntrsTable	read	ibPmaPortCntrsEntry
Display an index of PMA nodes.	read	ibPmaPortCntrsNode
Display an index of the PMA InfiniBand data ports.	read	ibPmaPortCntrsPort
Display the total number of symbol errors detected on one or more physical lanes.	read	ibPmaSymbolErrCounter
Display the number of times the port training state machine has successfully completed the link error recovery process.	read	ibPmaLinkErrRecoveryCntnr
Display the number of times the port training state machine has failed the link error recovery process and downed the link.	read	ibPmaLinkDownedCntnr
Display the number of packets containing an error that were received on the port.	read	ibPmaPortRcvErr
Display the number of packets marked with the End-of-Bad-Packets (EBP) delimiter received on the port.	read	ibPmaPortRcvRemPhysErr
Display the number of packets received on the port that could not be forwarded by the switch relay.	read	ibPmaPortRcvSwitchRelayErr
Display the number of outbound packets discarded because the port is down or congested.	read	ibPmaPortXmitDiscard

Description of Task or Activity	Action	MIB OID
Display the number of packets not transmitted from the port because the packet is raw, or fails partition key check or IP version check.	read	ibPmaPortXmitConstraintErr
Display the number of packets received on the port that are discarded because the packet is raw, or fails partition key check or IP version check.	read	ibPmaPortRcvConstraintErr
Display the number of times that the local physical errors threshold was exceeded.	read	ibPmaLocalLinkIntegrityErr
Display the number of times that buffer overrun errors occurred.	read	ibPmaExcessBufOverrunErr
Display the number of incoming VL 15 packets dropped due to lack of buffers.	read	ibPmaVl15Dropped
Display a mapping of PMA InfiniBand device port to connector.	read	ibPmaPortConnector
Display the number of symbol errors for a port during the last 10 minutes.	read	ibPmaSymErrors10min
Display the number of symbol errors for a port during the last hour.	read	ibPmaSymErrors1hour
Display the number of symbol errors for a port during the last 24 hours.	read	ibPmaSymErrors24hours

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)

PMA Extended Port Counters Table OIDs

This table lists extended PMA port counter object identifiers supported by the SUN-DCS-IB-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of PMA extended port counters information.	read	ibPmaExtPortCntrsTable
Display a row of the ibPmaExtPortCntrsTable.	read	ibPmaExtPortCntrsEntry
Display an index of external PMA nodes.	read	ibPmaExtPortCntrsNode

Description of Task or Activity	Action	MIB OID
Display an index of external PMA InfiniBand data ports.	read	ibPmaExtPortCntrsPort
Display the number of data octets, divided by 4, transmitted on all virtual lanes from the port.	read	ibPmaPortXmitData
Display the number of data octets, divided by 4, received on all virtual lanes at the port.	read	ibPmaPortRcvData
Display the number of packets transmitted on all virtual lanes from the port.	read	ibPmaPortXmitPkts
Display the number of packets received from all virtual lanes on the port.	read	ibPmaPortRcvPkts
Display the number of unicast packets transmitted on all virtual lanes from the port.	read	ibPmaPortUnicastXmitPkts
Display the number of unicast packets received from all virtual lanes on the port.	read	ibPmaPortUnicastRcvPkts
Display the number of multicast packets transmitted on all virtual lanes from the port.	read	ibPmaPortMulticastXmitPkts
Display the number of multicast packets received from all virtual lanes on the port.	read	ibPmaPortMulticastRcvPkts
Display a mapping of external PMA InfiniBand device port to connector.	read	ibPmaExtPortConnector

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)

Understanding SNMP Trap OIDs

SNMP trap object identifiers are provided in these tables:

- [“Trap Control OIDs” on page 110](#)
- [“Trap Threshold OIDs” on page 111](#)
- [“Trap Notification OIDs” on page 112](#)

Related Information

- [“Understanding Performance Manager Agent OIDs” on page 107](#)
- [“OID Tables Overview” on page 99](#)

- [“Understanding the SUN-HW-TRAP-MIB MIB OIDs” on page 123](#)
- [“Understanding the SUN-ILOM-CONTROL-MIB MIB OIDs” on page 127](#)
- [“Understanding the SUN-PLATFORM-MIB MIB OIDs” on page 138](#)
- [“Understanding the ENTITY-MIB MIB OIDs” on page 146](#)

Trap Control OIDs

This table lists trap control object identifiers supported by the SUN-DCS-IB-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display or set the state whether performance counters traps are generated.	read write	ibSnmpPerfCountersTrapEnable
Display or set whether master Subnet Manager traps are generated.	read write	ibSnmpMasterSMTrapEnable
Display or set whether link state and speed traps are generated.	read write	ibSnmpLinkTrapEnable
Display or set whether high error rate traps are generated.	read write	ibSnmpPerfHighErrorRateTrapEnable

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)

Trap Threshold OIDs

This table lists trap threshold object identifiers supported by the SUN-DCS-IB-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display or set whether a trap is generated, should the SymbolErrCounter threshold be exceeded.	read write	ibSnmpPerfSymbolErrCounterThreshold
Display or set whether a trap is generated, should the LinkErrRecoveryCntr threshold be exceeded.	read write	ibSnmpPerfLinkErrRecoveryCntrThreshold
Display or set whether a trap is generated, should the LinkDownedCntr threshold be exceeded.	read write	ibSnmpPerfLinkDownedCntrThreshold
Display or set whether a trap is generated, should the PortRcvErr threshold be exceeded.	read write	ibSnmpPerfPortRcvErrThreshold
Display or set whether a trap is generated, should the PortRcvRemPhysErr threshold be exceeded.	read write	ibSnmpPerfPortRcvRemPhysErrThreshold
Display or set whether a trap is generated, should the PortRcvSwitchRelayErr threshold be exceeded.	read write	ibSnmpPerfPortRcvSwitchRelayErrThreshold
Display or set whether a trap is generated, should the PortXmitDiscards threshold be exceeded.	read write	ibSnmpPerfPortXmitDiscardThreshold
Display or set whether a trap is generated, should the PortXmitConstraintErr threshold be exceeded.	read write	ibSnmpPerfPortXmitConstraintErrThreshold
Display or set whether a trap is generated, should the PortRcvConstraintErr threshold be exceeded.	read write	ibSnmpPerfPortRcvConstraintErrThreshold
Display or set whether a trap is generated, should the LocalLinkIntegrityErr threshold be exceeded.	read write	ibSnmpPerfLocalLinkIntegrityErrThreshold
Display or set whether a trap is generated, should the ExcessBufOverrunErr threshold be exceeded.	read write	ibSnmpPerfExcessBufOverrunErrThreshold
Display or set whether a trap is generated, should the V115Dropped threshold be exceeded.	read write	ibSnmpPerfV115DroppedThreshold

Related Information

- [“OID Tables Overview” on page 99](#)

Trap Notification OIDs

This table lists trap notification object identifiers supported by the SUN-DCS-IB-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display an index of InfiniBand nodes originating a trap.	read	ibSnmpTrapNodeIndex
Display an index of InfiniBand data ports originating a trap.	read	ibSnmpTrapPortIndex
Display the performance counter causing a trap.	read	ibSnmpTrapPerfErrCounter
Display the counter value causing a trap.	read	ibSnmpTrapCounterVal
Display a mapping of SNMP InfiniBand device port to connector causing a trap.	read	ibSnmpTrapPortConnector
Identify the master Subnet Manager causing a trap.	read	ibSnmpTrapMasterSMPresent
Display the LID of the master Subnet Manager of a trap.	read	ibSnmpTrapMasterSMLid
Display the currently active link width of a trap.	read	ibSnmpTrapLinkWidthActive
Display the state of the link on the port of a trap.	read	ibSnmpTrapLinkState
Display the currently active link speed of a trap.	read	ibSnmpTrapLinkSpeedActive
Display the GUID of the trap’s node.	read	ibSnmpTrapNodeGuid
Display the LID of the trap’s node.	read	ibSnmpTrapNodeLid
Display the NodeDescription of the trap’s node.	read	ibSnmpTrapNodeDescr
Display how much the symbol error counter increased during the error rate monitoring interval.	read	ibSnmpSymErrIncrease
Display and set the error rate monitoring interval.	read write	ibSnmpErrRateInterval
A performance error counter threshold was exceeded. Node, port, counter and its value are passed inside the trap.		ibSnmpPerfErrCounterTrap

Description of Task or Activity	Action	MIB OID
This trap is sent when a change happens in master Subnet Manager presence.		ibSnmpNoMasterSMTrap
This trap is sent when a change in LinkState, LinkSpeedActive, or LinkWidthActive happens on a port.		ibSnmpLinkTrap
This trap is sent when error rate on a port is high (according to the configured values).		ibSnmpHighErrRateTrap

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)

Understanding the SUN-FABRIC-MIB MIB OIDs

This topic provides tables of the fabric element, management, and trap object identifiers.

Tables of object identifiers are provided in these topics:

- [“SUN-FABRIC-MIB MIB OID Command Syntax” on page 114](#)
- [“Fabric Element OIDs” on page 115](#)
- [“Fabric Management OIDs” on page 117](#)
- [“Fabric Management Element OIDs” on page 118](#)
- [“Fabric Management External Element OIDs” on page 120](#)
- [“Fabric Management Link OIDs” on page 120](#)
- [“Fabric Trap OIDs” on page 122](#)

Related Information

- [“OID Tables Overview” on page 99](#)
- [“Understanding the SUN-DCS-IB-MIB MIB OIDs” on page 100](#)
- [“Understanding the SUN-HW-TRAP-MIB MIB OIDs” on page 123](#)
- [“Understanding the SUN-ILOM-CONTROL-MIB MIB OIDs” on page 127](#)
- [“Understanding the SUN-PLATFORM-MIB MIB OIDs” on page 138](#)

- [“Understanding the ENTITY-MIB MIB OIDs” on page 146](#)

SUN-FABRIC-MIB MIB OID Command Syntax

When you use the object identifiers in a command syntax, you must include the SUN-FABRIC-MIB MIB name. For example, using the V2c protocol:

```
$ command -v2c -c public mc_IP SUN-FABRIC-MIB::object_id argument
```

Or using the V3 protocol:

```
$ command -v3 -u snmp_user -l security_level -a authentication_protocol -A authentication_password  
-x DES -X privacy_password mc_IP SUN-FABRIC-MIB::object_id argument
```

where:

- *command* is the command of the SNMP client that performs the action.
- *snmp_user* is a configured user of the SNMP services.
- *security_level* is:
 - *noAuthNoPriv* – There is no authentication or privacy.
 - *authNoPriv* – There is authentication, but no privacy.
 - *authPriv* – There is authentication and privacy.
- *authentication_protocol* is either MD5 or SHA
- *authentication_password* is the *snmp_user*’s authentication password.
- *privacy_password* is the *snmp_user*’s privacy password.
- *mc_IP* is the IP address of the management controller.
- *object_id* is the object identifier, as listed in the right column of the tables.
- *argument* is a combination of options and variables that support the object identifier.

For example, to securely display the IP address of the Fabric Manager:

```
$ snmpget -v3 -u usersnmp -l authPriv -a MD5 -A authpass -x DES -X privpass  
123.45.67.89 SUN-FABRIC-MIB::fabricElemMgrIpAddress
```

Related Information

- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)
- [“SUN-PLATFORM-MIB MIB OID Command Syntax” on page 139](#)

Fabric Element OIDs

This table lists fabric element object identifiers supported by the SUN-FABRIC-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display the host name and IP address of the fabric element.	read	<code>fabricElemName</code>
Display the product name of a fabric element.	read	<code>fabricElemType</code>
Display the current aggregated operational state of the fabric element.	read	<code>fabricElemOperStatus</code>
Display the IP address of the fabric manager.	read	<code>fabricElemMgrIpAddress</code>
Display whether the fabric manager is currently available to the fabric element.	read	<code>fabricElemMgrAlive</code>
Display the type of fabric the element supports (InfiniBand or Ethernet).	read	<code>fabricElemFabType</code>
Display the number of logical ports the element supports.	read	<code>fabricElemNumPorts</code>
Display a table of information about the logical ports associated with a specific fabric element.	read	<code>fabricElemPortTable</code>
Display information about a specific fabric element.	read	<code>fabricElemPortEntry</code>
Display an integer which uniquely identifies the instance among all of the fabric element’s port instances.	read	<code>fabricElemPortIndex</code>
Display the logical port identifier for the fabric element.	read	<code>fabricElemPortID</code>
Display the status for the specific port.	read	<code>fabricElemPortOperStatus</code>
Display the physical address of neighbor/remote elements. For Ethernet it is the MAC address, for IB it is the GUID + port.	read	<code>fabricElemPortRemAddr</code>

Description of Task or Activity	Action	MIB OID
Display the ID of the connector table entry associated with the fabric element.	read	fabricElemPortConnID
Display the fabric element port's position in the connector. For single port connectors, the position is always 1.	read	fabricElemPortConnPosition
Display the physical address associated with the local port. For Ethernet it is the MAC address, for InfiniBand it is the GUID + port.	read	fabricElemPortLocalAddr
Display the number of connectors in the connector table.	read	fabricElemNumConnectors
Display a table of information about the physical connectors associated with a specific fabric element.	read	fabricElemConnectorTable
Display information about a specific fabric element's connector.	read	fabricElemConnEntry
Display an integer which uniquely identifies the instance among all of the fabric element's connector instances.	read	fabricElemConnIndex
Display the connector type. The types are: • cable based - QSFP, CXP, SFP, and so on • chassis/backplane based • chip to chip connections	read	fabricElemConnType
Display the network type supported by the connector.	read	fabricElemConnNetworkType
Display the number of ports associated with the connector.	read	fabricElemConnNumPorts
Display the connector position in the fabric enclosure.	read	fabricElemConnDescr
Display the identifier for the line card associated with the connector.	read	fabricElemConnCardNum
Display the identifier for the connector.	read	fabricElemConnID
Display the roles assigned to the fabric element.	read	fabricElemRoles

Description of Task or Activity	Action	MIB OID
Display the datacenter positional information (x coordinate).	read	fabricElemRackPosX
Display the datacenter positional information (y coordinate).	read	fabricElemRackPosY
Display the datacenter positional information (z coordinate). This coordinate is also the position within the rack.	read	fabricElemRackPosZ

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-FABRIC-MIB MIB OID Command Syntax” on page 114](#)

Fabric Management OIDs

This table lists fabric management object identifiers supported by the SUN-FABRIC-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display the name of the fabric.	read	fabricMgmtFabricName
Display or set the description of the fabric.	read	fabricMgmtFabricDescr
Display the type of fabric (InfiniBand or Ethernet).	read	fabricMgmtFabricType
Display the topology of the fabric.	read	fabricMgmtFabricTopology
Display a summary of operational health and status for the fabric.	read	fabricMgmtFabricOperStatus
Display the last trap sequence number issued by the fabric manager.	read	fabricMgmtFabricLastTrapSeqNum
Display the number of elements in the fabric element table.	read	fabricMgmtNumFabricElems

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-FABRIC-MIB MIB OID Command Syntax” on page 114](#)

Fabric Management Element OIDs

This table lists fabric management element object identifiers supported by the SUN-FABRIC-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of information about the fabric elements.	read	fabricMgmtElemTable
Display information about a specific fabric element.	read	fabricMgmtElemEntry
Display an integer which uniquely identifies the instance among all of the fabric element instances.	read	fabricMgmtElemIndex
Display the product name.	read	fabricMgmtElemType
Display a logical value which uniquely identifies the specific fabric element.	read	fabricMgmtElemID
Display the roles assigned to the fabric element.	read	fabricMgmtElemRoles
Display whether the fabric element is visible on the fabric or the management network.	read	fabricMgmtElemPresent
Display whether the element is part of the fabric definition or blue print.	read	fabricMgmtElemExpected
Display the current aggregated operational state of the fabric element.	read	fabricMgmtElemOperStatus
Display the name of the fabric element.	read	fabricMgmtElemName
Display or set the description of the fabric element.	read	fabricMgmtElemDescr
Display the IP address used for management access to the fabric element.	read	fabricMgmtElemIpAddress
Display the number of external ports on the fabric element.	read	fabricMgmtElemNumExtPorts
Display the datacenter positional information (x coordinate).	read	fabricMgmtElemRackPosX
Display the datacenter positional information (y coordinate).	read	fabricMgmtElemRackPosY
Display the datacenter positional information (z coordinate).	read	fabricMgmtElemRackPosZ

Description of Task or Activity	Action	MIB OID
Display the IP address of the management controller.	read	fabricMgmtElemChassisMgrAddr
Display the position of the fabric element in the chassis.	read	fabricMgmtElemChassisPos

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-FABRIC-MIB MIB OID Command Syntax” on page 114](#)

Fabric Management External Element OIDs

This table lists fabric management external element object identifiers supported by the SUN-FABRIC-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display the number of elements in the external element table.	read	fabricMgmtNumExtElems
Display a table of information about external elements connected to the fabric.	read	fabricMgmtExtElemTable
Display information about a specific external element.	read	fabricMgmtExtElemEntry
Display an integer which uniquely identifies the instance among all of the external element instances.	read	fabricMgmtExtElemIndex
Display the name of the fabric external element. For a host, it is the host name.	read	fabricMgmtExtElemName
Display a logical value which uniquely identifies the specific external element.	read	fabricMgmtExtElemID
Display a description of the external element.	read	fabricMgmtExtElemDescr
Display the physical address of the fabric external element. For Ethernet it is the MAC address, for InfiniBand it is the GUID.	read	fabricMgmtExtElemPhysAddress

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-FABRIC-MIB MIB OID Command Syntax” on page 114](#)

Fabric Management Link OIDs

This table lists fabric management link object identifiers supported by the SUN-FABRIC-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display the number of link elements in the link table.	read	fabricMgmtNumLinkElems
Display a table of information about fabric links.	read	fabricMgmtLinkTable
Display information about a specific link between elements (fabric or external).	read	fabricMgmtLinkEntry
Display an integer which uniquely identifies the instance among all of the link instances.	read	fabricMgmtLinkIndex
Display a description of the fabric link.	read	fabricMgmtLinkDescr
Display a logical value which uniquely identifies the link.	read	fabricMgmtLinkID
Display the presence of a link.	read	fabricMgmtLinkPresent
Display the state of the fabric link.	read	fabricMgmtLinkOperStatus
Display the type of link: • fabric-internal • fabric-external • gateway-external • gateway-internal • element-internal	read	fabricMgmtLinkType
Display the network type of the link (InfiniBand, Ethernet, Fibre Channel).	read	fabricMgmtLinkNetworkType
Display the type of element at the end of the link (external, fabric, or gateway).	read	fabricMgmtLinkEndlType

Description of Task or Activity	Action	MIB OID
Display the identifier of the element in the external, fabric, or gateway element table where the link terminates.	read	fabricMgmtLinkEnd1ElemID
Display the logical port identifier where the link terminates.	read	fabricMgmtLinkEnd1Port
Display the physical address of the end point. For Ethernet links it is the MAC address, for InfiniBand links it is the GUID, for Fibre Channel links it is the WWN.	read	fabricMgmtLinkEnd1Addr
Display the type of element at the end of the link.	read	fabricMgmtLinkEnd2Type
Display the identifier of the element in the external, fabric, or gateway element table where the link terminates.	read	fabricMgmtLinkEnd2ElemID
Display the logical port identifier where the link terminates.	read	fabricMgmtLinkEnd2Port
Display the physical address of the end point. For Ethernet links it is the MAC address, for InfiniBand links it is the GUID, for Fibre Channel links it is the WWN.	read	fabricMgmtLinkEnd2Addr

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-FABRIC-MIB MIB OID Command Syntax” on page 114](#)

Fabric Trap OIDs

This table lists fabric trap object identifiers supported by the SUN-FABRIC-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display or set whether fabricStateChange traps are generated.	read write	fabricStateTrapEnable

Description of Task or Activity	Action	MIB OID
Display or set whether fabricElemTableStateChange traps are generated.	read write	fabricElemStateTrapEnable
Display or set whether fabricLinkTableStateChange traps are generated.	read write	fabricLinkStateTrapEnable
Display or set whether fabricManagerFailover traps are generated.	read write	fabricManagerFailoverTrapEnable
Display the logical identifier of the fabric element responsible for the trap.	read	fabricTrapElemID
Display the index identifier of the fabric link responsible for the trap.	read	fabricTrapLinkID
Display the operational state for the trapping entity.	read	fabricTrapOperStatus
Display the present status of the trapping entity.	read	fabricTrapPresentStatus
Display the type of presence for the fabric element (fabric or management).	read	fabricTrapElemPresentType
Display the monotonically increasing sequence number of the trap.	read	fabricTrapSeqNumber
Display the name of the fabric.	read	fabricTrapFabricName
Display the IP address of the fabric manager.	read	fabricTrapMgrIpAddress
Display the identifier of the fabric element sending the trap.	read	fabricTrapSenderId
Display the identifier of the previous fabric manager.	read	fabricTrapOldMgrID
Display the identifier of the new fabric manager.	read	fabricTrapNewMgrID

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-FABRIC-MIB MIB OID Command Syntax” on page 114](#)

Understanding the SUN-HW-TRAP-MIB MIB OIDs

This table lists hardware trap configuration object identifiers supported by the SUN-HW-TRAP-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display the text string used to identify the source of the trap. Typically the host name.	accessible-for-notify	sunHwTrapSystemIdentifier
Display the name of the component which is the source of the trap.	accessible-for-notify	sunHwTrapComponentName
Display the threshold type that the sensor is reporting.	accessible-for-notify	sunHwTrapThresholdType
Display the threshold value that has been exceeded.	accessible-for-notify	sunHwTrapThresholdValue
Display the threshold sensor's reading at the time of the trap.	accessible-for-notify	sunHwTrapSensorValue
Display an optional description which provides additional information.	accessible-for-notify	sunHwTrapAdditionalInfo
Display the object in the entPhysicalTable to which the notification applies.	accessible-for-notify	sunHwTrapAssocObjectId
Display an indication of the severity of the notification.	accessible-for-notify	sunHwTrapSeverity
Display the text string containing the chassis serial number.	accessible-for-notify	sunHwTrapChassisId
Display the text string containing the product name.	accessible-for-notify	sunHwTrapProductName
Display an indication as to why the component was disabled.	accessible-for-notify	sunHwTrapDisableReason
Display the message used by the test trap.	accessible-for-notify	sunHwTrapTestMessage

This table lists the traps supported by the SUN-HW-TRAP-MIB MIB.

Trap or Notification	Description
sunHwTrapVoltageFatalThresholdExceeded	Trap is generated when a voltage sensor's value goes above an upper fatal threshold setting or below a lower fatal threshold value.
sunHwTrapVoltageFatalThresholdDeasserted	Trap is generated when a voltage sensor's value goes below an upper fatal threshold setting or above a lower fatal threshold value.
sunHwTrapVoltageCritThresholdExceeded	Trap is generated when a voltage sensor's value goes above an upper critical threshold setting or below a lower critical threshold value.
sunHwTrapVoltageCritThresholdDeasserted	Trap is generated when a voltage sensor's value goes below an upper critical threshold setting or above a lower critical threshold value.
sunHwTrapVoltageNonCritThresholdExceeded	Trap is generated when a voltage sensor's value goes above an upper non-critical threshold setting or below a lower non-critical threshold value.
sunHwTrapVoltageOk	Trap is generated when a voltage sensor's value returns to its normal operating range
sunHwTrapTempFatalThresholdExceeded	Trap is generated when a temperature sensor's value goes above an upper fatal threshold setting or below a lower fatal threshold value.
sunHwTrapTempFatalThresholdDeasserted	Trap is generated when a temperature sensor's value goes below an upper fatal threshold setting or above a lower fatal threshold value.
sunHwTrapTempCritThresholdExceeded	Trap is generated when a temperature sensor's value goes above an upper critical threshold setting or below a lower critical threshold value.
sunHwTrapTempCritThresholdDeasserted	Trap is generated when a temperature sensor's value goes below an upper critical threshold setting or above a lower critical threshold value.
sunHwTrapTempNonCritThresholdExceeded	Trap is generated when a temperature sensor's value goes above an upper non-critical threshold setting or below a lower non-critical threshold value.
sunHwTrapTempOk	Trap is generated when a temperature sensor's value returns to its normal operating range
sunHwTrapFanSpeedFatalThresholdExceeded	Trap is generated when a fan speed sensor's value goes above an upper fatal threshold setting or below a lower fatal threshold value.
sunHwTrapFanSpeedFatalThresholdDeasserted	Trap is generated when a fan speed sensor's value goes below an upper fatal threshold setting or above a lower fatal threshold value.

Trap or Notification	Description
sunHwTrapFanSpeedCritThresholdExceeded	Trap is generated when a fan speed sensor's value goes above an upper critical threshold setting or below a lower critical threshold value.
sunHwTrapFanSpeedCritThresholdDeasserted	Trap is generated when a fan speed sensor's value goes below an upper critical threshold setting or above a lower critical threshold value.
sunHwTrapFanSpeedNonCritThresholdExceeded	Trap is generated when a fan speed sensor's value goes above an upper non-critical threshold setting or below a lower non-critical threshold value.
sunHwTrapFanSpeedOk	Trap is generated when a fan speed sensor's value returns to its normal operating range
sunHwTrapComponentError	Trap is generated when a generic type sensor detects an error. (All aggregate sensors are generic type sensors. See <i>Switch Remote Administration</i> , aggregate sensor states.) The sunHwTrapComponentName and sunHwTrapAdditionalInfo objects provide more information on the sensor and its value.
sunHwTrapComponentOk	Trap is generated when a generic type sensor returns to its normal state. The sunHwTrapComponentName and sunHwTrapAdditionalInfo objects provide more information on the sensor and its value.
sunHwTrapFruInserted	Trap is generated when a field replaceable unit like a power supply or fan module is inserted into the system.
sunHwTrapFruRemoved	Trap is generated when a field replaceable unit like a power supply or fan module is removed from the system.
sunHwTrapTestTrap	Test trap.

Note – For all threshold traps, the sunHwTrapThresholdType object indicates whether the threshold is an upper threshold or a lower threshold.

Related Information

- [“OID Tables Overview” on page 99](#)
- [“Understanding the SUN-DCS-IB-MIB MIB OIDs” on page 100](#)
- [“Understanding the SUN-FABRIC-MIB MIB OIDs” on page 113](#)
- [“Understanding the SUN-ILOM-CONTROL-MIB MIB OIDs” on page 127](#)
- [“Understanding the SUN-PLATFORM-MIB MIB OIDs” on page 138](#)
- [“Understanding the ENTITY-MIB MIB OIDs” on page 146](#)

Understanding the SUN-ILOM-CONTROL-MIB MIB OIDs

This topic provides many tables of the Oracle ILOM object identifiers.

Tables of object identifiers are provided in these topics:

- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)
- [“NTP OIDs” on page 129](#)
- [“Remote Syslog OIDs” on page 129](#)
- [“HTTP OIDs” on page 130](#)
- [“HTTPS OIDs” on page 130](#)
- [“Network OIDs” on page 131](#)
- [“User OIDs” on page 132](#)
- [“Session OIDs” on page 133](#)
- [“Event Log OIDs” on page 133](#)
- [“Alert OIDs” on page 134](#)
- [“Clock OIDs” on page 135](#)
- [“Backup and Restore OIDs” on page 136](#)
- [“Identification OIDs” on page 136](#)
- [“SMTP OIDs” on page 137](#)
- [“DNS OIDs” on page 137](#)

Related Information

- [“OID Tables Overview” on page 99](#)
- [“Understanding the SUN-DCS-IB-MIB MIB OIDs” on page 100](#)
- [“Understanding the SUN-FABRIC-MIB MIB OIDs” on page 113](#)
- [“Understanding the SUN-HW-TRAP-MIB MIB OIDs” on page 123](#)
- [“Understanding the SUN-PLATFORM-MIB MIB OIDs” on page 138](#)
- [“Understanding the ENTITY-MIB MIB OIDs” on page 146](#)

SUN-ILOM-CONTROL-MIB MIB OID Command Syntax

When you use the object identifiers in a command syntax, you must include the SUN-ILOM-CONTROL-MIB MIB name. For example, using the V2c protocol:

```
$ command -v2c -c public mc_IP SUN-ILOM-CONTROL-MIB::object_id argument
```

Or using the V3 protocol:

```
$ command -v3 -u snmp_user -l security_level -a authentication_protocol -A authentication_password  
-x DES -X privacy_password mc_IP SUN-ILOM-CONTROL-MIB::object_id argument
```

where:

- *command* is the command of the SNMP client that performs the action.
- *snmp_user* is a configured user of the SNMP services.
- *security_level* is:
 - noAuthNoPriv – There is no authentication or privacy.
 - authNoPriv – There is authentication, but no privacy.
 - authPriv – There is authentication and privacy.
- *authentication_protocol* is either MD5 or SHA
- *authentication_password* is the *snmp_user*'s authentication password.
- *privacy_password* is the *snmp_user*'s privacy password.
- *mc_IP* is the IP address of the management controller.
- *object_id* is the object identifier, as listed in the right column of the tables.
- *argument* is a combination of options and variables that support the object identifier.

For example, to securely display a table of information about the current local users on the management controller with IP address of 123.45.67.89:

```
$ snmpwalk -v3 -u usersnmp -l authPriv -a MD5 -A authpass -x DES -X privpass  
123.45.67.89 SUN-ILOM-CONTROL-MIB::ilomCtrlLocalUserTable
```

Related Information

- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)
- [“SUN-FABRIC-MIB MIB OID Command Syntax” on page 114](#)
- [“SUN-PLATFORM-MIB MIB OID Command Syntax” on page 139](#)

- [“ENTITY-MIB MIB OID Command Syntax” on page 146](#)

NTP OIDs

This table lists network time protocol object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display or set the IP address of the first NTP server used by the device.	read write	ilomCtrlDeviceNTPServerOneIP
Display or set the IP address of the second NTP server used by the device.	read write	ilomCtrlDeviceNTPServerTwoIP

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

Remote Syslog OIDs

This table lists remote syslog object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display or set the IP address of the first remote syslog destination (log host).	read write	ilomCtrlRemoteSyslogDest1
Display or set the IP address of the second remote syslog destination (log host).	read write	ilomCtrlRemoteSyslogDest2

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

HTTP OIDs

This table lists HTTP service object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display or set whether or not the embedded web server is running and listening on the HTTP port.	read write	ilomCtrlHttpEnabled
Display or set the port number that the embedded web server should listen to for HTTP requests.	read write	ilomCtrlHttpPortNumber
Display or set whether or not the embedded web server should redirect HTTP connections to HTTPS.	read write	ilomCtrlHttpSecureRedirect

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

HTTPS OIDs

This table lists HTTPS service object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display or set whether or not the embedded web server is running and listening on the HTTPS port.	read write	ilomCtrlHttpsEnabled
Display or set the port number that the embedded web server should listen to for HTTPS requests.	read write	ilomCtrlHttpsPortNumber

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

Network OIDs

This table lists network object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of targets whose networks can be controlled.	read	ilomCtrlNetworkTable
Display information about a target which can be reset.	read	ilomCtrlNetworkEntry
Display the nomenclature name for a target which has a configurable network.	read	ilomCtrlNetworkTarget
Display the MAC address of the service processor or system controller.	read	ilomCtrlNetworkMacAddress
Display whether the current target is configured to have static IP settings or whether these settings are retrieved dynamically from DHCP.	read	ilomCtrlNetworkIpDiscovery
Display the current IP address for the given target.	read	ilomCtrlNetworkIpAddress
Display the current IP switch for the given target.	read	ilomCtrlNetworkIpGateway
Display the current IP netmask for the given target.	read	ilomCtrlNetworkIpNetmask
Display or set the pending value for the mode of IP discovery for the given target.	read write	ilomCtrlNetworkPendingIpDiscovery
Display or set the pending IP address for the given target.	read write	ilomCtrlNetworkPendingIpAddress
Display or set the pending IP switch for the given target.	read write	ilomCtrlNetworkPendingIpGateway
Display or set the pending IP netmask for the given target.	read write	ilomCtrlNetworkPendingIpNetmask
Commit pending properties.	read write	ilomCtrlNetworkCommitPending
Display or set the pending management port for the given target.	read write	ilomCtrlNetworkPendingManagementPort

Description of Task or Activity	Action	MIB OID
Display or set the current management port for the given target.	read write	ilomCtrlNetworkManagementPort
Display the address of the DHCP server for the given target.	read	ilomCtrlNetworkDHCPServerAddr
Display or set whether or not the parameters are enabled.	read write	ilomCtrlNetworkState

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

User OIDs

This table lists user object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of information about the current local users with their password state.	read	ilomCtrlLocalUserTable
Display information about a local user in the database.	read	ilomCtrlLocalUserEntry
Display the user name of a local user on the device.	read	ilomCtrlLocalUserUsername
Set the password of a local user on the device.	read write	ilomCtrlLocalUserPassword
Display or set the role that is associated with a user.	read write	ilomCtrlLocalUserRoles
Create a new user or delete an existing user.	write	ilomCtrlLocalUserRowStatus
Display or set the CLI mode a user is configured.	read write	ilomCtrlLocalUserCLIMode

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

Session OIDs

This table lists session object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of information about the current user sessions.	read	ilomCtrlSessionsTable
Display the user name of the user associated with the session.	read	ilomCtrlSessionsUsername
Display the type of connection that the given user is using to access the device.	read	ilomCtrlSessionsConnectionType
Display the date and time that the user logged into the device.	read	ilomCtrlSessionsLoginTime

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

Event Log OIDs

This table lists event log object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of information about the current entries in the event log.	read	ilomCtrlEventLogTable
Display an integer representing the type of event.	read	ilomCtrlEventLogType
Display the date and time that the event log entry was recorded.	read	ilomCtrlEventLogTimestamp
Display an integer representing the class of event.	read	ilomCtrlEventLogClass
Display the event severity corresponding to the given log entry.	read	ilomCtrlEventLogSeverity
Display the description of the event.	read	ilomCtrlEventLogDescription
Clear the event log.	write	ilomCtrlEventLogClear

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

Alert OIDs

This table lists alert object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of information used to view and add alert rules.	read	ilomCtrlAlertsTable
Display or set the minimum event severity which should trigger an alert, for a given class.	read write	ilomCtrlAlertSeverity
Display or set the type of notification for a given alert.	read write	ilomCtrlAlertType
Display or set the IP address to receive alert notifications when the alert type is <code>snmptrap(2)</code> , <code>ipmipet(3)</code> , or <code>remotesyslog(4)</code> .	read write	ilomCtrlAlertDestinationIP
Display or set the email address to send alert notifications when the alert type is <code>email(1)</code> .	read write	ilomCtrlAlertDestinationEmail
Display or set the version of SNMP trap that is used for the given alert rule.	read write	ilomCtrlAlertSNMPVersion
Display or set the community string to be used when the <code>ilomCtrlAlertSNMPVersion</code> property is set to <code>v1</code> or <code>v2c</code> .	read write	ilomCtrlAlertSNMPCommunityOrUsername
Display or set the destination port for SNMP traps.	read write	ilomCtrlAlertDestinationPort
Display or set the class name to filter emailed alerts on.	read write	ilomCtrlAlertEmailEventClassFilter
Display or set the type name to filter emailed alerts on.	read write	ilomCtrlAlertEmailEventTypeFilter
Display or set an optional format to identify the sender or the from address.	read write	ilomCtrlAlertEmailCustomSender
Display or set an optional string added to the beginning of the message body.	read write	ilomCtrlAlertEmailMessagePrefix

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

Clock OIDs

This table lists clock object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display or set the date and time of the device.	read write	ilomCtrlDateAndTime
Display or set whether or not Network Time Protocol is enabled.	read write	ilomCtrlNTPEnabled
Display or set the configured time zone string.	read write	ilomCtrlTimezone

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

Backup and Restore OIDs

This table lists backup and restore object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Set the target destination of a configuration XML file during backup and restore. The syntax is: {protocol}://[user:password]@[host[/path/]][file].	write	ilomCtrlBackupAndRestoreTargetURI

Description of Task or Activity	Action	MIB OID
Set the passphrase for encrypting or decrypting sensitive data during backup and restore.	write	ilomCtrlBackupAndRestorePassphrase
Set the action to backup or restore.	read write	ilomCtrlBackupAndRestoreAction
Display the current status of backup or restore.	read	ilomCtrlBackupAndRestoreActionStatus

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

Identification OIDs

This table lists identification object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display or set the system identifier, which is often the host name of the server associated with Oracle ILOM to be sent out in the varbind for all traps that Oracle ILOM generates.	read write	ilomCtrlSystemIdentifier
Display or set the host name for Oracle ILOM.	read write	ilomCtrlHostName

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

SMTP OIDs

This table lists SMTP object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display or set whether or not the SMTP client is enabled.	read write	ilomCtrlSMTPEnabled
Display or set the IP address of the SMTP server used as a name service for user accounts.	read write	ilomCtrlSMTPServerIP
Display or set the port number for the SMTP client.	read write	ilomCtrlSMTPPortNumber
Display or set an optional format to identify the sender or the from address.	read write	ilomCtrlSMTPCustomSender

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

DNS OIDs

This table lists DNS object identifiers supported by the SUN-ILOM-CONTROL-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display or set the nameservers for DNS.	read write	ilomCtrlDNSNameServers
Display or set the domains or search path for DNS lookups.	read write	ilomCtrlDNSSearchPath
Display or set whether the DNS configuration is provided by the DHCP server.	read write	ilomCtrlDNSdhcpAutoDns
Display or set the timeout(default 5 seconds).	read write	ilomCtrlDNSTimeout
Display or set the number of retries (default 1).	read write	ilomCtrlDNSRetries

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)

Understanding the SUN-PLATFORM-MIB MIB OIDs

This topic provides tables of the hardware, sensor, alarms, and watchdog object identifiers.

Tables of object identifiers are provided in these topics:

- [“SUN-PLATFORM-MIB MIB OID Command Syntax” on page 139](#)
- [“Understanding MIB Physical OIDs” on page 140](#)

Related Information

- [“OID Tables Overview” on page 99](#)
- [“Understanding the SUN-DCS-IB-MIB MIB OIDs” on page 100](#)
- [“Understanding the SUN-FABRIC-MIB MIB OIDs” on page 113](#)
- [“Understanding the SUN-HW-TRAP-MIB MIB OIDs” on page 123](#)
- [“Understanding the SUN-ILOM-CONTROL-MIB MIB OIDs” on page 127](#)
- [“Understanding the ENTITY-MIB MIB OIDs” on page 146](#)

SUN-PLATFORM-MIB MIB OID Command Syntax

When you use the object identifiers in a command syntax, you must include the SUN-PLATFORM-MIB MIB name. For example, using the V2c protocol:

```
$ command -v2c -c public mc_IP SUN-PLATFORM-MIB::object_id argument
```

Or using the V3 protocol:

```
$ command -v3 -u snmp_user -l security_level -a authentication_protocol -A authentication_password  
-x DES -X privacy_password mc_IP SUN-PLATFORM-MIB::object_id argument
```

where:

- *command* is the command of the SNMP client that performs the action.
- *snmp_user* is a configured user of the SNMP services.
- *security_level* is:
 - `noAuthNoPriv` – There is no authentication or privacy.

- `authNoPriv` – There is authentication, but no privacy.
- `authPriv` – There is authentication and privacy.
- `authentication_protocol` is either MD5 or SHA
- `authentication_password` is the `snmp_user`'s authentication password.
- `privacy_password` is the `snmp_user`'s privacy password.
- `mc_IP` is the IP address of the management controller.
- `object_id` is the object identifier, as listed in the right column of the tables.
- `argument` is a combination of options and variables that support the object identifier.

For example, to securely display a table of switch components addressable by the management controller with IP address of 123.45.67.89:

```
$ snmpwalk -v3 -u usersnmp -l authPriv -a MD5 -A authpass -x DES -X privpass
123.45.67.89 SUN-PLATFORM-MIB::sunPlatEquipmentTable
```

Related Information

- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)
- [“SUN-FABRIC-MIB MIB OID Command Syntax” on page 114](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)
- [“ENTITY-MIB MIB OID Command Syntax” on page 146](#)

Understanding MIB Physical OIDs

Sensor and hardware information object identifiers are provided in these tables:

- [“High-Level OID” on page 140](#)
- [“NIM Equipment Table OIDs” on page 141](#)
- [“Physical Class Extension Table OIDs” on page 141](#)
- [“Sun Platform Sensor Table OIDs” on page 142](#)
- [“Sun Platform Numeric Sensor Table OIDs” on page 143](#)
- [“Discrete Sensor Table OIDs” on page 144](#)
- [“Sun Platform Fan Table OIDs” on page 145](#)
- [“Sun Platform Alarm Table OIDs” on page 145](#)

Related Information

- [“OID Tables Overview” on page 99](#)

- [“Understanding the SUN-DCS-IB-MIB MIB OIDs” on page 100](#)
- [“Understanding the SUN-HW-TRAP-MIB MIB OIDs” on page 123](#)
- [“Understanding the SUN-ILOM-CONTROL-MIB MIB OIDs” on page 127](#)
- [“Understanding the ENTITY-MIB MIB OIDs” on page 146](#)

High-Level OID

This table lists the high level object identifier supported by the SUN-PLATFORM-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display the time at which the agent was last started.	read	sunPlatStartTime

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-PLATFORM-MIB MIB OID Command Syntax” on page 139](#)

NIM Equipment Table OIDs

This table lists NIM equipment object identifiers supported by the SUN-PLATFORM-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display the NIM equipment table.	read	sunPlatEquipmentTable
Display information about a particular piece of equipment within the network element of the type specified by entPhysicalClass.	read	sunPlatEquipmentEntry
Display the administrative state of the managed object.	read	sunPlatEquipmentAdministrativeState
Display the operational state of the managed object.	read	sunPlatEquipmentOperationalState
Display the alarm status of the managed object.	read	sunPlatEquipmentAlarmStatus
Display the unknown or known status of the managed object.	read	sunPlatEquipmentUnknownStatus
Display the specific or general location name of the component.	read	sunPlatEquipmentLocationName

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-PLATFORM-MIB MIB OID Command Syntax” on page 139](#)

Physical Class Extension Table OIDs

This table lists physical class extension object identifiers supported by the SUN-PLATFORM-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of information about the physical class of the entity if it is classified as <code>other(1)</code> .	read	<code>sunPlatPhysicalTable</code>
Display information about a piece of equipment with an <code>entPhysicalClass</code> of <code>other(1)</code> .	read	<code>sunPlatPhysicalEntry</code>
Display possible physical classes where <code>entPhysicalClass</code> is specified as <code>other(1)</code> .	read	<code>sunPlatPhysicalClass</code>

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-PLATFORM-MIB MIB OID Command Syntax” on page 139](#)

Sun Platform Sensor Table OIDs

This table lists sensor object identifiers supported by the SUN-PLATFORM-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of attributes common to all sensors.	read	<code>sunPlatSensorTable</code>
Display information about a piece of equipment with an <code>entPhysicalClass</code> of <code>sensor(8)</code> .	read	<code>sunPlatSensorEntry</code>

Description of Task or Activity	Action	MIB OID
Display possible sensor classes where <code>entPhysicalClass</code> is specified as <code>sensor(8)</code> .	read	<code>sunPlatSensorClass</code>
Display possible sensor types where <code>entPhysicalClass</code> is specified as <code>sensor(8)</code> .	read	<code>sunPlatSensorType</code>
Display the update interval for the sensor measured in milliseconds.	read	<code>sunPlatSensorLatency</code>

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-PLATFORM-MIB MIB OID Command Syntax” on page 139](#)

Sun Platform Numeric Sensor Table OIDs

This table lists numeric sensor object identifiers supported by the SUN-PLATFORM-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of attributes specific to numeric sensors.	read	<code>sunPlatNumericSensorTable</code>
Display information about a sensor with a <code>sunPlatSensorClass</code> value of <code>numeric(2)</code> .	read	<code>sunPlatNumericSensorEntry</code>
Display the base unit of the value returned by the sensor. For example, volts.	read	<code>sunPlatNumericSensorBaseUnits</code>
Display the exponent of 10 to be multiplied by the base unit. For example, 2. So the multiplier is 10^2 or 100.	read	<code>sunPlatNumericSensorExponent</code>
Display the rate associated with the base units, if any. For example, per second.	read	<code>sunPlatNumericSensorRateUnits</code>
Display the current reading of the sensor.	read	<code>sunPlatNumericSensorCurrent</code>

Description of Task or Activity	Action	MIB OID
Display the lowest expected value from the sensor.	read	sunPlatNumericSensorNormalMin
Display the highest expected value from the sensor.	read	sunPlatNumericSensorNormalMax
Display the accuracy of the sensor expressed as a +/-% value in units of 100ths of a percent.	read	sunPlatNumericSensorAccuracy
Display the lower threshold at which a noncritical condition occurs.	read	sunPlatNumericSensorLowerThresholdNonCritical
Display the upper threshold at which a noncritical condition occurs.	read	sunPlatNumericSensorUpperThresholdNonCritical
Display the lower threshold at which a critical condition occurs.	read	sunPlatNumericSensorLowerThresholdCritical
Display the upper threshold at which a critical condition occurs.	read	sunPlatNumericSensorUpperThresholdCritical
Display the lower threshold at which a fatal condition occurs.	read	sunPlatNumericSensorLowerThresholdFatal
Display the upper threshold at which a fatal condition occurs.	read	sunPlatNumericSensorUpperThresholdFatal
Display the hysteresis around the thresholds.	read	sunPlatNumericSensorHysteresis
Display the thresholds of the sensor.	read	sunPlatNumericSensorEnabledThresholds

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-PLATFORM-MIB MIB OID Command Syntax” on page 139](#)

Discrete Sensor Table OIDs

This table lists discrete sensor object identifiers supported by the SUN-PLATFORM-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display the discrete sensor table.	read	sunPlatDiscreteSensorTable
Display information about a discrete sensor with entPhysicalClass of sensor(8) and discrete(3).	read	sunPlatDiscreteSensorEntry
Display the current reading of the sensor.	read	sunPlatDiscreteSensorCurrent

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-PLATFORM-MIB MIB OID Command Syntax” on page 139](#)

Sun Platform Fan Table OIDs

This table lists fan object identifiers supported by the SUN-PLATFORM-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of attributes common to all fans and cooling devices.	read	sunPlatFanTable
Display information about a piece of equipment with an entPhysicalClass of fan(7).	read	sunPlatFanEntry
Display the class of the cooling device.	read	sunPlatFanClass

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-PLATFORM-MIB MIB OID Command Syntax” on page 139](#)

Sun Platform Alarm Table OIDs

This table lists alarm object identifiers supported by the SUN-PLATFORM-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table with indications of alarm states.	read	sunPlatAlarmTable
Display information about a piece of equipment with an <code>sunPlatPhysicalClass</code> of <code>alarm(2)</code> .	read	sunPlatAlarmEntry
Display the type of alarm.	read	sunPlatAlarmType
Display the state of the alarm.	read	sunPlatAlarmState
Display the urgency of the alarm.	read	sunPlatAlarmUrgency

Related Information

- [“OID Tables Overview” on page 99](#)
- [“SUN-PLATFORM-MIB MIB OID Command Syntax” on page 139](#)

Understanding the ENTITY-MIB MIB OIDs

This topic provides tables of physical and logical entity object identifiers.

Topics include:

- [“ENTITY-MIB MIB OID Command Syntax” on page 146](#)
- [“Physical Entity Table OIDs” on page 147](#)

Related Information

- [“OID Tables Overview” on page 99](#)
- [“Understanding the SUN-DCS-IB-MIB MIB OIDs” on page 100](#)
- [“Understanding the SUN-FABRIC-MIB MIB OIDs” on page 113](#)
- [“Understanding the SUN-HW-TRAP-MIB MIB OIDs” on page 123](#)
- [“Understanding the SUN-ILOM-CONTROL-MIB MIB OIDs” on page 127](#)
- [“Understanding the SUN-PLATFORM-MIB MIB OIDs” on page 138](#)

ENTITY-MIB MIB OID Command Syntax

When you use the object identifiers in a command syntax, you must include the ENTITY-MIB MIB name. For example, using the V2c protocol:

```
$ command -v2c -c public mc_IP ENTITY-MIB::object_id argument
```

Or using the V3 protocol:

```
$ command -v3 -u snmp_user -l security_level -a authentication_protocol -A authentication_password  
-x DES -X privacy_password mc_IP ENTITY-MIB::object_id argument
```

where:

- *command* is the command of the SNMP client that performs the action.
- *snmp_user* is a configured user of the SNMP services.
- *security_level* is:
 - noAuthNoPriv – There is no authentication or privacy.
 - authNoPriv – There is authentication, but no privacy.
 - authPriv – There is authentication and privacy.
- *authentication_protocol* is either MD5 or SHA
- *authentication_password* is the *snmp_user*'s authentication password.
- *privacy_password* is the *snmp_user*'s privacy password.
- *mc_IP* is the IP address of the management controller.
- *object_id* is the object identifier, as listed in the right column of the tables.
- *argument* is a combination of options and variables that support the object identifier.

For example, to securely display the discription of physical entity 4 on the management controller with IP address of 123.45.67.89:

```
$ snmpget -v3 -u usersnmp -l authPriv -a MD5 -A authpass -x DES -X privpass  
123.45.67.89 ENTITY-MIB::entPhysicalDescr.4
```

Related Information

- [“SUN-DCS-IB-MIB MIB OID Command Syntax” on page 101](#)
- [“SUN-FABRIC-MIB MIB OID Command Syntax” on page 114](#)
- [“SUN-ILOM-CONTROL-MIB MIB OID Command Syntax” on page 128](#)
- [“SUN-PLATFORM-MIB MIB OID Command Syntax” on page 139](#)

Physical Entity Table OIDs

This table lists physical entity object identifiers supported by the ENTITY-MIB MIB.

Description of Task or Activity	Action	MIB OID
Display a table of information about the physical entities.	read	entPhysicalTable
Display information about a particular physical entity.	read	entPhysicalEntry
Display the index of the physical entity.	read	entPhysicalIndex
Display the description of the physical entity.	read	entPhysicalDescr
Display the vendor-specific hardware type of the physical entity.	read	entPhysicalVendorType
Display the value of entPhysicalIndex for the physical entity which is the container for this physical entity.	read	entPhysicalContainedIn
Display the general hardware type of the physical entity.	read	entPhysicalClass
Display an indication of the relative position of the child component among all its sibling components.	read	entPhysicalParentRelPos
Display the name of the physical entity.	read	entPhysicalName
Display the vendor-specific hardware revision string of the physical entity.	read	entPhysicalHardwareRev
Display the vendor-specific firmware revision string of the physical entity.	read	entPhysicalFirmwareRev
Display the vendor-specific software revision string of the physical entity.	read	entPhysicalSoftwareRev
Display the vendor-specific serial number string for the physical entity.	read	entPhysicalSerialNum
Display the name of the manufacturer of the physical component.	read	entPhysicalMfgName
Display the vendor-specific model name string associated with the physical component.	read	entPhysicalModelName

Description of Task or Activity	Action	MIB OID
Display a handle or alias for the physical entity as specified by the network manager.	read	entPhysicalAlias
Display the nonvolatile asset tracking identifier for the physical entity as specified by a network manager.	read	entPhysicalAssetID
Display whether or not the physical entity is considered a field replaceable unit by the vendor.	read	entPhysicalIsFRU

Related Information

- [“OID Tables Overview” on page 99](#)
- [“ENTITY-MIB MIB OID Command Syntax” on page 146](#)

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