

HP 24-Port 4x Fabric Copper Switch Command Line Reference Guide



November 2004 (First Edition)
Part Number 377708-001

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Preface vii

| | |
|---------------------------------|------|
| Intended Audience | vii |
| Typographical Conventions | vii |
| Contact Information | viii |

1: Using the CLI 1

| | |
|----------------------------------|----|
| Initial Setup | 1 |
| Starting A CLI Session | 2 |
| Log In | 3 |
| Entering CLI Modes | 3 |
| User Execute Mode | 3 |
| Privileged Execute Mode | 4 |
| Global Configuration Mode | 4 |
| Exiting CLI Modes | 5 |
| Quick Help | 5 |
| Command Abbreviation | 6 |
| Command-Line Editing | 7 |
| Exiting the CLI Session | 8 |
| Specifying Cards and Ports | 8 |
| Slot#/Port# Pairs | 8 |
| Ranges | 8 |
| Lists | 9 |
| The “all” Keyword | 9 |
| Using the Documentation | 9 |
| Synopsis | 9 |
| Syntax | 9 |
| Platform Availability | 10 |
| Command Modes | 10 |
| Privilege Level | 10 |
| Usage Guidelines | 10 |
| Examples | 10 |
| Defaults | 10 |
| Related Commands | 10 |

2: Administrative Commands 11

| | |
|----------------------|----|
| action | 13 |
| addr-option | 15 |
| authentication | 16 |
| auto-negotiate | 17 |
| boot-config | 19 |
| broadcast | 20 |
| card | 21 |
| clock set | 22 |

| | |
|--------------------------|----|
| configure terminal | 24 |
| copy | 26 |
| delete | 29 |
| dir | 31 |
| disable | 34 |
| enable | 35 |
| exec | 36 |
| exit | 37 |
| ftp-server enable..... | 38 |
| gateway | 39 |
| help..... | 40 |
| history | 41 |
| hostname | 42 |
| install | 43 |
| interface..... | 45 |
| ip http | 47 |
| link-trap..... | 49 |
| location..... | 50 |
| logging | 51 |
| login | 52 |
| logout | 53 |
| more | 54 |
| name..... | 56 |
| ntp | 57 |
| ping | 58 |
| radius-server..... | 59 |
| reload | 61 |
| save-log | 63 |
| shutdown | 64 |
| snmp-server..... | 67 |
| speed | 70 |
| telnet..... | 72 |
| terminal | 73 |
| trace..... | 75 |
| type..... | 77 |
| username | 79 |
| who..... | 83 |
| write | 84 |

3: Fibre Channel Commands 85

| | |
|--|----|
| fc srp initiator..... | 86 |
| fc srp initiator-wwpn..... | 89 |
| fc srp it | 91 |
| fc srp itl | 93 |
| fc srp lu | 96 |
| fc srp target | 98 |
| fc srp-global gateway-portmask-policy restricted | 99 |

| | |
|--|-----|
| fc srp-global itl..... | 100 |
| fc srp-global lun-policy restricted..... | 103 |

4: InfiniBand Commands..... 105

| | |
|--------------------|-----|
| ib sm db-sync..... | 106 |
| ib sm..... | 108 |
| ib-agent..... | 111 |

5: IP Commands 113

| | |
|------------------------|-----|
| arp ethernet..... | 114 |
| bridge-group..... | 115 |
| distribution-type..... | 117 |
| half-duplex..... | 119 |
| ip..... | 120 |
| redundancy-group..... | 123 |
| trunk-group..... | 124 |

6: Show Commands..... 125

| | |
|---|-----|
| show arp ethernet..... | 127 |
| show authentication..... | 128 |
| show backplane..... | 129 |
| show boot-config..... | 131 |
| show bridge-group..... | 133 |
| show card..... | 135 |
| show card-inventory..... | 140 |
| show clock..... | 142 |
| show diagnostic card..... | 143 |
| show diagnostic fan..... | 145 |
| show diagnostic interface ethernet..... | 147 |
| show diagnostic interface fc..... | 149 |
| show diagnostic interface ib..... | 151 |
| show diagnostic power-supply..... | 153 |
| show config..... | 155 |
| show fan..... | 156 |
| show fc srp initiator..... | 158 |
| show fc srp initiator-wwpn-view..... | 161 |
| show fc srp it..... | 163 |
| show fc srp itl..... | 165 |
| show fc srp itl-statistics..... | 168 |
| show fc srp lu..... | 170 |
| show fc srp statistics..... | 173 |
| show fc srp target..... | 175 |
| show fc srp-global..... | 177 |

| | |
|-------------------------------------|-----|
| show host | 180 |
| show ib dm ioc | 181 |
| show ib dm iou | 184 |
| show ib sm configuration | 185 |
| show ib sm db-sync | 188 |
| show ib sm multicast | 190 |
| show ib sm neighbor | 192 |
| show ib sm node | 194 |
| show ib sm partition | 197 |
| show ib sm port | 199 |
| show ib sm service | 206 |
| show ib sm switch | 209 |
| show ib sm switch-elem-route | 212 |
| show ib sm switch-route | 214 |
| show ib-agent channel-adapter | 216 |
| show ib-agent summary | 218 |
| show ib-agent switch | 220 |
| show interface ethernet | 231 |
| show interface fc | 239 |
| show interface gateway | 245 |
| show interface ib | 250 |
| show interface mgmt-ethernet | 259 |
| show interface mgmt-ib | 261 |
| show interface mgmt-serial | 262 |
| show ip | 263 |
| show ip http | 265 |
| show ip http server secure | 266 |
| show location | 267 |
| show logging | 268 |
| show ntp | 270 |
| show power-supply | 271 |
| show redundancy-group | 273 |
| show running-status | 275 |
| show sensor | 277 |
| show snmp | 279 |
| show system-services | 281 |
| show terminal | 283 |
| show trace | 284 |
| show trunk | 285 |
| show user | 286 |
| show version | 288 |

7: Diagnostic Commands 289

| | |
|--------------------------------|-----|
| Running Diagnostic Tests | 289 |
| diagnostic | 291 |
| data-pattern | 293 |
| data-size | 294 |

| | |
|-------------------|-----|
| iterations..... | 295 |
| source-wwpn | 296 |
| start..... | 297 |
| stop..... | 298 |
| target-wwpn | 299 |
| test..... | 300 |
| validate..... | 302 |

Preface

This document is a guide to the Command Line Interface, or CLI. This document explains how to use the CLI and provides a categorized, alphabetical listing all available CLI commands.

Intended Audience

The intended audience is administrators who install, configure, and manage the equipment. This document assumes that administrators have prior Ethernet, Fibre Channel, and network administration experience.

Typographical Conventions

The following typographic conventions are used in this manual to provide visual clues as to the purpose or application of specific text.

- **Bold** text indicates a command or keyword, or text that appears in your display.
- *Italics* indicate variables that you replace with an actual value.
- Square brackets ([,]) indicate an optional argument that you choose to include or exclude when you enter a command.
- Pipe character (|) indicates an “or” choice. For example, “**a** | **b**” indicates “a or b.”
- Ellipses (...) indicate truncated text. You will see these in long examples depicting terminal output that is too long to be shown in its entirety.



NOTE: Indicates an important point or aspect that you need to consider before continuing.

Contact Information

Table 2-1: Customer Contact Information

| | |
|--|---|
| For the name of your nearest authorized HP reseller: | In the United States, call 1-800-345-1518. In Canada, call 1-800-263-5868. Outside the United States and Canada, refer to www.hp.com |
| For HP technical support: | In the United States and Canada, call 1-800-HP-INVENT (1-800-474-6836). This service is available 24 hours a day, 7 days a week. For continuous quality improvement, calls may be recorded or monitored. Outside the United States and Canada, refer to www.hp.com |

Using the CLI

This chapter provides a general overview of the HP 24-Port 4x Fabric Copper Switch command line interface (CLI). It describes how to start a CLI session, how to enter commands, and how to view online help. Details about individual commands appear later in this document.

The following sections appear in this chapter:

- [“Initial Setup” on page 1](#)
- [“Starting A CLI Session” on page 2](#)
- [“Entering CLI Modes” on page 3](#)
- [“Exiting CLI Modes” on page 5](#)
- [“Quick Help” on page 5](#)
- [“Command-Line Editing” on page 7](#)
- [“Exiting the CLI Session” on page 8](#)
- [“Specifying Cards and Ports” on page 8](#)
- [“Using the Documentation” on page 9](#)

Initial Setup

The first time that you access your Server Switch, you must connect a management station, such as a PC or Linux terminal, to the Serial Console port on your Server Switch. Once you establish this connection, you can configure the management ports on your Server Switch so you can perform configuration tasks with a telnet session, Element Manager, or Chassis Manager.

To configure a Server Switch through the Serial Console port, perform the following steps:

1. Connect a PC or terminal to the Serial Console port. For more detailed instructions, refer to the hardware guide for your switch.
2. Open a terminal emulation program (such as HyperTerminal for Windows®) and configure session parameters as follows:


- Baud: 9600 b/s
 - Data Bits: 8
 - Parity: None
 - Stop Bits: 1
 - Flow control: None
3. Attach both power plugs to the switch chassis to power up the Server Switch. The CLI login prompt appears on the management station terminal. The *HP 24-Port 4x Fabric Copper Switch User Guide* describes this process in more detail.

Starting A CLI Session


The CLI login prompt automatically appears in a terminal window when you connect the serial port of a computer to the Serial Console port. It also appears when you launch a telnet session to an Ethernet Management port. The user account that you use to log in determines your level of access. By default, you can log in as **super**, **admin**, or **guest**. [Table 1-1](#) lists and describes user login privileges.

Table 1-1: Privilege Levels

| User Log-in | Privileges |
|-------------|---|
| super | The super user has unrestricted privileges. Use this account for initial configuration. This user may view and modify a configuration, as well as administer user accounts and access privileges. This user configures the console and management ports for initial Server Switch setup. This login uses super as the default password. |
| admin | The admin user has general read-write privileges. This user may view and modify the current configuration. However, the admin user can change only its own user information, such as the admin password. This login uses admin as the default password. |
| guest | The guest user has read-only privileges. This user may only view the current configuration. The guest user cannot make any changes during the CLI session. When you first bring up your Server Switch, you must enable this login (see the username command on page 79). This login uses guest as the default password. |

 **NOTE:** The CLI is case-sensitive.

In addition to the default user accounts described above, there are administrative *roles* that may be assigned to individual user accounts. Roles allow granular levels of privileges. For example, you can create separate Fibre Channel, Ethernet, or InfiniBand™ administrators, who only need access to specific subsystems. The Topspin system combines multiple roles with read and read-write access for flexible control.

 **NOTE:** If a user does not have access to particular functionality, that functionality will not appear in the CLI, on-line help, or any GUI management windows.

The unrestricted (super) administrator assigns these roles. [Table 1-2](#) lists and describes these access levels.

Table 1-2: Access Levels

| Role | Description |
|-----------------|--|
| ib-ro | InfiniBand read-only access. |
| ib-rw | InfiniBand read-write access. |
| ip-ethernet-ro | Ethernet read-only access. |
| ip-ethernet-rw | Ethernet read-write access. |
| fc-ro | Fibre Channel read-only access. |
| fc-rw | Fibre Channel read-write access. |
| unrestricted-rw | Read-write access to all network configuration commands. |

To configure accounts, refer to the [username command](#) on page 79.


Log In

At the CLI prompt, enter the appropriate user name and password to log in as the super user.

Example

```
Login: super
Password: xxxxxx
Topspin-360>
```


You are now logged in as an administrator and can view and configure the CLI configuration.

 **NOTE:** Server Switches support up to three concurrent CLI sessions.

Entering CLI Modes

The CLI uses the following three command modes:

- User Execute mode
- Privileged Execute mode
- Global Configuration mode

 **NOTE:** Global Configuration mode includes a number of submodes.

The commands that you can execute depend upon the current command mode and your user login. You may enter a question mark (?) at the CLI prompt to list the commands available to the current user identity in the current mode.

User Execute Mode

All CLI sessions begin in *User Execute* mode. This mode provides commands for viewing some of the configuration and some user information. Guest users may only work in User Exec mode. From User Exec mode, authorized users can access Privileged Execute mode.

Privileged Execute Mode

When you enter the **enable** command in User Execute mode, you enter *Privileged Execute* mode. From Privileged Exec mode, you can view the entire Topspin system configuration and all user information. From this mode, you can perform certain high-level administrative tasks, such as saving the current configuration and setting the system clock. You can also access Global Configuration mode. You must enter Privileged Execute mode before you can enter configuration modes. Only administrative and unrestricted users may enter Privileged Exec mode.

Example

```
# telnet topspin-360
Login: super
Password: xxxx
Topspin-360> enable
Topspin-360#
```

Mode changes are reflected in changes to the CLI prompt. When you transition from User Exec mode to Privileged Exec mode, the prompt changes from **Topspin-360>** to **Topspin-360#**.

Global Configuration Mode

You enter *Global Configuration* mode from Privileged Exec mode. Global Configuration (“config”) mode configures system-level attributes, such as SNMP, SNMP agents, and networks. To enter config mode, enter the **configure terminal** command in Privileged Exec mode.

Example

```
Topspin-360# configure terminal
Topspin-360(config)#
```

When you transition from Privileged Execute to Global Configuration mode, the prompt changes from **Topspin-360#** to **Topspin-360(config)#**.

Configuration Submodes

To configure particular elements of the Server Switch, you must enter a configuration submode specific to that element. All Ethernet, Fibre Channel, and InfiniBand configuration occurs in submodes. In submodes, you can assign IP addresses to interface gateway ports, set connection speeds, set connection types, etc.

To enter the Ethernet Interface Configuration (config-if-ether) submode from Global Configuration mode, enter the **interface** command, specify the interface type, and specify the port(s) to configure.

Example

```
Topspin-360(config)# interface ethernet 4/1-4/4
Topspin-360(config-if-ether-4/1-4/4)#
```

The commands that you enter in a configuration submode apply to the specified cards and ports. The Ethernet Management port, however, does not require you to specify a port number because there is only one active Ethernet Management port during a Topspin system session.

Example

```
Topspin-360(config)# interface mgmt-ethernet
Topspin-360(config-if-mgmt-ethernet)#
```

Exiting CLI Modes

Most commands are mode-dependent. For example, you can only configure clock settings in Global Configuration mode. To configure the Topspin system, you will have to enter and exit CLI modes. The **exit** command returns you to the previous mode.

Example

```
Topspin-90 (config-if-fc-5/1) # exit
Topspin-90 (config) # exit
Topspin-90 #
```



NOTE: If you enter the **exit** command in User Exec mode or Privileged Exec mode, your telnet session ends.

You may also enter the exit command with the **all** keyword to return to User Exec mode in one step.

Example

```
Topspin-90 (config-if-fc-5/1) # exit all
Topspin-90 >
```

To return to User Exec mode from Privileged Exec mode, enter the **disable** command.

Example

```
Topspin-90 # disable
Topspin-90 >
```

Quick Help

You can enter the question mark (?) at the CLI prompt to display one of three types of user information.

1. Enter a question mark (?) at the CLI prompt at any time to display the commands that you can execute. Only the commands appropriate to the current mode and user login appear.

Example

```
Topspin-360 > ?
Exec Commands:
broadcast      - Write message to all users logged in
enable        - Turn on privileged commands
exit          - Exit current mode
help          - Show command help
history       - Show command history
login         - Login as a different user
logout        - Logout of this system
ping          - Send echo messages
show          - Show running system information
terminal      - Set terminal line parameters
who           - Display users currently logged in
write         - Write text to another user
```

2. Enter part of a command string and end it with a question mark (?) to display options that you can use to complete the string.

Example

```
Topspin-360> b?
broadcast
```

3. Enter a command (or enough of a command for the CLI to uniquely identify it), then a space and a question mark (?) to display available arguments to follow the command.

Example

```
Topspin-360> broadcast ?
String                - Message to broadcast. Enclose multi-word strings within
                        double-quotes.

Topspin-360> broadcast
```

After the CLI displays the help information, the Server Switch prints the command string up to the question mark on the input line and waits for you to complete the string. You do not have to retype the string.

Command Abbreviation

To facilitate command entry, you do not need to enter CLI commands in their entirety. You may enter just enough of each command or argument to make it uniquely identifiable.

When enough characters have been entered to uniquely identify a command or keyword in a command string, you may leave it as-is, enter a space, and then add additional keywords or arguments, or you can press the **Tab** key to complete the commands or keywords to improve readability.

Example


```
Topspin-360 (config)# fc ?
  srp                - Configure FC SRP
  srp-global         - Configure FC SRP-global parameters
Topspin-360 (config)# fc srp- ?
  enable            - Enable FC SRP
  gateway-portmask-pol - Configure FC SRP-global gateway-portmask-policy
  itl               - Configure FC SRP-global ITL
  lun-policy        - Configure FC SRP-global lun-policy
  target-portmask-poli - Configure FC SRP-global target portmask policy
Topspin-360 (config)# fc srp- gate ?
  restricted        - Configure FC SRP gateway-portmask-policy restricted
Topspin-360 (config)# fc srp- gate res ?
<cr>
Topspin-360 (config)# fc srp- gate res
```

In the preceding example, **srp-** is short for **srp-global**, **gate** is short for **gateway-portmask-policy**, and **res** is short for **restricted**.

Command-Line Editing

Command-line editing lets you modify a command line command that you have just entered or a command line that you entered previously in the CLI session. The CLI supports a variety of ways to move about and edit the currently displayed command line. [Table 1-3](#) lists and describes these options.

Table 1-3: Key Stroke Shortcuts

| Key Strokes | Description |
|---------------|---|
| Ctrl-a | Moves the cursor to the beginning of the line. |
| Ctrl-b | Moves the cursor left (back) one character. |
| Ctrl-d | Deletes the current character. |
| Ctrl-e | Moves the cursor to the end of the line. |
| Ctrl-f | Moves the cursor to the right (forward) one character. |
| Ctrl-k | Deletes text from cursor to the end of the line. |
| Ctrl-l | Refreshes the input line. |
| Ctrl-n | Displays the next command in the history queue. |
| Ctrl-p | Displays the previous command in the history queue. |
| Ctrl-q | <p>Returns to User Exec mode.</p> <hr/> <p> NOTE: If a command is currently entered on the command line, execute the command before returning to User Execute mode.</p> <hr/> |
| Ctrl-t | Transposes the current and previous characters. |
| Ctrl-u | Deletes all text to the left of the cursor. |
| Ctrl-w | Deletes the text of a word up to cursor. |
| Ctrl-z | Returns you to Privileged Exec mode. |
| Esc-b | Moves the cursor left (back) one word. |
| Esc-c | Converts characters, from the cursor to the end of the word, to upper case. |
| Esc-d | Deletes characters from the cursor through remainder of the word. |
| Esc-f | Moves the cursor right (forward) one word. |
| Esc-l | Converts characters, from the cursor to the end of the word, to lower case. |
| down-arrow | Displays the next command in the history queue. |
| up-arrow | Displays the previous command in the history queue. |
| left-arrow | Moves the cursor left (back) one character. |
| right-arrow | Moves the cursor right (forward) one character. |

Exiting the CLI Session

To exit the CLI session, return to User Exec mode or Privileged Exec mode, and enter the **logout** command or the **exit** command. The CLI session ends.

Example

```
Topspin-90 (config-if-fc-5/1) # exit all
Topspin-90> logout
Login:
```



NOTE: If you use Telnet or SSH to run a remote CLI session, the connection closes when you log out. Conversely, when you terminate a telnet or SSH session, you log out of the Server Switch.

Specifying Cards and Ports

To configure one or more ports on one or more cards, you must specify those ports that you want to configure when you enter the appropriate configuration submode.

Many CLI commands allow you to enter

- A slot#/port# pair.
- A range of pairs.
- A list of pairs.
- The **all** keyword.

Slot#/Port# Pairs

A slot#/port# pair (sometimes referred to as the card#/port# pair) is a slash-separated (/) pair of numbers. The first number indicates the slot in which the interface card resides, and the second number represents a port on that card.

In the case of Ethernet and Fibre Channel gateways, port numbering proceeds from top to bottom (Topspin 360) or left to right (Topspin 90). On InfiniBand cards, port numbering always proceeds from left-to-right on all chassis.

Ranges

A range is a dash-separated (-) set of two slot#/port# pairs. A range may span multiple cards of the same interface type. Card and port numbers in a range must both appear in ascending order. That is, specify the lower card and port number in the first slot#/port# pair and the higher card and port number in the second slot#/port# pair.



NOTE: Do not insert spaces between elements in the range.

The range **3/2-4/3** indicates all the ports starting with card 3, port 2, up to and including card 4, port 3. (This example assumes that cards 3 and 4 are of the same interface type.)

Lists

A list is a comma-separated (,) series of slot#/port# pairs and/or ranges. Sequencing of pairs in the list is not important. You may specify pairs in any order you wish, however, the data returned is displayed in numerical sequence with the lowest slot#/port# pair first. Do not insert spaces between elements in the list. For example, **3/1,3/3,4/3** indicates ports 1 and 3 on interface card 3 and port 3 on interface card 4. (This example assumes that cards 3 and 4 are of the same interface type.) You can include ranges in lists.

Example

3/1,4/1-4/4,5/1

The preceding example assumes that cards 3, 4, and 5 are of the same interface type.

The “all” Keyword

The **all** keyword indicates all the ports of all the cards of a specific type of interface. That is, all Ethernet, Fibre Channel, or InfiniBand interface cards. The subsequent prompt will appear as though you entered the ports as a list.

Using the Documentation

The command descriptions in this book provide quick access to the information about each command. This book divides each command description into subsections so you can go directly to the desired information.

Synopsis

The Synopsis subsection provides a brief, high-level description of the command.

Syntax

The Syntax subsection provides the command syntax. The following conventions apply:

- Text in **bold** font represents text that you enter exactly as it appears.
- Text in *italicized* font represents variables that you replace with actual values when you enter it at the command line.
- Square brackets ([,]) enclose optional syntax. Do not enter square brackets in the CLI.
- Braces ({,}) enclose required syntax choices. Do not enter braces in the CLI.
- The pipe character (|) delineates between selections in syntax. That is, if command X requires argument Y *or* argument Z, but not both at the same time, the syntax will appear as follows:
X {Y | Z}

A table that describes all syntax argument follows the syntax line(s).



NOTE: Input strings such as device names and descriptions must be contiguous without any intervening spaces or blanks. In the event you wish to enter a multi-word string, enclose the string within double-quotes (“ ”), otherwise the CLI parses each word as a separate argument, which results in a syntax violation.

Platform Availability

The platform subsection indicates the platform or platforms (Topspin 90, Topspin 120, Topspin 270, or Topspin 360) on which you may execute the command.

Command Modes

The Command Modes subsection indicates the command mode or submode that you must enter in order to execute the command.

Privilege Level

The Privilege Level subsection indicates the user permissions that are required to execute the command. For example, there are commands that only an unrestricted read-write user (e.g., super) can execute that a user with general read-write permissions (e.g., admin) cannot.

Usage Guidelines

The Usage Guidelines subsection supplies additional information and details to help you use the command to its full potential.

Examples

The examples subsection shows actual command entry and CLI output.

Example

```
Topspin-360# show interface gateway 5
=====Gateway Information=====
gateway : 5
name : 5/0
type : fc-gateway
desc : 5/0 (320)
last-change : none
mtu : 0
admin-status : up
oper-status : up
Topspin-360#
```

Defaults

The Defaults subsection lists command default behavior or values.

Related Commands

The Related Commands subsection provides hypertext links to related CLI commands.

Administrative Commands

This chapter documents the following commands:

- **action** command on page 13
- **addr-option** command on page 15
- **authentication** command on page 16
- **auto-negotiate** command on page 17
- **boot-config** command on page 19
- **broadcast** command on page 20
- **card** command on page 21
- **clock set** command on page 22
- **configure terminal** command on page 24
- **copy** command on page 26
- **delete** command on page 29
- **dir** command on page 31
- **disable** command on page 34
- **enable** command on page 35
- **exec** command on page 36
- **exit** command on page 37
- **ftp-server enable** command on page 38
- **gateway** command on page 39
- **help** command on page 40
- **history** command on page 41
- **hostname** command on page 42
- **install** command on page 43

- **interface** command on page 45
- **ip http** command on page 47
- **link-trap** command on page 49
- **location** command on page 50
- **logging** command on page 51
- **login** command on page 52
- **logout** command on page 53
- **more** command on page 54
- **name** command on page 56
- **ntp** command on page 57
- **ping** command on page 58
- **radius-server** command on page 59
- **reload** command on page 61
- **save-log** command on page 63
- **shutdown** command on page 64
- **snmp-server** command on page 67
- **speed** command on page 70
- **telnet** command on page 72
- **terminal** command on page 73
- **trace** command on page 75
- **type** command on page 77
- **username** command on page 79
- **who** command on page 83
- **write** command on page 84

action

Synopsis:

To execute predefined administrative functions on expansion modules (gateway cards), enter the **action** command in Card Configuration submode.

Syntax:

action {**delete-inactive-image** | **reset**}

Table 2-1: action Command Arguments

| Argument | Description |
|------------------------------|--|
| delete-inactive-image | Removes the inactive image from interface cards. Use the action command with the delete-inactive-image keyword after the boot-config command when you upgrade the system image on your Server Switch to clear the inactive image from the card(s) after a reboot. |
| reset | Resets the management I/O card(s) that you specify in a Topspin 270. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Card Configuration (config-card) mode.

Privilege Level:

Unrestricted or card-specific read-write user.

Usage Guidelines:

Currently, you can execute only one predefined administrative function on all platforms except the Topspin 270. The function (delete-inactive-image) deletes inactive images from one or more cards to provide more available memory on the card.

Before you use the **action** command with the **delete-inactive-images** keyword, enter the **boot-config** command with the **primary-image-source** keyword to install and activate the proper image on the card. When you execute this command, the previously-active image becomes inactive. You can now execute the **action** command to clear the inactive image from your card.

To execute this command, you require read-write administrative permissions for the type(s) of card(s) that you want to clear.

Examples:

The following example deletes inactive images from the card that resides in slot 2.

```
Topspin-360 (config-card-2) # action delete-inactive-images
```

The following example resets a management I/O card on a Topspin 270.

```
Topspin-270 (config-card-15) # action reset
```

Defaults:

No default behavior or values.

Related Commands:

[“boot-config” on page 19](#)

“copy” on page 26

“install” on page 43

“show card” on page 135

“shutdown” on page 64

addr-option

Synopsis:

To configure the Ethernet Management port to

- use a static IP address,
- obtain an IP address from a DHCP server,
- automatically obtain an IP address from a hardware-designated controller,

enter the **addr-option** command in Ethernet Management Configuration submode.

Syntax:

addr-option {**auto** | **dhcp** | **static**}

Table 2-2: addr-option Command Arguments

| Argument | Description |
|---------------|--|
| auto | Applies an IP address from an outside controller to the Ethernet Management port. |
| dhcp | Uses DHCP to configure the address for the Ethernet Management port. |
| static | Changes the address of the Ethernet management port from the DHCP address to the static address that you configure with the ip command. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Ethernet Management Configuration (config-mgmt-ethernet) mode.

Privilege Level:

Ethernet read-write user.

Usage Guidelines:

If you use the **static** keyword, configure the IP address of the Ethernet Management port with the [ip command on page 120](#).

Examples:

The following example configures the Ethernet Management port to obtain an IP address from a DHCP server.

```
Topspin-270(config-if-mgmt-ethernet)# addr-option dhcp
```

Defaults:

No default behavior or values.

Related Commands:

[“ip” on page 120](#)

authentication


Synopsis:

To configure your Server Switch to use RADIUS server authentication in addition to local authentication (always active), and to configure the order in which your Server Switch authenticates, enter the **authentication** command in Global Configuration mode.

Syntax:

authentication login [**default** {**local** [**radius**] | **radius local**}]

Table 2-3: authentication Command Arguments

| Argument | Description |
|----------------|---|
| login | Enables local login authentication.  NOTE: When you enter authentication login , the command behaves as though you had entered authentication login default local . |
| default | Configures where and in what order your Server Switch authenticates logins. |
| local | Authenticates the login with the local CLI user database. |
| radius | Authenticates the login with the RADIUS server. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

If you enter the **local** keyword before the **radius** keyword, your Server Switch authenticates logins locally first, then on the RADIUS server if local authentication fails. If you enter the **radius** keyword before the **local** keyword, your Server Switch authenticates logins with the RADIUS server first, then on the local CLI user database.

Examples:

The following example configures the Server Switch to authenticate to the RADIUS server, then to the local database if server authentication fails.

```
Topspin-360 (config) # authentication login default radius local
```

Defaults:

CLI logins authenticate locally by default.

Related Commands:

[“configure terminal” on page 24](#)

[“radius-server” on page 59](#)

[“show authentication” on page 128](#)

auto-negotiate

Synopsis:

To configure your Server Switch to

- dynamically determine the connection speed of direct-attached Fibre Channel devices,
- dynamically determine the connection speed of direct-attached Ethernet devices,
- dynamically determine the connection speed of direct-attached InfiniBand devices,

enter the **auto-negotiate** command in the appropriate Interface Configuration submode. To disable auto-negotiation, use the **no** form of this command.

Syntax:

auto-negotiate

no auto-negotiate

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Fibre Channel Interface Configuration (config-if-fc) submode, Ethernet Interface Configuration (config-if-ether) submode, InfiniBand Interface Configuration (config-if-ib) submode.

Privilege Level:

Fibre Channel read-write user (for FC ports), Ethernet read-write user (for Ethernet ports), InfiniBand read-write user (for InfiniBand ports).

Usage Guidelines:

Fibre Channel:

Before you configure your FC port to auto-negotiate speed, perform the following steps to verify that the attached Fibre Channel device supports auto-negotiation:

1. Enter the **show interface fc** command in User Exec mode or Privileged Exec mode.
2. Verify that the **auto-negotiate-supported** field of the command output displays **yes**. If the field displays **no**, you must manually configure the connection speed of the port.



NOTE: If you disable auto-negotiation in the CLI but leave it active on the attached Fibre Channel devices, the port manager for the Fibre Channel interface on your device does not negotiate speed and mode with the FC devices. The FC devices may choose a different duplex setting than the port manager and produce unexpected results.

Ethernet:

Before you enable auto-negotiation, perform the following steps to verify that the Ethernet host supports auto-negotiation:

1. Enter the **show interface ethernet** command in User Exec mode or Privileged Exec mode.
2. Verify that the **auto-negotiate-supported** field displays **yes**. If the field displays **no**, you must manually configure the connection speed of the port.

InfiniBand:

Before you enable auto-negotiation, perform the following steps to verify that the InfiniBand host supports auto-negotiation:

1. Enter the **show interface ib** command in User Exec mode or Privileged Exec mode.
2. Verify that the **auto-negotiate-supported** field displays **yes**. If the field displays **no**, you must manually configure the connection speed of the port.

Examples:

The following example disables auto-negotiation on ports 1 through 2 on Fibre Channel card 5. The result of this command appears in the **auto-negotiate** field of the **show interface fc** command.

```
Topspin-360(config-if-fc-5/1-5/2)# no auto-negotiate
```

The following example disables auto-negotiation on ports 1 through 4 on Ethernet card 4. The result of this command appears in the **auto-negotiate-supported** field of the **show interface ethernet** command.

```
Topspin-90(config-if-ether-4/1-4/4)# no auto-negotiate
```

The following example enables auto-negotiation on port 1 on a Topspin 120. The result of this command appears in the **auto-negotiate-supported** field of the **show interface ib** command.

```
Topspin-120(config-if-ib-1/1)# auto-negotiate
```

Defaults:

Fibre Channel and Ethernet ports auto-negotiate connection speeds by default.

Related Commands:

[“link-trap” on page 49](#)

[“name” on page 56](#)

[“show fc srp initiator” on page 158](#)

[“show interface ethernet” on page 231](#)

[“show interface fc” on page 239](#)

[“show interface ib” on page 250](#)

[“shutdown” on page 64](#)

[“speed” on page 70](#)

boot-config

Synopsis:

To specify the system image to run when your Server Switch boots, enter the **boot-config** command in Global Configuration mode.

Syntax:

boot-config primary-image-source *dir*

Table 2-4: boot-config Command Arguments

| Argument | Description |
|-----------------------------|--|
| primary-image-source | Specifies that you want to configure the boot image. |
| <i>dir</i> | Directory that contains the boot image. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

Specify an image *directory* as a boot image. Do not specify image files that end in “.img” since these are compressed archives that must be installed first.



NOTE: Use the **dir** command with the image keyword to view a list of images on your device.

Examples:

The following example configures the Server Switch controller to use the TopspinOS-1.1.0/build460 directory when the Server Switch boots. Without this directory, the system cannot boot successfully.

```
Topspin-360(config)# boot-config primary-image-source TopspinOS-1.1.0/build460
```

Defaults:

No default behavior or values.

Related Commands:

[“dir” on page 31](#)

[“install” on page 43](#)

[“interface” on page 45](#)

[“radius-server” on page 59](#)

[“reload” on page 61](#)

[“show boot-config” on page 131](#)

[“show card” on page 135](#)

[“show card-inventory” on page 140](#)

broadcast

Synopsis:

To send text messages to all other CLI users, enter the **broadcast** command in User Exec mode or Privileged Exec mode.

Syntax:

broadcast “*message*”

Table 2-5: broadcast Command Arguments

| Argument | Description |
|----------------|--|
| <i>message</i> | Message to broadcast. This message may consist of one or more words and may include any alphanumeric character or symbol (except for quotation marks). |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

Multi-word messages must begin and end with quotation marks (“”). Single-word messages do not require quotation marks.

You can broadcast a message to warn other CLI users about events that may impact their sessions, such as a network outage or major configuration change. A broadcast message appears on every active CLI session on the Server Switch, including the user who sends the message.

Examples:

The following example prints **FC card 5 going down in 10 minutes** to the terminal screens of all users on the Server Switch.

```
Topspin-90# broadcast "FC card 5 going down in 10 minutes."
```

Defaults:

No default behavior or values.

Related Commands:

[“reload” on page 61](#)

[“who” on page 83](#)

[“write” on page 84](#)

card

Synopsis:

To enter Card Configuration submode, enter the **card** command in Global Configuration mode.

Syntax:

card {*card-selection* | **all**}

Table 2-6: card Command Arguments

| Argument | Description |
|-----------------------|--|
| <i>card-selection</i> | Card, list of cards, or range of cards to configure. |
| all | Configures all cards in the chassis. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Card-specific read-write user

Usage Guidelines

Enter Card Configuration submode to enable, disable, configure, and reinitialize cards in your Server Switch.

Examples:

The following example enters Card Configuration submode for all cards on the Server Switch. Any commands that execute in this mode apply to all of the cards in the chassis.

```
Topspin-360 (config) # card all
Topspin-360 (config-card-1,6,11,15-16) #
```

Defaults:

No default behavior or values.

Related Commands:

[“clock set” on page 22](#)

[“delete” on page 29](#)

[“install” on page 43](#)

[“interface” on page 45](#)

[“show card” on page 135](#)

[“show card-inventory” on page 140](#)

[“shutdown” on page 64](#)

clock set

Synopsis:

To manually configure the time and date of the on-board Server Switch clock, enter the **clock set** command in Privileged Exec mode.

Syntax:

clock set *hh:mm:ss dd mm yy*

Table 2-7: clock Command Arguments

| Argument | Description |
|-----------|-------------------|
| <i>hh</i> | Hour to assign. |
| <i>mm</i> | Minute to assign. |
| <i>ss</i> | Second to assign. |
| <i>dd</i> | Day to assign. |
| <i>mm</i> | Month to assign. |
| <i>yy</i> | Year to assign. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Privileged Execute mode.

Privilege Level:

Unrestricted and general read-write user.

Usage Guidelines:

Your Server Switch uses one of the following means to maintain system time:

- an on-board system clock
- an external NTP server (recommended)

When you first power on your Server Switch, factory-default system clock settings run. To ensure accurate synchronization, we recommend that you use an external NTP server, as it will synchronize log dates with other management systems. To configure NTP servers, refer to the [ntp command on page 57](#).

Examples:

The following example sets the clock time to 7:22 PM and 10 seconds on the 25th of May, 2015.

```
Topspin-90# clock set 19:22:10 25 05 15
```

Defaults:

No default behavior or values.

Related Commands:

[“card” on page 21](#)

[“ntp” on page 57](#)

[“radius-server” on page 59](#)

[“show clock” on page 142](#)

configure terminal

Synopsis:

To enter Global Configuration mode, enter the **configure terminal** command in Privileged Exec mode.

Syntax:

configure terminal

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Privileged Execute mode.

Privilege Level:

Unrestricted and general read-write user.

Usage Guidelines:

Use the **configure terminal** command to enter Global Configuration mode. From this mode, you can configure gateway and switch cards, subnet management, IP addressing, and various aspects of your Server Switch.

Examples:

The following example enters Global Configuration mode.

```
Topspin-360# configure terminal
Topspin-360(config)#
```

Defaults:

No default behavior or values.

Related Commands:

[“arp ethernet” on page 114](#)

[“authentication” on page 16](#)

[“boot-config” on page 19](#)

[“bridge-group” on page 115](#)

[“card” on page 21](#)

[“diagnostic” on page 291](#)

[“exit” on page 37](#)

[“fc srp initiator” on page 86](#)

[“fc srp initiator-wwpn” on page 89](#)

[“fc srp it” on page 91](#)

[“fc srp itl” on page 93](#)

[“fc srp lu” on page 96](#)

[“fc srp target” on page 98](#)

[“fc srp-global gateway-portmask-policy restricted” on page 99](#)

[“fc srp-global itl” on page 100](#)

[“fc srp-global lun-policy restricted” on page 103](#)

[“ftp-server enable” on page 38](#)

“help” on page 40
“history” on page 41
“hostname” on page 42
“ib sm” on page 108
“ib-agent” on page 111
“interface” on page 45
“ip” on page 120
“location” on page 50
“logging” on page 51
“ntp” on page 57
“radius-server” on page 59
“redundancy-group” on page 123
“snmp-server” on page 67
“telnet” on page 72
“trace” on page 75
“trunk-group” on page 124
“username” on page 79

copy

Synopsis:

To copy files

- to your Server Switch from a remote location,
- from your Server Switch to a remote location,
- from one directory on your Server Switch to another,

enter the **copy** command in Privileged Exec mode.

Syntax:

copy ftp://user-id:password@host[/path]/file-name [slot-number:]file-system[:file-name]

Downloads a file from a FTP server.

copy tftp://remote-system[/path]/file-name [slot-number:]file-system[:file-name]

Downloads a file from a remote TFTP server.

copy {[slot-number:]file-system:file-name | **startup-config** | **running-config**} **ftp://user-id:password@host[/path]/[file-name]**

Uploads a file to a FTP server.

copy running-config startup-config

Saves the running configuration as the startup configuration.

copy [slot-number:]file-system:file-name **running-config**

Executes a configuration file without a system reboot.

Table 2-8: copy Command Arguments

| Argument | Description |
|-----------------------|--|
| ftp | Identifies a remote system that runs file transfer protocol (FTP). |
| tftp | Identifies a remote system that runs trivial file transfer protocol (TFTP). |
| <i>remote-system</i> | IP address (or DNS name, if appropriate) of the remote host. |
| running-config | Refers to the active configuration running on your Server Switch. |
| startup-config | Refers to the configuration that your Server Switch runs when it boots. |
| <i>user-id</i> | User ID that you use to log in to the FTP server. |
| <i>password</i> | Password that you use to log in to the FTP server. |
| <i>host</i> | FTP server domain name or IP address. |
| <i>path</i> | Directory path on the host from which or to which you want to copy a file. |
| <i>slot-number</i> | Slot of the controller card (1 on the Topspin 90 and Topspin 120, 1 or 14 on the Topspin 360). |
| <i>file-name</i> | Name of the file that you want to copy. |
| <i>file-system</i> | File system on your Server Switch. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

Use the **copy** command to save a running configuration as a boot-up configuration, to download image files to install, or to upload configurations that you want to propagate to other Server Switches. The **copy** command copies image, configuration, and log data locally as well as onto and off of the system chassis. The **copy** command can also execute the contents of a configuration file.

You may download image and configuration files from an FTP server to the system chassis. You may also upload log and configuration files from the system chassis to an FTP server.

Download image files to your Server Switch to upgrade system firmware. Download configuration files to quickly replicate a desired configuration. Upload configuration and log files to maintain back-ups and to troubleshoot your Server Switch.

Image files require additional processing. Your Server Switch can run an image only after you install the image file. For more information on how to install an image, refer to [“install” on page 43](#).

After you download a configuration file to your Server Switch, you can use the **boot-config** command to configure your Server Switch to load that configuration when you reboot the Server Switch.

The **copy** command recognizes **Ctrl-c** as a command to terminate a file transfer. Use **Ctrl-c** to cancel a transfer if the network hangs.



NOTE: You can only download image and configuration files. Log files cannot be downloaded. You can only upload configuration and log files. System image data cannot be uploaded.

Examples:

The following example downloads an image file from a remote host to the Server Switch.

```
Topspin-360# copy ftp://bob:mypassword@10.0.0.5/Topspin-360-TopspinOS-1.1.1-build497.img
image:Topspin-360-1.1.1-build497.img
TopspinOS-1.1.2-build497.img
operation completed successfully
```

The following example saves the running configuration as the startup configuration so the current configuration executes when the Server Switch reboots.

```
Topspin-360# copy running-config startup-config
operation completed successfully

Topspin-360
```

The following example copies the startup configuration image from the controller card in slot 1 on a Topspin 360 to the controller card in slot 14.

```
Topspin-360# copy 1:config:startup-config 14:config:save.cfg
** operation completed successfully
```

Defaults:

No default behavior or values.

Related Commands:

[“action” on page 13](#)

[“boot-config” on page 19](#)

“delete” on page 29
“dir” on page 31
“exec” on page 36
“ftp-server enable” on page 38
“history” on page 41
“install” on page 43
“show boot-config” on page 131
“show config” on page 155

delete


Synopsis:

To remove image, configuration, or log files from your Server Switch, enter the **delete** command in Privileged Exec mode.

Syntax:

delete [*slot-number*]:*file-system*:*file*

Table 2-9: delete Command Arguments

| Argument | Description |
|--------------------|--|
| <i>file-system</i> | Server Switch file system. Your Server Switch displays this internal directory by name only. The file systems are config , images , and syslog . The specified file system must be appropriate to the type of file that you want to delete. For example, if you attempt to delete a configuration file from the syslog file system, an error occurs because the name of the file does not match the file system. A colon (:) always follows the file-system specification.  NOTE: The startup configuration maps to config:startup-config. Therefore, you do not need to specify the file system at the CLI. |
| <i>slot-number</i> | Slot of the controller card (1 on the Topspin 90 and Topspin 120, 1 or 14 on the Topspin 360). |
| <i>file</i> | Name of the configuration, image, or log file that you want to delete. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

You cannot delete an active image. To deactivate an active system image in order to delete it, install a new image ([“install” on page 43](#)) and configure your Server Switch to boot that image ([“boot-config” on page 19](#)), then delete the old image.

Examples:

The following example deletes the delete-me.cfg file from the controller card in slot 1 of a Topspin 360.

```
Topspin-360# delete 1:config:delete-me.cfg
Delete file 1:delete-me.cfg? [yes(default) | no] yes
*****
```

The following example deletes an image file from the controller card in slot 14 of a Topspin 360.

```
Topspin-360# delete 14:image:Topspin360-TopspinOS-2.0.0-build488.img
Delete file 14:Topspin360-TopspinOS-2.0.0-build488.img? [yes(default) | no] yes
*****
```

Defaults:

No default behavior or values.

Related Commands:

[“boot-config” on page 19](#)

[“copy” on page 26](#)

[“dir” on page 31](#)

[“install” on page 43](#)

dir


Synopsis:

To list the configuration, log, and system image files on your Server Switch, enter the **dir** command in Privileged Exec mode.

Syntax:

dir [*slot-number*]{**config** | **image** | **syslog**}

Table 2-10: dir Command Arguments

| Argument | Description |
|--------------------|---|
| <i>slot-number</i> | Slot of the controller card (1 on the Topspin 90 and Topspin 120, 1 or 14 on the Topspin 360, 11 or 12 on the Topspin 270). |
| config | Lists all configuration files in the config directory. |
| image | Lists the current image files and system images in the image directory. Image files end with a .img extension. Installed system images look like path names.  NOTE: You must unpack and install image files before they can boot the system. For more information, refer to “install” on page 43 . |
| syslog | Lists the log files in the syslog directory. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

Use this command to list the files on your Server Switch. This command requires one of three arguments: **config**, **image**, or **syslog**. Files reside on the Server Switch in separate file systems. The CLI automatically tracks these file systems so you do not need to include file-path information to administer these files.

Use the **dir** command with the **image** keyword to see the installed image directories on your Server Switch.

On the Topspin 360, use the *slot-number* variable to view files on the controller card in slot 1 or slot 14. The **dir** command lists the files of the active controller by default.

Examples:

The following example displays the configuration files on the Server Switch:

```
Topspin-360# dir config
=====
Existing Configurations on System
=====
slot      date-created              size      file-name
-----
1         Thu Oct 24 11:21:06 2002    58        check.cfg
1         Thu Dec  5 14:50:09 2002   39216     check2.cfg
1         Wed Dec 11 09:09:54 2002   1712      config_bc.cfg
1         Thu Dec  5 11:18:21 2002   1712      running_config.cfg
1         Wed Dec  4 07:10:23 2002   4407      running_config.cfg.backup
1         Thu Dec  5 12:04:53 2002   1712      running_config2.cfg
1         Thu Oct 24 11:19:53 2002    58        test.cfg
Topspin-90#
```

The following example displays installed system images and image files on the Server Switch:

```
Topspin-360# dir image
=====
Existing Boot-Images on System
=====
slot      date-created              size      file-name
-----
1         Thu Jun  1 11:16:50 2003   23691613  TopspinOS-1.1.3-build548.img
1         Wed Jul 11 00:56:52 2002    1024      TopspinOS-1.1.3/build541
1         Thu Jul  1 00:10:40 2003    1024      TopspinOS-1.1.3/build548
Topspin-360#
```

The following example displays the log files in the syslog directory on the Server Switch.

```
Topspin-360# dir syslog
=====
Existing Syslog-files on System
=====
slot      date-created              size      file-name
-----
1         Thu Jun 12 12:13:06 2002   19636     ts_log
1         Wed Jun 11 13:28:54 2002    4978      ts_log.1.gz
1         Tue Jun 10 04:02:02 2002     30        ts_log.2.gz
1         Mon Jun  9 04:02:02 2002     30        ts_log.3.gz
1         Sun Jul  8 04:02:02 2002     30        ts_log.4.gz
1         Sat Jul  7 04:02:02 2002     30        ts_log.5.gz
1         Fri Jul  6 17:20:35 2002   16264     ts_log.6.gz
1         Thu Jul  5 15:14:57 2002    245       ts_log.7.gz
Topspin-360#
```

The following example displays the files in the image directory on the controller in slot 14 of a Topspin 360.

```
Topspin-360# dir 14:image
```

```
=====
                        Existing Boot-Images on System
=====
slot date-created          size      file-name
-----
14   Thu Mar 18 14:59:06 2004    0      TopspinOS-2.0.0/build488
```

Defaults:

No default behavior or values.

Related Commands:

[“boot-config” on page 19](#)

[“copy” on page 26](#)

[“delete” on page 29](#)

[“install” on page 43](#)

[“more” on page 54](#)

disable

Synopsis:

1. To exit Privileged Exec mode and return to User Exec mode, enter the **disable** command in Privileged Exec mode.
2. To disable a trunk group, enter the **disable** command in Trunk Interface Configuration submode.

Syntax:

disable

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Privileged Execute mode, Trunk Interface Configuration (config-if-trunk) submode.

Privilege Level:

General read-only user.

Usage Guidelines:

None.

Examples:

The following example exits Privileged Exec mode and enters User Exec mode.

```
Topspin-360# disable  
Topspin-360>
```

The following example deletes a trunk group.

```
Topspin-360 (config-if-trunk) # disable
```

Defaults:

No default behavior or values.

Related Commands:

[“enable” on page 35](#)

[“interface” on page 45](#)

[“show interface ethernet” on page 231](#)

enable

Synopsis:

1. To enter Privileged Exec mode from User Exec mode, enter the **enable** command in User Exec mode.
2. To enable a trunk group, enter the **enable** command in Trunk Interface Configuration submode.

Syntax:

enable

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Trunk Interface Configuration (config-if-trunk) mode.

Privilege Level:

General read-only user.

Usage Guidelines:

Enter the **enable** command in User Exec mode to make administrative configuration changes to your Server Switch. Enter the **enable** command in Trunk Interface Configuration submode to activate a trunk group.

Examples:

The following example enters Privileged Exec mode from User Exec mode.

```
Topspin-90> enable
Topspin-90#
```

The following example enables a new trunk group.

```
Topspin-90(config-if-trunk)# enable
```

Defaults:

No default behavior or values.

Related Commands:

[“configure terminal” on page 24](#)

[“disable” on page 34](#)

[“exit” on page 37](#)

[“interface” on page 45](#)

exec

Synopsis:

To execute a file in the config file system on your Server Switch, enter the **exec** command in Privileged Exec mode.

Syntax:

exec *file-name*

Table 2-11: exec Command Arguments

| Keyword | Description |
|------------------|--|
| <i>file-name</i> | Name of the file that you want to execute. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

You can create command files on a management workstation and copy them to config file system on the switch using **copy** command. Then you can execute these files with **exec** command. Use the **save-log** command to save the latest commands that you have executed in the CLI to a file, then copy the file to the management station and use it as an example. See the **save-log** and **copy** commands for further details.



NOTE: You can only run files from the config directory of your file system.

Examples:

The following example executes the test.cfg file in the config file system on the Server Switch.

```
Topspin-90# exec test.cfg
```

Defaults:

No default behavior or values.

Related Commands:

[“configure terminal” on page 24](#)

[“copy” on page 26](#)

exit

Synopsis:

To exit your current CLI mode and return to the previous mode, enter the **exit** command in any mode.

Syntax:

exit [**all**]

Table 2-12: exit Command Arguments

| Argument | Description |
|------------|---|
| all | Returns you to User Execute mode from any other CLI mode. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

All modes.

Privilege Level:

All users.

Usage Guidelines:

The **exit** command performs different functions in different modes.

Table 2-13: exit Command Functions by Mode

| Mode(s) | Function |
|------------------------------|---|
| User Exec Privileged Exec | Logs you out of the Server Switch. |
| Global Configuration | Returns you to Privileged Exec mode. |
| Configuration submode (any) | Returns you to Global Configuration mode. |

Examples:

The following example exits Card Configuration submode and enters User Exec mode.

```
Topspin-360(config-card-1,2)# exit all
Topspin-360>
```

Defaults:

No default behavior or values.

Related Commands:

[“enable” on page 35](#)

[“login” on page 52](#)

[“logout” on page 53](#)

ftp-server enable

Synopsis:

To enable the FTP server on your Server Switch, enter the **ftp-server enable** command in Global Configuration mode. To disable this feature, use the **no** form of this command.

Syntax:

ftp-server enable

no ftp-server enable

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

All users.

Usage Guidelines:

The FTP server feature provides read-only access to the file systems on the Server Switch, and complements the **copy** command. Use a FTP client on a management workstation to connect to the server via FTP protocol. You can download log files, configuration files or image files.

Examples:

The following example disables FTP services on the Server Switch.

```
Topspin-360 (config) # no ftp-server enable
```

Defaults:

No default behavior or values.

Related Commands:

[“show system-services” on page 281](#)

[“copy” on page 26](#)

[“telnet” on page 72](#)

gateway

Synopsis:

To assign a default IP gateway to

- the Ethernet Management port,
- the virtual in-band InfiniBand port,

enter the **gateway** command in the appropriate Interface Configuration mode. To disassociate a port from a gateway, use the **no** form of this command.

Syntax:

gateway *gateway*

no gateway

Table 2-14: gateway Command Arguments

| Argument | Description |
|----------------|--|
| <i>gateway</i> | IP address of the gateway to assign to the port. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Ethernet Management Interface Configuration (config-if-mgmt-ethernet) submode, InfiniBand Management Interface Configuration (config-if-mgmt-ib) submode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

The gateway that you assign connects the port to the InfiniBand backplane on your Server Switch. You must configure the gateway through the Serial Console port. Enter the IP address of the gateway when you configure the management interfaces.

Examples:

The following example assigns a default IP gateway to the Ethernet Management interface.

```
Topspin-360(config-if-mgmt-ethernet)# gateway 10.3.0.94
```

The following example assigns a default IP gateway to the InfiniBand Management interface.

```
Topspin-360(config-if-mgmt-ib)# gateway 10.3.0.2
```

Defaults:

The gateway address defaults to 0.0.0.0.

Related Commands:

[“interface” on page 45](#)

[“show interface mgmt-ethernet” on page 259](#)

[“show interface mgmt-ib” on page 261](#)

[“snmp-server” on page 67](#)

help

Synopsis:

To view the help options that the CLI provides, enter the **help** command in any mode.

Syntax:

help

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

All modes.

Privilege Level:

All users.

Usage Guidelines:

This command may be executed in any mode. It provides the methods for you to display the various types of available help. The **help** command provides the same instructions regardless of mode.

Examples:

The following example displays help options.

```
Topspin-360(config-if-ib-16/1-16/12)# help
Help may be requested at any point in a command by entering
a question mark '?'. If nothing matches, the help list will
be empty and you must backup until entering a '?' shows the
available options.
Two styles of help are provided:
1. Full help is available when you are ready to enter a
   command argument (e.g. 'show ?') and describes each possible
   argument.
2. Partial help is provided when an abbreviated argument is entered
   and you want to know what arguments match the input
   (e.g. 'show pr?'.)
Topspin-90360(config-if-ib-16/1-16/12)#
```

Defaults:

No default behavior or values.

Related Commands:

None.

history

Synopsis:

To display a list of the commands that you executed during your CLI session, enter the **history** command in any mode.

Syntax:

history

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

All modes.

Privilege Level:

All users.

Usage Guidelines:

The format of the history output and a configuration file are similar. You can cut and paste the contents of the history output to a text file and, with minor editing, use it as a configuration file.

This global command may be executed in any mode. To display just one screen of history data at a time, configure the terminal display length.

Examples:

The following example displays the recent command history.

```
Topspin-90 (config) # history
 1 history
 2 enable
 3 config
 4 arp
 5 boot-conf
 6 boot-config
 7 diagn
 8 interface ib all
 9 exit
10 interface ethernet all
11 ip
12 history
Topspin-90 (config) #
```

Defaults:

The **history** command stores the last 40 commands that you entered.

Related Commands:

[“copy” on page 26](#)

[“telnet” on page 72](#)

[“show config” on page 155](#)

[“show system-services” on page 281](#)

hostname

Synopsis:

To assign a hostname to your Server Switch, enter the **hostname** command in Global Configuration mode.

Syntax:

hostname *name*

Table 2-15: hostname Command Arguments

| Argument | Description |
|-------------|-------------------------------|
| <i>name</i> | Name to assign to the system. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

When you enter the **hostname** command, you apply the new name to the following three areas:

1. Server Switch version information
2. CLI prompt
3. Server Switch network name

After you configure the host name, the name that you assigned appears in the **show version** command output. When you change modes, the new host name will appear in the CLI prompt.

Examples:

Note the change in the CLI prompt that occurs in the last line of example output.

```
Topspin-360(config)# hostname samplename
Topspin-360(config)# exit
samplename#
```

Defaults:

No default behavior or values.

Related Commands:

[“ip” on page 120](#)

[“ping” on page 58](#)

[“show version” on page 288](#)

install

Synopsis:

To install an image file on your Server Switch, enter the **install** command in Privileged Exec mode.

Syntax:

install [*slot-number*:]**image**:*file*

Table 2-16: install Command Arguments

| Argument | Description |
|--------------------|---|
| <i>slot-number</i> | Slot of the controller card (1 on the Topspin 90 and Topspin 120, 1 or 14 on the Topspin 360, 11 or 12 on the Topspin 270). |
| image | Specifies that the file resides in the image file-system. |
| <i>file</i> | The name of the image file to install. |

Image files must reside in the **image** file system and the file name must have the **.img** extension.

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

To run a new system image, you must perform the following steps:

1. Download an image file to your Server Switch (see “[copy](#)” on page 26).
2. Bring up all cards in your chassis.
3. Install the image file with the **install** command.
4. Configure your Server Switch to run the new system image when it boots (see “[boot-config](#)” on page 19).
5. (Optional) Execute the **action** command with the **delete-inactive-images** keyword for each card in your chassis to remove old images.

The **install** command performs everything necessary to install a new system image to flash memory. It automatically installs all necessary firmware and component images. The command updates all cards with an administrative status of **up**.

To update additional cards, re-enter the **install** and **boot-config** commands after you add the cards.

Examples:

The following example installs a new image on the Server Switch.

```
Topspin-90# install image:Topspin-90-TopspinOS-1.1.2-build497.img
***** operation completed successfully
Topspin-90#
```

Defaults:

No default behavior or values.

Related Commands:

[“action” on page 13](#)

[“boot-config” on page 19](#)

[“card” on page 21](#)

[“dir” on page 31](#)

[“reload” on page 61](#)

[“show boot-config” on page 131](#)

[“show card” on page 135](#)

[“shutdown” on page 64](#)

interface

Synopsis:

To enter an Interface Configuration submode, enter the **interface** command in Global Configuration mode.

Syntax:

interface ethernet {*port-selection* | **all**} (excludes Topspin 120)

interface fc {*port-selection* | **all**} (excludes Topspin 120)

interface gateway *port-selection*

interface ib {*port-selection* | **all**}

interface mgmt-ethernet

interface mgmt-ib

interface trunk *trunk-id*

Table 2-17: interface Command Arguments

| Argument | Description |
|-----------------------|--|
| ethernet | Enters Ethernet Interface Configuration submode to configure Ethernet interface cards. For more information, refer to “IP Commands” on page 113 . |
| fc | Enters Fibre Channel Interface Configuration submode to configure Fibre Channel interface cards. For more information, refer to “Fibre Channel Commands” on page 85 . |
| gateway | Enters Gateway Interface Configuration submode to configure the internal InfiniBand gateway ports on Ethernet and Fibre Channel interface cards. |
| ib | Enters InfiniBand Interface Configuration submode to configure InfiniBand interface cards. For more information, refer to “InfiniBand Commands” on page 105 . |
| mgmt-ethernet | Enters Ethernet Management Interface Configuration submode to configure the port and gateway of the out-of-band Ethernet port. You can use this port to administer your Server Switch. |
| mgmt-ib | Enters InfiniBand Management Interface Configuration submode to configure the in-band management port on your Server Switch. You can use this port to administer the Server Switch. |
| trunk | Enters Trunk Configuration submode to create Ethernet trunk groups. |
| all | Configures all ports of the appropriate type. |
| <i>port-selection</i> | Slot#/port# pair, list of slot#/port# pairs, or range of slot#/port# pairs to configure. |
| <i>trunk-id</i> | ID number (integer) of the trunk group. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

Enter an Interface Configuration submode to configure the attributes of a port, a list of ports, or a range of ports. For instance, enter Ethernet Management Interface Configuration submode to enter the **ip** and **gateway** commands so you can access your switch over Ethernet. Enter Fibre Channel Interface Configuration submode to bring up FC ports that you plan to connect to a SAN.

Example:

The following example enters InfiniBand Management Interface Configuration submode.

```
Topspin-360 (config) # interface mgmt-ib
Topspin-360 (config int-mgmt-ib-1) #
```

The following example enters Fibre Channel Interface Configuration submode to configure FC port 1 on the card in slot 9.

```
Topspin-360 (config) # interface fc 9/1
Topspin-360 (config-if-fc-9/1) #
```

Defaults:

No default behavior or values.

Related Commands:

[“boot-config” on page 19](#)

[“card” on page 21](#)

[“fc srp initiator” on page 86](#)

[“fc srp itl” on page 93](#)

[“fc srp-global gateway-portmask-policy restricted” on page 99](#)

[“fc srp-global lun-policy restricted” on page 103](#)

[“fc srp target” on page 98](#)

[“ib-agent” on page 111](#)

[“name” on page 56](#)

[“show interface fc” on page 239](#)

[“speed” on page 70](#)

[“trunk-group” on page 124](#)

ip http

Synopsis:

To enable or configure HTTP and HTTPS services on your Server Switch, enter the **ip http** command in Global Configuration mode. To disable service or change a port number to the default value, use the **no** form of this command.

Syntax:

ip http {**polling** | **port** *number* | **secure-cert-common-name** {**useSysName** | **useMgmtEnetIpAddr** | **useMgmtIbIpAddr**} | **secure-port** | **secure-server** | **server**}
no ip http {**polling** | **port** | **secure-port** | **secure-server** | **server**}

Table 2-18: ip http Command Arguments

| Argument | Description |
|---------------------------------|---|
| polling | Enables polling on the Server Switch. |
| port | Specifies the HTTP port that the HTTP server uses. Returns the port configuration to the default value (80) when you use the no form of the command. |
| secure -cert-common-name | Specifies where to get the common name used to generate a SSL certificate. |
| server | Enables the HTTP server on your Server Switch. Use this keyword with the no form of the command to disable the HTTP server. |
| useSysName | Configures your Server Switch to use its system name (that you configure with the hostname command) in SSL certificates. |
| useMgmtEnetIpAddr | Configures your Server Switch to use the IP address of its Ethernet Management Port in SSL certificates. |
| useMgmtIbIpaddr | Configures your Server Switch to use the IP address of its InfiniBand Management Port in SSL certificates. |
| secure-port | Specifies the HTTPS port that the HTTP server uses. Returns the port configuration to the default value (443) when you use the no form of the command. |
| secure-server | Enables HTTPS with Secure Sockets Layer (SSL) on your Server Switch. Use this keyword with the no form of the command to disable HTTPS. |
| <i>number</i> | HTTP port (integer) that the HTTP server uses. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Ethernet read-write user.

Usage Guidelines:

Configure the **ip http** command to run Chassis Manager. For more information, refer to the *HP 24-Port 4x Fabric Copper Chassis Manager User Guide*.

Examples:

The following example enables the HTTP server on the Server Switch:

```
Topspin-360(config)# ip http server
```

Defaults:

The HTTP port value defaults to 80.

HTTP services on your Server Switch run by default.

The HTTPS port value defaults to 443.

HTTPS services on your Server Switch run by default.

Related Commands:

[“show ip http” on page 265](#)

[“show ip http server secure” on page 266](#)

link-trap

Synopsis:

To configure internal and external ports to generate link-up and link-down SNMP traps when the operating status (oper-status) of the ports changes, enter the **link-trap** command in the appropriate Interface Configuration mode. To disable this function, use the **no** form of this command.

Syntax:

link-trap

no link-trap

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

All Interface Configuration submodes.

Privilege Level:

Fibre Channel read-write user, Ethernet read-write user.

Usage Guidelines:

Ports generate link-up traps when the oper-status of the port changes to **up** and link-down traps when the oper-status of the port changes to **down**. Trap receivers (that you define with the **snmp-server** command) receive the traps. You can then perform link validation and checking with the receivers, or configure SNMP alerts.

Examples:

The following example enables link-trap generation for Fibre Channel interface ports 1 and 2, on card 5.

```
Topspin-90(config-if-fc-5/1-5/2) # link-trap
```

The following example enables link-trap generation for InfiniBand interface ports 1 through 5 on card 15. The resulting traps are sent to trap receivers, as defined by the **snmp-server** command.

```
Topspin-360(config-if-ib-15/1-15/5) # link-trap
```

The following example enables link-trap generation for Ethernet interface port 1 on card 4. The resulting traps are sent to trap receivers, as defined by the **snmp-server** command.

```
Topspin-90(config-if-ether-4/1) # link-trap
```

Defaults:

By default, ports do not generate link traps.

Related Commands:

[“auto-negotiate” on page 17](#)

[“shutdown” on page 64](#)

[“show snmp” on page 279](#)

[“snmp-server” on page 67](#)

location

Synopsis:

To assign a text-based location identifier to your Server Switch, enter the **location** command in Global Configuration mode. To reset the location to an empty string, use the **no** form of this command.

Syntax:

location “*string*”
no location

Table 2-19: location Command Arguments

| Argument | Description |
|----------|--|
| string | refers to an ASCII text string. Enclose multi-word strings within double-quotes (“,”). |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:


Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

Use the **location** command to assign a readable identifier to your Server Switch. Use the location string to identify support providers, the Server Switch owner, the Server Switch itself, or the physical location of the Server Switch. Display the location with the **show location** command.

 **NOTE:** The **location** command configures the same parameter that the **snmp-server** command configures with the **location** and *location-string* arguments.

Examples:

The following example assigns a location to the Server Switch.

```
Topspin-90(config)# location "515 Ellis Street, Mountain View, CA 94043"
```

Defaults:

No default behavior or values.

Related Commands:

- [“snmp-server” on page 67](#)
- [“show location” on page 267](#)
- [“show version” on page 288](#)

logging

Synopsis:

To identify a remote server as a server that accepts log messages from your Server Switch, enter the **logging** command in Global Configuration mode.

Syntax:

logging *ip-address*

Table 2-20: logging Command Arguments

| Argument | Description |
|-------------------|---|
| <i>ip-address</i> | IP address of the remote syslog server. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

All users.

Usage Guidelines:

Warnings, errors, notifications, and alerts occur once the Topspin system boots successfully. The **logging** command sends these occurrences to the remote server that you specify.

Examples:

The following example configures the Server Switch to send log messages to the host with an IP address of 10.3.0.60.

```
Topspin-360(config)# logging 10.3.0.60
```

Defaults:

No default behavior or values.

Related Commands:

[“show logging” on page 268](#)

[“terminal” on page 73](#)

[“snmp-server” on page 67](#)

[“show snmp” on page 279](#)

login

Synopsis:

To change user identity during a CLI session, enter the **login** command in User Exec mode or Privileged Exec mode.

Syntax:

login *userid*

Table 2-21: login Command Arguments

| Argument | Description |
|---------------|---|
| <i>userid</i> | User ID that you want to use to log in. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:


User Execute mode, Privileged Execute mode.

Privilege Level:

All users.

Usage Guidelines:

The **login** command allows you to assume the identity of another user without having to exit the CLI. The CLI prompts you for your password.

 **NOTE:** To change back to a previous login, do not use the **logout** command. Instead, use the **login** command again.

Examples:

In the following example, the user moves from the current login to the **super** login.

```
Topspin-360> login super
Password: xxxxxx
Topspin-360>
```

Defaults:

No default behavior or values.

Related Commands:

- [“exit” on page 37](#)
- [“logout” on page 53](#)
- [“username” on page 79](#)
- [“show user” on page 286](#)

logout

Synopsis:

To log out of the current CLI session, enter the **logout** command in User Exec mode or Privileged Exec mode.

Syntax:

logout

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

All users.

Usage Guidelines:

The **logout** command ends the current CLI session. If logged in through the Serial Console port, the CLI login prompt appears. If logged in through a Telnet connection, the Telnet session ends and you are returned to your operating system.

Examples:

The following example logs the user out of the CLI.

```
Topspin-90# logout
Topspin-90#
Connection to host lost.
```

Defaults:

No default behavior or values.

Related Commands:

[“exit” on page 37](#)

[“login” on page 52](#)

more


Synopsis:

To view the contents of a text file on your terminal screen, enter the **more** command in Privileged Exec mode.

Syntax:

```
more [slot-number:]file-system:file-name
```

Table 2-22: more Command Arguments

| Argument | Description |
|--------------------|--|
| <i>slot-number</i> | Slot of the controller card (1 on the Topspin 90 and Topspin 120, 1 or 14 on the Topspin 360). |
| <i>file-system</i> | File system on your Server Switch in which the text file resides. <div>NOTE: For the startup configuration file, you do not need to include the file system in the command syntax.</div> |
| <i>file-name</i> | Name of the file to display. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Privileged Execute mode.

Privilege Level:

General read-write user.

Usage Guidelines:

The **more** command displays text data resident on the chassis in increments determined by the **terminal length** command. The specified file-system must be appropriate for the file. See also the **dir** command to list the names of files in the respective file-systems.

Press any key (except the **q** key) to display the next screen of text lines.

The *file-system* variable represents the file system that contains the file. The file system may be **config** or **syslog**. You cannot display image file data or compressed system log files. Only the currently active log file, *ts_log*, may be viewed.

Examples:

The following example displays the contents of the startup configuration file.

```
Topspin-90# more config:startup-config
! TopspinOS-1.1.1/build560
! Fri Mar 15 18:06:10 1935
enable
config terminal
!
boot-config primary-image-source TopspinOS-1.1.1/build560
!
interface mgmt-ethernet
 ip address 10.3.106.25 255.255.0.0
 gateway 10.3.0.1
 no shutdown
!
Topspin-90#
```



NOTE: The lines beginning with an exclamation point (!) are comments ignored when the configuration file executes.

The following example displays the contents of the hwif_log file.

```
Topspin-360# more 14:syslog:hwif_log
Mon Mar 1 00:32:10 2004: card_startup.x : card is starting up
Mon Mar 1 00:32:26 2004: POST: Tavor: Firmware rev 200000000 matches tavor_fw.A
1.200000000.bin: PASSED
Mon Mar 1 03:58:49 2004: card_startup.x : card is starting up
Mon Mar 1 03:59:05 2004: POST: Tavor: Firmware rev 200000000 matches tavor_fw.A
1.200000000.bin: PASSED
Mon Mar 1 04:01:37 2004: card_startup.x : card is starting up
Mon Mar 1 04:01:53 2004: POST: Tavor: Firmware rev 200000000 matches tavor_fw.A
1.200000000.bin: PASSED
Mon Mar 1 04:04:27 2004: card_startup.x : card is starting up
Mon Mar 1 04:04:43 2004: POST: Tavor: Firmware rev 200000000 matches tavor_fw.A
1.200000000.bin: PASSED
Mon Mar 1 04:07:10 2004: card_startup.x : card is starting up
Mon Mar 1 04:07:26 2004: POST: Tavor: Firmware rev 200000000 matches tavor_fw.A
1.200000000.bin: PASSED
Mon Mar 1 19:27:10 2004: card_startup.x : card is starting up
Mon Mar 1 19:27:26 2004: POST: Tavor: Firmware rev 200000000 matches tavor_fw.A
1.200000000.bin: PASSED
Mon Mar 1 19:30:39 2004: card_startup.x : card is starting up
Mon Mar 1 19:30:55 2004: POST: Tavor: Firmware rev 200000000 matches tavor_fw.A
1.200000000.bin: PASSED
Mon Mar 1 19:55:33 2004: card_startup.x : card is starting up
Mon Mar 1 19:55:50 2004: POST: Tavor: Firmware rev 200000000 matches tavor_fw.A
```

Defaults:

No default behavior or values

Related Commands:

[“dir” on page 31](#)

[“telnet” on page 72](#)

[“terminal” on page 73](#)

name

Synopsis:

To assign a user-defined name to an interface port, enter the **name** command in the appropriate Interface Configuration submode.

Syntax:

name “string”

Table 2-23: name Command Arguments

| Argument | Description |
|----------|--|
| string | Alphanumeric ASCII text string (up to 20 characters, including spaces) to assign to one or more ports. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Interface Configuration (config-if-fc, config-if-ib, config-if-ether) submodes.

Privilege Level:

Fibre Channel read-write user, InfiniBand read-write user, Ethernet read-write user.

Usage Guidelines:

The name can be used to simplify port identification and indicate port use. Assign the same name to multiple ports to identify the ports as a group with a uniform function. The name that you assign appears in the **name** field of the appropriate **show interface** command.

Examples:

The example below assigns the name “storage bank 3” to all the ports on Fibre Channel interface card 5, ports 1-2.

```
Topspin-360(config-if-fc-5/1-5/4)# name "storage bank 3"
```

This example assigns the name “InfiniBand Group 1-6” to the first 6 ports of InfiniBand card 15.

```
Topspin-90(config-if-ib-15/1-15/6)# name "InfiniBand Group 1-6"
```

Defaults:

By default, the name of a port appears as a slot#/port# pair.

Related Commands:

- [“auto-negotiate” on page 17](#)
- [“interface” on page 45](#)
- [“show fc srp initiator” on page 158](#)
- [“show ib sm configuration” on page 185](#)
- [“show interface ethernet” on page 231](#)
- [“show interface fc” on page 239](#)
- [“show interface ib” on page 250](#)

ntp

Synopsis:

To synchronize the clock on your Server Switch to primary, secondary, and tertiary NTP servers, enter the **ntp** command in Global Configuration mode. To reset an NTP configuration to the default value, use the **no** form of this command.

Syntax:

ntp {**server-one** | **server-two** | **server-three**} *ip-address*
no ntp {**server-one** | **server-two** | **server-three**}

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

Use the **ntp** command to configure your Server Switch to take time information from up to three servers so that your Server Switch can identify a problem when one server sends faulty data packets. We strongly recommend that you configure all three servers for maximum precision.

Examples:

The following example assigns primary, secondary, and tertiary NTP servers to the Server Switch.

```
Topspin-360 (config) # ntp server-one 10.0.3.110
Topspin-360 (config) # ntp server-two 10.0.3.111
Topspin-360 (config) # ntp server-three 10.0.3.112
```

Defaults:

No default behavior or values.

Related Commands:

[“clock set” on page 22](#)

[“show clock” on page 142](#)

[“show ntp” on page 270](#)

[“snmp-server” on page 67](#)

ping

Synopsis:

To verify that your Server Switch can reach a given host, enter the **ping** command from User Exec mode or Privileged Exec mode.

Syntax:

ping *host*

Table 2-24: ping Command Arguments

| Argument | Description |
|-------------|---|
| <i>host</i> | IP address or hostname of the host, port, or expansion module that you want to reach. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

Use the **ping** command to verify connectivity between your Server Switch and a host or port. The reply packet tells you if the host received the ping and the amount of time it took to return the packet.



NOTE: You must configure a DNS server on your network to use hostnames as an argument in the **ping** command.

Examples:

The following example verifies that the Server Switch can contact the device with an IP address of 10.3.102.24.

```
Topspin-90# ping 10.3.102.24
Sending 5 ICMP Echoes to 10.3.102.24, 56 data bytes
!!!!!
Success rate is 100 percent (5/5)
round-trip min/avg/max = 0.000000/0.000000/0.000000 ms
Topspin-90#
```

Defaults:

No default behavior or values.

Related Commands:

[“hostname” on page 42](#)

[“ip” on page 120](#)

radius-server

Synopsis:

To configure the RADIUS server that your Server Switch uses to authenticate CLI user logins, enter the **radius-server** command in Global Configuration mode. To remove a RADIUS server from the configuration, use the **no** form of this command.

Syntax:

radius-server host *ip-address* [**auth-port** *udp-port*] [**timeout** *seconds*] [**retransmit** *retries*] [**key** *encryption-key*]

no radius-server host *ip-address*

Table 2-25: radius-server Command Arguments

| Argument | Description |
|-----------------------|--|
| host | Specifies the IP address of the RADIUS server. |
| <i>ip-address</i> | IP address of the RADIUS server. |
| auth-port | Specifies the user datagram protocol (UDP) authentication port of the RADIUS server. |
| <i>udp-port</i> | UDP authentication port of the RADIUS server. |
| timeout | Specifies the amount of time that your Server Switch waits for a reply from the server before the login request times out. |
| <i>seconds</i> | Amount of time, in seconds, that your Server Switch waits for a reply from the server before the login request times out. |
| retransmit | Specifies the number of times that your Server Switch tries to authenticate after a timeout. |
| <i>retries</i> | Number of times that your Server Switch tries to authenticate after a timeout. |
| key | Specifies the authentication key that the client and radius server use. |
| <i>encryption-key</i> | Authentication key that the client and radius server use. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write access.

Usage Guidelines:

Configure a RADIUS server to authenticate CLI user logins. Enter the **authentication** command to enable authentication and to configure your Server Switch to authenticate with the RADIUS server.

Examples:

The following example assigns the RADIUS server that the Server Switch can use to validate logins.

```
Topspin-90(config)# radius-server host 10.5.0.100
```

Defaults:

The RADIUS server IP address defaults to 0.0.0.0, which assigns no server, and the Server Switch authenticates locally by default.

The *udp-port* variable defaults to 1812.

Related Commands:

[“authentication” on page 16](#)

[“boot-config” on page 19](#)

[“clock set” on page 22](#)

[“snmp-server” on page 67](#)

reload

Synopsis:

To reboot your Server Switch, enter the **reload** command in Privileged Exec mode.

Syntax:

reload [**no-failover**]

Table 2-26: reload Command Arguments

| Argument | Description |
|---------------------------------------|---|
| no-failover (Topspin 360 only) | Forces a Topspin 360 to run from the same controller card when it reboots. By default, Topspin 360 Server Switches swap active controller cards when they reboot. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Privileged Execute mode.

Privilege Level:

General read-write user.

Usage Guidelines:

At stages of chassis and interface setup, you need to reinitialize chassis firmware or restore interface card configurations. Use the **reload** command because it allows the chassis to close files and prepare for shutdown. The **reload** command brings down the entire Server Switch and restarts all of the cards in the Server Switch.

The Server Switch prompts you to verify the reload. If you have not already saved configuration changes, and the Server Switch detects the changes, it prompts you to save. To store the new configuration as the startup configuration, enter **yes** at the prompt. To store the configuration elsewhere under a different file name, enter the new file name and press the **Enter** key.

The system reinitializes itself and then loads the active system image and the startup configuration file. Wait a few minutes and attempt to log onto the chassis.



NOTE: If your Server Switch includes a second controller card, the CLI will prompt you to save changes to the backup controller as well as to the primary controller.

Examples:

The following example reloads the Server Switch.

```
Topspin-90# reload
System configuration has been modified. Save?
[yes(default)/no/*.cfg] yes
Proceed with reload? [confirm]
Topspin-90#
Connection to host lost.
#
```

Defaults:

No default behavior or values.

Related Commands:

[“boot-config” on page 19](#)

[“broadcast” on page 20](#)

[“install” on page 43](#)

[“who” on page 83](#)

[“show boot-config” on page 131](#)

save-log

Synopsis:

To save a log file of the last 40 commands that you entered, enter the **save-log** command in Privileged Exec mode.

Syntax:

save-log [*filename*]

Table 2-27: save-log Command Arguments

| Argument | Description |
|-----------------|--|
| <i>filename</i> | Name of the file you create to store your command history. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Privileged Execute mode.

Privilege Level:

General read-write user.

Usage Guidelines:

Your Server Switch stores save-log files to the syslog directory. To execute the commands in the save-log file, copy the file to a host, edit it appropriately, and copy it to the config file system on a Server Switch and run the **exec** command.

Examples:

The following example saves the last 40 commands as a file called mylog.log.

```
Topspin-360# save-log mylog.log
```

Defaults:

If you do not provide a name for the log file, your Server Switch assigns a name with the following format:

savelog.mmddhhmmss

where *mmddhhmmss* represents the system UTC time.

Related Commands:

[“exec” on page 36](#)

[“history” on page 41](#)

shutdown

Synopsis:

To disable

- a specific interface card or port,
- the Ethernet Management port,
- the InfiniBand Management port,

enter the **shutdown** command in the appropriate Configuration submode. To enable any of these elements, use the **no** form of this command.

Syntax:

shutdown

no shutdown

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Card Configuration (config-card) submode, Ethernet Management Interface Configuration (config-int-mgmt-ethernet) submode, InfiniBand Management Interface Configuration (config-int-mgmt-ib) submode, Ethernet Interface Configuration (config-if-ether) submode, InfiniBand Interface Configuration (config-if-ib) submode, Fibre Channel Interface Configuration (config-if-fc) submode.

Privilege Level:

Unrestricted or card-specific read-write user.

Usage Guidelines:

Enabling/Disabling a card:

Before you use the **action** command on a card, you must enable (bring up) the card. To enable or disable a card, perform the following steps:

1. In User Exec mode, enter the **enable** command to enter Privileged Exec mode.
2. Enter the **configure terminal** command to enter Global Configuration mode.
3. Enter the **card** command and specify the card or cards that you want to enable.
4. Enter the **shutdown** command or the **no shutdown** command to disable or enable the cards that you specified in [Step 3](#).

When you use the **shutdown** command to disable a card, the card stops processing packets and powers down.



NOTE: You cannot update or delete the active system image on a card when you disable the card. Before you update the active system image on your Server Switch, enable all cards that you want to update.

Enabling/Disabling an interface port:

To enable or disable a port, perform the following steps:

1. In User Exec mode, enter the **enable** command to enter Privileged Exec mode.
2. Enter the **configure terminal** command to enter Global Configuration mode.

3. Enter the **interface** command and appropriate keyword (**ethernet**, **fc**, or **ib**), then specify the port or ports that you want to enable.
4. Enter the **shutdown** command or the **no shutdown** command to disable or enable the cards that you specified in [Step 3](#).

Enabling/Disabling the Ethernet Management Port:

To enable or disable the Ethernet Management port, perform the following steps:

1. In User Exec mode, enter the **enable** command to enter Privileged Exec mode.
2. Enter the **configure terminal** command to enter Global Configuration mode.
3. Enter the **interface mgmt-ethernet** command to enter Ethernet Management Interface Configuration submode.
4. Enter the **shutdown** command or the **no shutdown** command to disable or enable the port.

You must enable the Ethernet Management port before you can configure it. Use the **no shutdown** command to bring up the Ethernet Management port before you assign IP and gateway addresses to the port.

When you disable the Ethernet Management port, the current configuration of the port remains intact. If you experience problems configuring the Ethernet Management port, first check that the admin-status field in the **show interface mgmt-ethernet** command output displays **up**.

Enabling/Disabling the InfiniBand Management port:

To enable or disable the InfiniBand Management port, perform the following steps:

1. In User Exec mode, enter the **enable** command to enter Privileged Exec mode.
2. Enter the **configure terminal** command to enter Global Configuration mode.
3. Enter the **interface mgmt-ib** command to enter InfiniBand Management Interface Configuration submode.
4. Enter the **shutdown** command or the **no shutdown** command to disable or enable the port.

The InfiniBand Management port provides Telnet, SSH, and Element Manager access to InfiniBand hosts that run IPoIB and connect to any of the InfiniBand ports on your Server Switch. With the IB management port, you can run management applications over IPoIB.



NOTE: You must configure the IP address and gateway of the InfiniBand Management port through the Serial Console terminal. Use the **ip** and **gateway** commands.

Examples:

The following example enables interface card 12.

```
Topspin-360 (config-card-12) # no shutdown
```

The following example enables the interface Management Ethernet port.

```
Topspin-90# Topspin-90 (config-if-mgmt-ethernet) # no shutdown
```

The following example enables the interface Management IB port.

```
Topspin-90360 (config-if-mgmt-ib) # no shutdown
```

The following example sets the admin-status field for ports 1 through 6 on InfiniBand card 15 to **up**.

```
Topspin-360 (config-if-ib-15/1-15/6) # no shutdown
```

Defaults:

No default behavior or values.

Related Commands:

[“action” on page 13](#)
[“auto-negotiate” on page 17](#)
[“card” on page 21](#)
[“gateway” on page 39](#)
[“interface” on page 45](#)
[“ip” on page 120](#)
[“link-trap” on page 49](#)
[“show card” on page 135](#)
[“show fc srp initiator” on page 158](#)
[“show interface mgmt-serial” on page 262](#)
[“type” on page 77](#)

snmp-server

Synopsis:

To store contact and location information and to configure the SNMP notification host and SNMPv3 user, enter the **snmp-server** command in Global Configuration mode. To replace these values with empty strings, enter the **no** form of this command.

Syntax:

snmp-server {**contact** “*contact-string*” | **engineID** **local** *engine-string* | **host** *dest* [*community-string*] [**recv-event-traps**] | **location** “*location-string*”}

snmp-server user *username* {**disable** | **enable** | **privilege** *privileges* | **v3** [**encrypted**] **auth** {**md5** | **sha**} *password* [**priv** **des56** *privacy*]}

no snmp-server {**contact** | **host** *ip-address* [**recv-event-traps**] | **location** | **user** *username* **v3**}

Table 2-28: snmp-server Command Arguments

| Argument | Description |
|-------------------------|--|
| contact | Stores the contact information for your Server Switch. This contact information appears in the show version command output. |
| host | Configures your Server Switch to communicate with the host that receives SNMP traps from your Server Switch. |
| engineID | Configures a SNMPv3 engine ID. |
| local | Configures the engine ID of the local agent. |
| <i>engine-string</i> | Engine ID, as a 15-octet string. |
| location | Stores location information about your Server Switch. This contact information appears in the show version command output. |
| <i>contact-string</i> | ASCII text string of contact information. |
| <i>dest</i> | IP address or DNS name of an SNMP server. |
| <i>community-string</i> | SNMP community string that authenticates your Server Switch to the SNMP server. |
| recv-event-traps | Configures the Server Switch to send SNMP traps to the receiver. If you configure this keyword, the remote host receives SNMP events as well as traps. |
| <i>location-string</i> | ASCII text string of location information. |
| user | Specifies the user ID that you want to configure. |
| <i>username</i> | User ID that you want to configure. |
| disable | Disables the SNMP user. |
| enable | Enables the SNMP user. |
| privilege | Assigns privileges to the user. |

Table 2-28: snmp-server Command Arguments (Continued)

| Argument | Description |
|-------------------|---|
| <i>privileges</i> | Privileges to apply to the user. The privileges may be any combination of <ul style="list-style-type: none"> ib-ro ib-rw ip-ethernet-ro ip-ethernet-rw fc-ro fc-rw unrestricted-rw and you must enter whatever privileges you include in the order that they appear above. |
| v3 | Configures a user with the SNMPv3 security model. |
| encrypted | Specifies passwords as digests |
| auth | Configures authentication parameters for the user. |
| md5 | Specifies md5 authentication. |
| sha | Specifies sha authentication. |
| <i>password</i> | Authentication password to assign to the user. |
| priv | Configures privacy for the user and assigns a privacy password. |
| des56 | Configures the privacy type |
| <i>privacy</i> | Privacy password. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

The `snmp-server` contact string appears when you view system version or SNMP information.

The `snmp-server` host string appears in the **show snmp** command output.

The **host** keyword configures the IP address of the host that you want to receive traps.



NOTE: SNMPv3 configurations are not portable across Server Switches. You must configure SNMPv3 individually on each chassis. If you migrate a configuration file from one chassis to another, the SNMPv3 section does not appear.

Examples:

The following example stores contact information on your Server Switch and assigns a SNMP server to your Server Switch.

```
Topspin-90(config)# snmp-server contact "support@topspin.com"  
Topspin-90(config)# snmp-server host 10.3.106.99 secret
```

The following example inputs user “dog” with the SNMPv3 security model, assigns md5 authentication, a password of “cat,” and des56 privacy with a password of “fish” in the configuration.

```
Topspin-270(config)# snmp-server user dog v3 auth md5 cat priv des56 fish
```

Related Commands:

[“gateway” on page 39](#)

[“radius-server” on page 59](#)

[“ntp” on page 57](#)

[“location” on page 50](#)

[“logging” on page 51](#)

speed

Synopsis:

To configure the connection speed between Fibre Channel interface ports on your Server Switch and Fibre Channel devices, enter the **speed** command in Fibre Channel Interface Configuration submode.

To assign an Ethernet connection speed to a port or ports, enter the **speed** command in Ethernet Interface Configuration submode.

Syntax:

speed *speed*

Table 2-29: speed Command Arguments

| Argument | Description |
|--------------|--|
| <i>speed</i> | Integer value that configures the speed (in Mbps) of the connection between your Server Switch and a Fibre Channel device or Ethernet device. For Fibre Channel, enter 1000 for 1 Gbps or 2000 for 2 Gbps. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Fibre Channel Interface Configuration (config-if-fc) mode, Ethernet Interface Configuration (config-if-ether) submode, InfiniBand Interface Configuration (config-if-ib) submode (select Server Switches).


Privilege Level:

Unrestricted read-write user, Fibre Channel read-write user, Ethernet read-write user, InfiniBand read-write user.

Usage Guidelines:

Fibre Channel:

The speed of a connection does not necessarily match the speed that you configure. If your connection cannot physically connect at the speed that you specify, the connection runs at a slower speed that your Server Switch automatically detects. As soon as a physical change makes your speed setting possible, the connection will run at the speed that you specified.

 **NOTE:** You cannot manually configure connection speed you enable auto-negotiation. Enter the **no auto-negotiate** command before you manually configure connection speed.

Ethernet:

The **speed** command sets the administrative speed (the speed that you want) only. Self-detection determines the actual speed, which depends on the capabilities of the connection. You must disable the auto-negotiation feature to manually configure speed.

InfiniBand:

The **speed** command sets the administrative speed only. Self-detection determines the actual speed, which depends on the capabilities of the connection. You must disable the auto-negotiation feature to manually configure speed.

Examples:

The following example sets the preferred speed to 1,000 Mbps (1 Gbps). The results of this command may be viewed in the admin-speed field for Fibre Channel interfaces using the **show interface fc** command.

```
Topspin-360(config-if-fc-5/4) # speed 1000
```

The following example sets the ethernet interface (slot 4, port 1) to a speed of 100 Mbps.

```
Topspin-360(config-if-ether-4/1) # speed 100
```

The following example sets all InfiniBand interfaces on a Topspin 120 to a speed of 4x.

```
Topspin-120(config-if-ib-1/1-1/24) # speed 4x
```

Defaults:

By default, Fibre Channel connections run at 2000 Mbps (2 Gbps).

Related Commands:

[“auto-negotiate” on page 17](#)

[“half-duplex” on page 119](#)

[“interface” on page 45](#)

[“show fc srp initiator” on page 158](#)

[“show interface ethernet” on page 231](#)

telnet

Synopsis:

To enable or disable telnet services on your Server Switch, enter the **telnet** command in Privileged Exec mode.

Syntax:

telnet {**enable** | **disable**}

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write access.

Usage Guidelines:

Disable the telnet feature to restrict access to your Server Switch to SSH only.

Examples:

The following example enables telnet access to the Server Switch.

```
Topspin-360(config)# telnet enable
```

Defaults:

By default, telnet services run on your Server Switch.

Related Commands:

[“ftp-server enable” on page 38](#)

[“history” on page 41](#)

[“more” on page 54](#)

[“show interface mgmt-ib” on page 261](#)

[“show system-services” on page 281](#)

terminal

Synopsis:

To configure

- the maximum number of lines that appear on the terminal screen when you enter commands that display multiple lines of output,
- the duration of idle time that triggers your Server Switch to automatically log you out and end your CLI session

enter the **terminal length** command in User Exec mode or Privileged Exec mode. To restore these settings to default values, use the **no** form of this command.

Syntax:

terminal {**length** *number-of-lines* | **time-out** *minutes*}

terminal no {**length** | **time-out**}

Table 2-30: terminal Command Arguments

| Argument | Description |
|------------------------|---|
| length | Specifies the number of lines that appear on the screen when you run commands such as the more command an on-line help (?). |
| <i>number-of-lines</i> | Number (integer) of lines that appear on the screen when you run commands such as the more command. Enter 0 to disable paging and display all output at once. |
| time-out | Specifies the amount of idle time that your Server Switch allows before it logs a user out of the CLI. |
| <i>minutes</i> | Number of minutes (integer ranging from 1 to 100000) of idle time that prompts your Server Switch to end your CLI session and log you out. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

• length

A *number-of-lines* value of 0 turns off paging and displays data on the screen without stopping until completed. We recommend that you set the terminal page length to 0 when you use the **show logging** command with the **end** argument. Otherwise, you will have to keep pressing the space bar to continue each time the maximum display length prints. The **no** form of this command resets the terminal length to the default.

The number of lines specified only applies to the current CLI session. Other users are unaffected by changes to the display length.



NOTE: If you set the page length to 0 to disable paging, do not change the terminal window size. Changing window size restores the terminal length to that of the window and re-enables paging.

- **time-out**

Changes to this parameter apply immediately to all users and continue to apply to users who log in after you configure the timeout value. Enter **0** to disable timeouts.



NOTE: System timeouts apply if you use Telnet or SSH to connect to your Server Switch.

Examples:

The following example configures the CLI to display 66 lines of display output at a time.

```
Topspin-90# terminal length 66
```

The following example configures the CLI to time out after 60 minutes.

```
Topspin-90# terminal time-out 60
```

Defaults:

By default, the CLI displays 24 lines per screen.

By default, your Server Switch logs you out after 15 minutes of inactivity.

Related Commands:

[“logging” on page 51](#)

[“more” on page 54](#)

[“show logging” on page 268](#)

[“show system-services” on page 281](#)

trace

Synopsis:

To track internal Server Switch program modules that specific interface cards call, enter the **trace** command in Global Configuration mode.



NOTE: Use this command only under the direction of support personnel for program debug purposes.

Syntax:

trace app *app* **module** *mod* **level** {**no-display** | **very-terse** | **terse** | **verbose** | **very-verbose** | **scream**} **flowmask** *val* [**card** *slot*]

Table 2-31: trace Command Arguments

| Argument | Description |
|---------------------|---|
| app | Identifies an internal application to trace. |
| module | Identifies a program module to trace within the specified application. |
| level | Specifies the verbosity level of the trace command output. |
| flowmask | Masks modules that you do not want to display. |
| card | Identifies the card to trace. |
| no-display | Disables tracing when you also set the <i>val</i> variable to 0x00. |
| very-terse | Contact technical support for details. |
| terse | Contact technical support for details. |
| verbose | Contact technical support for details. |
| very-verbose | Contact technical support for details. |
| scream | Contact technical support for details. |
| <i>application</i> | Integer that indicates the internal application to trace. |
| <i>mod</i> | Program module within the application. |
| <i>val</i> | Decimal or hexadecimal value of modules to mask. A value of 0xFFFFFFFF masks all modules. A value of 0x00 displays all modules. |
| <i>slot</i> | Slot number of the card to trace. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

General read-write user.

Usage Guidelines:

Use this command to debug your system.

The number of applications and modules may change between releases. The numbers assigned to applications and modules may also change. Check application and module number assignments using CLI help (?) before you execute this command, as shown in the example below.

Examples:

The following example displays the applications that you can trace (output abridged).

```
Topspin-360(config)# trace app ?
app <1-25>
app numbers:
APP_ID_CLI           = 1
APP_ID_OSPF          = 2
APP_ID_RIP           = 3
...
...
APP_ID_IP_AGENT      = 22
APP_ID_FIB_AGENT     = 23
APP_ID_KERNEL        = 24
APP_ID_CARD_AGENT    = 25
APP_ID_SM            = 26
```

The following example enables tracing for application 4, module 36.

```
Topspin-360(config)# trace app 4 module 36 level very-verbose flowmask 0x12 card 2
```

Defaults:

No default behavior or values.

Related Commands:

[“help” on page 40](#)

[“show trace” on page 284](#)

type

Synopsis:

To assign an administrative card-type to a slot into which you want to install a card, enter the **type** command in Card Configuration submode.

Syntax:

type *card-type*

Table 2-32: type Command Arguments

| Argument | Description |
|-----------|--|
| card-type | Type of card in the slot. See Table 2-33 for available card types. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Configuration Card (config-card) mode.

Privilege Level:

Unrestricted or card-specific read-write user.

Usage Guidelines:

Use the **type** command to reserve slots for particular card types. For instance, if you want a slot to run only Fibre Channel gateway cards, configure the type of the slot to “fc2port2G” so that only that card type will function in the slot. Any other card that you place in the slot will not function. [Table 2-33](#) lists and describes available card types.

Table 2-33: Available Card Types

| Type | Description |
|-----------------------------|---|
| controller | Configures the slot for a Topspin 360 controller card. |
| controllerIb12port4x | Configures the slot for a Topspin 90 controller card with 12 4x InfiniBand ports. |
| controllerIb24port4x | Configures the slot for an HP 24-Port Fabric Copper Switch controller card with 24 4x InfiniBand ports. |
| en4port1G | Configures the slot for a 4-port, 1Gbps Ethernet gateway. |
| en6port1G | Configures the slot for a 6-port, 1Gbps Ethernet gateway. |
| fabric12x | Configures a slot in a Topspin 270 for a fabric controller module (FCM). |
| fc2port2G | Configures the slot for a 2-port, 2Gbps Fibre Channel gateway. |
| ib12port4x | Configures the slot for a 12-port, 4X InfiniBand switch card. |
| ib12port4xTX | Configures a slot in a Topspin 270 for a line interface module (LIM) with twelve 4x InfiniBand ports. |
| mgmtIO | Configures the slot for a Topspin 270 management I/O card. |

Examples:

The following example assigns a card-type to the expansion module slot on a Topspin 90.

```
Topspin-90(config-card-2)# type en4port1G
```

The following example assigns a card-type to expansion modules 2 through 4 on a Topspin 360.

```
Topspin-360(config-card-2-4)# type en4port1G
```

Defaults:

No default behavior or values.

Related Commands:

[“shutdown” on page 64](#)

[“show card” on page 135](#)

username

Synopsis:

To reconfigure or create and configure user accounts, enter the **username** command in Global Configuration mode. To delete a user account, use the **no** form of this command.

Syntax:

username *user* **password** *passwd*

Creates a new user account.


username *user* {[**disable** | **enable**] | [**community-string** *string* | **no-community-string**] | **privilege** *priv*[*priv priv...*]}

Reconfigures an existing user account

no username *user*

Deletes an existing user account.

Table 2-34: username Command Arguments

| Argument | Description |
|----------------------------|---|
| password | Configures the password for the user account. |
| disable | Disables the user account. |
| enable | Enables the user account. |
| community-string | Assigns a SNMP community string to the user account. |
| no-community-string | Clears the SNMP community string of the user. |
| privilege | <p>Assigns access privileges to the user.</p> <p> NOTE: When you assign privileges, new privileges completely overwrite your previous privilege settings. If you omit an access privilege, the user account will lose this privilege even if you previously assigned it to the account.</p> |
| <i>user</i> | Account login name (up to 20 alphanumeric characters). |
| <i>passwd</i> | Account password (5 to 34 alphanumeric characters). |
| <i>string</i> | SNMP community string. |
| <i>priv</i> | <p>Access privilege. The <i>priv</i> variable may be any of the following:</p> <ul style="list-style-type: none"> • ib-ro, for InfiniBand read-only access • ib-rw, for InfiniBand read-write access • ip-ethernet-ro, for Ethernet read-only access • ip-ethernet-rw, for Ethernet read-write access • fc-ro, for Fibre Channel read-only access • fc-rw, for Fibre Channel read-write access • unrestricted-rw, for universal read-write access |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user or general read-write user (change own password only).

Usage Guidelines:

The **username** command

- Creates and remove user accounts. The default CLI user accounts are guest, admin, and super.
- Changes user password. A user with read-write access may change their own password.
- Assigns access levels based upon functional areas, such as Fibre Channel, Ethernet, and InfiniBand administrative areas. Access levels may be unrestricted or read-only or read-write for the various administrative areas. Unrestricted indicates super user.
- Enables or disables the account.
- Associates user accounts with SNMP community strings. This community string serves as the password for Element Manager access.

You must create the user account with the **password** keyword before you can configure the account. By default, the Server Switch provides the unrestricted user login **super** (that uses a default password of **super**). This login uses **secret** as its default SNMP community string. SNMP community strings provide the user credentials necessary to access Management Information Base (MIB) object.

Each user login uses one unique community string and one password. A login must use a community string to launch an Element Manager session. To restrict a deny a user access to SNMP, do not provide the login with a community string.



NOTE: SNMP community strings are sent across the network in UDP packets with no encryption.

By default, new user accounts have read-only access. You may grant write privileges to a user for functional areas, such as InfiniBand, Ethernet, and Fibre Channel. Privileges are order-dependent. You must enter multiple access privileges in the following order:

1. ib-ro
2. ib-rw
3. ip-ethernet-ro
4. ip-ethernet-rw
5. fc-ro
6. fc-rw
7. unrestricted-rw

When changing the privileges of an existing user, specify all the privileges allowed to the user (including re-entering existing privileges), because the privilege argument removes all existing privileges and replaces them with them with the new ones.

For security purposes, since multiple users exist on the system, we recommend that you change the default passwords after initial configuration. The default user accounts are listed in the table below.

Table 2-35: Default User Accounts

| User Name | Password | Privilege |
|-----------|--|---|
| super | By default, the password is super . The default community string is secret . | The super user has unrestricted privileges. Use this account to manage any part of the Topspin system. This user may view and modify a configuration, as well as administer user accounts and access privileges. This user configures the console and management ports for initial chassis setup. |
| admin | By default, the password is admin . The default community string is “ private ”. | The admin user has general read-write privileges. This user may view and modify the current configuration. However, the admin user can change only its own user information, such as the admin password. |
| guest | The default password is guest . The default community string is public . | The guest user has read-only privileges. This user may only view the current configuration. The guest user cannot make any changes during the CLI session. |

Examples:

The following example creates a user with InfiniBand and Fibre Channel administrative privileges, as well as an SNMP community-string.

```
Topspin-90(config)# username ib-fc_admin password ibFcAdmin
Topspin-90(config)# username ib-fc_admin community-string ibFc-commStr
Topspin-90(config)# username ib-fc_admin privilege ib-rw ip-ethernet-ro fc-rw
Topspin-90(config)# username ib-fc_admin enable
Topspin-90(config)# exit
Topspin-90# show user ib-fc_admin
=====
                        User Information
=====
      username : ib-fc_admin
      password : $1$JwcI/25k$3aCHn3BAQcTF3V2PGv1m7.
      snmp-community : ibFc-commStr
      permission-level : ib-rw, ip-ethernet-ro, fc-rw
      admin-status : enabled
      num-logins : 0
      num-unsuccessful-logins : 0
      last-login :
      last-unsuccessful-login :
Topspin-90#
```

The following example disables a user account but does not delete it.

```
Topspin-360(config)# username ib-fc_admin disable
```

The following example deletes a user account.

```
Topspin-90(config)# username ib-fc_admin no
```

Defaults:

Guest user accounts are disabled by default. All other user accounts are enabled.

Related Commands:

[“show user” on page 286](#)

who

Synopsis:

To display

- the users currently connected to your Server Switch,
 - the host system from which each connected user logged in,
- enter the **who** command in User Exec mode or Privileged Exec mode.

Syntax:

who

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

Use this command before you reboot the Server Switch so you can broadcast a message about impending reboots if other users have sessions open to the Server Switch.

Examples:

The following example displays the users on the Server Switch.

```
Topspin-360# who
super      Console
super      10.10.253.47
admin      10.10.196.8
Topspin-360#
```

Defaults:

No default behavior or values.

Related Commands:

[“broadcast” on page 20](#)

[“reload” on page 61](#)

[“write” on page 84](#)

write

Synopsis:

To send a text message to another CLI user, enter the **write** command in User Exec mode or Privileged Exec mode.

Syntax:

write *user* "*string*"

Table 2-36: write Command Arguments

| Argument | Description |
|---------------|---|
| <i>user</i> | User account to which you want to send a message. |
| <i>string</i> | Text that you want to send to the other user. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

Use the **write** command to send messages about administrative functions that impact individual users.

Examples:

The following example sends a message to the admin user.

```
Topspin-90# write admin "Please reconnect ib1 to the switch card."
```

Defaults:

No default behavior or values.

Related Commands:

[“broadcast” on page 20](#)

[“who” on page 83](#)

Fibre Channel Commands

This chapter documents the following commands:

- **fc srp initiator** command on page 86
- **fc srp initiator-wwpn** command on page 89
- **fc srp it** command on page 91
- **fc srp itl** command on page 93
- **fc srp lu** command on page 96
- **fc srp target** command on page 98
- **fc srp-global gateway-portmask-policy restricted** command on page 99
- **fc srp-global itl** command on page 100
- **fc srp-global lun-policy restricted** command on page 103



NOTE: If you enter a Fibre Channel command and receive an error message that reads, “Operation temporarily failed - try again,” give your Fibre Channel gateway time to finish initializing, then retry the command.

fc srp initiator

Synopsis:

To configure an initiator—normally a SAN-attached host but in IB terms a SRP host combined with a Server Switch—to communicate with a Fibre Channel SAN across a Fibre Channel gateway on your Server Switch, enter the **fc srp initiator** command in Global Configuration mode. To deny SAN access to the SRP host, to delete an initiator from the running configuration, or to reconfigure the description of the initiator to an empty string, use the **no** form of this command.

Syntax:

fc srp initiator *guid extension* {**auto-bind** | **bootup target** *target-wwpn lu logical-unit* | **description** “*descr*” | **discover-itl** | **pkey** *pkey-value* | **wwnn** *wwnn-value*}
no fc srp initiator *guid extension* [**description**]

Table 3-1: fc srp initiator Command Arguments



| Argument | Description |
|---------------------|---|
| <i>guid</i> | Global unique identifier (GUID) of the SRP host.  NOTE: The GUID of your SRP host appears printed on the HCA in your server, and you can use host driver utilities to view the GUID. For more information, refer to the <i>HP Dual-port 4x Fabric Adapter User Guide</i> . |
| <i>extension</i> | GUID extension of the SRP host. |
| auto-bind | <ol style="list-style-type: none"> Creates the initiator entry in the configuration file and binds the host to a world-wide node name (WWNN) that your Server Switch generates internally to uniquely identify the host. Creates virtual ports for this initiator on every possible physical FC gateway port on your Server Switch. FC devices use these virtual ports to communicate with the initiator. |
| bootup | Configures the SRP host to boot from a Fibre Channel logical unit (LU). |
| target | Specifies the world-wide port name (WWPN) of the port of the FC storage device that stores image that you want the initiator to boot. |
| <i>target-wwpn</i> | WWPN of the port of the FC storage device that stores image that you want the initiator to boot. |
| lu | Specifies the logical unit (LU) that stores image that you want the initiator to boot. |
| <i>logical-unit</i> | Logical ID of the LU that stores image that you want the initiator to boot. |
| description | Assigns an alphanumeric ASCII description string to the initiator. |
| <i>descr</i> | Alphanumeric ASCII description string to assign to the initiator. |
| discover-itl | Discovers initiator-target-LUN (ITL) combinations and adds them to your configuration file. Targets refer to SAN storage devices, and LUNs refer to the logical units within SAN storage devices. |
| pkey | Assigns a partition key (P_key) to the initiator.  NOTE: Your Server Switch does not currently support partition keys for SRP. |

Table 3-1: fc srp initiator Command Arguments (Continued)

| Argument | Description |
|-------------------|--|
| <i>pkey-value</i> | 16-bit partition key to assign to the initiator. Assign multiple partition keys by appending a colon, then the next key (aa:aa:bb:bb:cc:cc:dd:dd). |
| wwnn | Creates the initiator entry in the configuration file and assigns a manually-entered WWNN to the initiator. |
| <i>wwnn-value</i> | WWNN to assign to the initiator. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user, Fibre Channel read-write user

Usage Guidelines:

Configure initiators so SRP hosts can communicate with SANs.



NOTE: When you configure new initiators, those initiators inherit the global policies that exist at that time. When you change global policies, the new global policies do not apply to existing initiators.

Before you can customize an initiator, you must create an initiator entry with the **auto-bind** keyword or the **wwnn** keyword. Once you identify a host as an initiator, you can customize the initiator with the remaining keywords.

Command Keyword Usage Guidelines:

- **auto-bind**

You must create initiators and assign, or *bind*, a WWNN (an identifier that FC devices recognize) to each initiator so that FC devices can communicate with initiators. When you use the **auto-bind** keyword to create an initiator and generate a WWNN for an initiator, your Server Switch creates a virtual port (NL_Port) that represents the initiator on every physical port on the FC gateway. Your Server Switch assigns an internally-generated WWPN to each virtual port. Each physical port on the FC gateway supports 32 virtual ports to form a virtual FC arbitrated loop.



NOTE: We *strongly* recommend that you use the **auto-bind** keyword to assign WWNNs to initiators as you configure the initiators. If you perform a manual configuration, you may create duplicate WWNNs that create traffic conflicts.

- **description**

Enter a description to help identify an initiator without reading its GUID and extension.

- **discover-itl**

Discover ITLs to add all available initiator-target-LUN (ITL) groups to the running configuration.

pkey

Refer to the *HP 24-Port 4x Fabric Copper Switch User Guide* to learn more about partitions.

- **wwnn**

When you enter a question mark (?) after the **wwnn** keyword, the CLI provides a recommended WWNN value.

Examples:

The following example adds an initiator to the running configuration and automatically configures the WWNN of the initiator and the WWPNNs of the virtual ports that point to the initiator from the physical FC gateway ports.

```
Topspin-90(config)# fc srp initiator 00:00:2C:90:01:1b:b7:50 00:00:00:00:00:00:00  
auto-bind
```

The following example assigns the description **InfiniBand Host** to an existing initiator. The name now appears in the **show fc srp initiator** command output.

```
Topspin-90(config)# fc srp initiator 00:00:2C:90:01:1b:b7:50 00:00:00:00:00:00:00  
description "InfiniBand Host"
```

The following example discovers all potential initiator-target-LUN (ITL) combinations that your Server Switch can support and adds them to the running configuration. To view the results of this command, enter the **show fc srp itl** command.

```
Topspin-90(config)# fc srp initiator 00:00:2C:90:01:1b:b7:50 00:00:00:00:00:00:00  
discover-itl
```

Defaults:

By default, no P_keys apply to initiators. By default, global policies apply to initiators. Configure global policies with **fc srp-global** commands.

Related Commands:

[“fc srp-global lun-policy restricted” on page 103](#)

[“interface” on page 45](#)

[“show fc srp initiator” on page 158](#)

fc srp initiator-wwpn

Synopsis:

To manually create, on a physical FC gateway port, a virtual port that points to an initiator, enter the **fc srp initiator-wwpn** command in Global Configuration mode.

Syntax:

fc srp initiator-wwpn *guid extension slot#/port# wwpn*

Table 3-2: fc srp initiator-wwpn Command Arguments

| Argument | Description |
|------------------|--|
| <i>guid</i> | Global unique identifier (GUID) of the SRP host (initiator) that you want to connect to a Fibre Channel SAN. |
| <i>extension</i> | GUID extension of the SRP host that you want to connect to a Fibre Channel SAN. |
| <i>slot#</i> | Slot of the FC gateway expansion module that you want to use. |
| <i>port#</i> | Fibre Channel gateway port that you want to use to connect your initiator to the SAN. |
| <i>wwpn</i> | WWPN to assign to the new virtual port. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user or Fibre Channel read-write user.

Usage Guidelines:

Configure WWPNs for initiators so that FC devices can recognize them and communicate with them. With virtual ports (NL_ports), physical FC ports can point to multiple initiators, and multiple ports can point to the same initiator. For instance, if you have Initiators X and Y and Physical FC Ports A and B, you can create the following virtual ports:

- virtual port AX on port A that points to initiator X
- virtual port AY on port A that points to initiator Y
- virtual port BX on port B that points to initiator X
- virtual port BY on port B that points to initiator Y

As you can see, in this way, multiple virtual ports can point to one initiator and individual physical ports can support multiple initiators.

When you enter a question mark (?) after the *port#* variable, the CLI provides a suggested WWPN value.



NOTE: Use the recommended WWPN unless you have a compelling reason to do otherwise. We *strongly* recommend that you use the **fc srp initiator** command with the **auto-bind** keyword to create initiator entries and assign WWPNs to initiators.

Examples:

The following example uses the online help (?) to find the recommended WWPn value, then configures a virtual port on port 1 on the FC gateway expansion module in slot 7.

```
Topspin-360(config)# fc srp initiator-wwpn 00:00:2c:90:01:1b:b7:50
00:00:00:00:00:00:00:00 7/1 ?
<wwpn>                - wwpn
Suggested wwpn = 20:03:00:05:ad:70:00:02
Topspin-360(config)# fc srp initiator-wwpn 00:00:2c:90:01:1b:b7:50
00:00:00:00:00:00:00:00 7/1 20:03:00:05:ad:70:00:02
Topspin-360(config)#
```

Defaults:

No default behavior or values.

Related Commands:

[“fc srp initiator” on page 86](#)

[“interface” on page 45](#)

[“show fc srp initiator” on page 158](#)

fc srp it

Synopsis:

To configure an *initiator-target* (IT) pair—a fully-configured link between an initiator and a target storage device port—with your Server Switch, enter the **fc srp it** command in Global Configuration mode. To delete or reconfigure an IT pair entry from the configuration file, use the **no** form of this command.

Syntax:

fc srp it *guid extension wwpn* {**description** “*descr*” | **discover-itl** | **gateway-portmask-policy** {**default** | **restricted** *port-selection*}}

no fc srp it *guid extension wwpn* [**gateway-portmask-policy** **restricted** *port-selection*]

Syntax:

Table 3-3: fc srp it Command Arguments

| Argument | Description |
|--------------------------------|---|
| <i>guid</i> | Global unique identifier (GUID) of the initiator. |
| <i>extension</i> | GUID extension of the initiator. |
| <i>wwpn</i> | World-wide port name (WWPN) of the target port of the FC storage device. |
| description | Assigns a description to the initiator-target pair. |
| <i>descr</i> | Alphanumeric description to assign to the initiator target. |
| discover-itl | Discovers initiator-target-LUN (ITL) groups for the specified target and adds them to the configuration file. |
| gateway-portmask-policy | Designates the physical FC gateway ports that the initiator can use to access the storage port. When you add FC gateway ports to the policy, the initiator cannot use those ports to access the storage. When you use the no keyword to remove FC gateway ports from the policy, the initiator can access the storage through those ports. |
| default | Assigns the global gateway portmask policy to the IT. To view your default policy, enter the show fc srp-global command (in User Exec mode or Privileged Exec mode) and view the default-gateway-portmask-policy field. |
| restricted | Denies the initiator access to the ports that you specify with the <i>port-selection</i> variable. Use the no form of the command to add ports to the policy to grant the initiator access. |
| <i>port-selection</i> | Port, list of ports, or range of ports to which you grant or deny the initiator access. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user or Fibre Channel read-write user.

Usage Guidelines:

The **fc srp it** command sets policies that control the extent to which the initiator accesses Fibre Channel gateway ports. Use the **no** form of this command with the **gateway-portmask-policy** keyword to grant an initiator access to the ports you specify.



NOTE: Topspin strongly recommends that you let your Server Switch populate the running configuration with IT pairs; do not manually enter IT pairs.

Examples:

The following example assigns a description of **entry** to an existing IT:

```
Topspin-360(config)# fc srp it 00:00:2c:90:01:1b:b7:40 00:00:00:00:00:00:00:00  
21:00:00:04:cf:75:6b:3b description "entry"
```

Defaults:

By default, this policy denies initiators access to all targets.

Related Commands:

[“fc srp-global gateway-portmask-policy restricted” on page 99](#)

[“show fc srp it” on page 163](#)

[“show interface fc” on page 239](#)

fc srp itl

Synopsis:

To configure an initiator-target-LUN (ITL) group—a fully-configured link between an initiator and Fibre Channel storage—on your Server Switch, enter the **fc srp itl** command in Global Configuration mode. To delete an ITL entry or reset the description of an ITL to an empty string, use the **no** form of this command.

Syntax:



NOTE: For a breakdown of the different actions that you can perform with the **fc srp itl** command, refer to [Table 3-5](#).

```
fc srp itl guid extension wwpn LUN {description "descr" |
dynamic-gateway-port-failover [default] |
dynamic-gateway-port-loadbalancing [default] | dynamic-path-affinity [default] |
gateway-portmask-policy {default | restricted {port-selection | all}} |
io-hi-mark mark [default] | lun-policy {default | restricted} | max-retry retry [default] |
min-io-timeout timeout [default] | srp-lunid lunid logical-id logical-id}
no fc srp itl guid extension wwpn LUN {description | dynamic-gateway-port-failover |
dynamic-gateway-port-loadbalancing | dynamic-path-affinity | gateway-portmask-policy
restricted port-selection | io-hi-mark | lun-policy restricted | max-retry | min-io-timeout}
```

Table 3-4: fc srp itl Command Arguments

| Argument | Description |
|---|--|
| <i>guid</i> | Global unique identifier (GUID) of the initiator. |
| <i>extension</i> | GUID extension of the initiator. |
| <i>wwpn</i> | World-wide port name (WWPN) of the target port of the FC storage device. |
| <i>LUN</i> | FC LUN ID of the FC storage disk. |
| description | Assigns a text description to the ITL. |
| <i>descr</i> | Alphanumeric description (up to 50 characters) to assign to the initiator-target-LUN. |
| dynamic-gateway-port-failover | The fc srp itl command no longer supports this syntax. This syntax appears for legacy purposes. |
| default | Sets an attribute to its global default value. |
| dynamic-gateway-port-loadbalancing | The fc srp itl command no longer supports this syntax. This syntax appears for legacy purposes. |
| dynamic-path-affinity | The fc srp itl command no longer supports this syntax. This syntax appears for legacy purposes. |
| gateway-portmask-policy | Defines the port restrictions that apply to the initiator for that ITL. |
| restricted | Denies the initiator access to select ports or LUNs for the ITL. Grants the initiator access to select ports or LUNs when you use the no keyword. |
| <i>port-selection</i> | Port, list of ports, or range of ports that the initiator can or cannot access for the ITL. |

Table 3-4: fc srp itl Command Arguments (Continued)

| Argument | Description |
|-----------------------|--|
| all | Specifies all ports. |
| lun-policy | Permits the initiator to access the LUN or denies the initiator access to the LUN. |
| io-hi-mark | The fc srp itl command no longer supports this syntax. This syntax appears for legacy purposes. |
| <i>mark</i> | The fc srp itl command no longer supports this syntax. This syntax appears for legacy purposes. |
| max-retry | The fc srp itl command no longer supports this syntax. This syntax appears for legacy purposes. |
| <i>retry</i> | The fc srp itl command no longer supports this syntax. This syntax appears for legacy purposes. |
| min-io-timeout | The fc srp itl command no longer supports this syntax. This syntax appears for legacy purposes. |
| <i>timeout</i> | The fc srp itl command no longer supports this syntax. This syntax appears for legacy purposes. |
| srp-lunid | Specifies a LUN ID called the SRP LUN ID to which you map an existing FC LUN ID. Essentially, this keyword creates an alias LUN ID. |
| <i>lunid</i> | SRP LUN ID that maps to an existing FC LUN ID. This value appears in the srp-lunid field of the show fc srp itl command output. |
| logical-id | Specifies the FC LUN ID to map to the SRP LUN ID. |
| <i>logical-id</i> | Complete Logical ID (entered without colons, as per the example below) of the LU that maps to the user-created SRP LUN ID. This value appears in the fc-lunid field of the show fc srp itl command output. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user or Fibre Channel read-write user.

Usage Guidelines:

The **fc srp itl** command configures new ITLs and sets policies to control access that the SCSI RDMA Protocol (SRP) initiator has to the Fibre Channel storage devices on a per-lun basis. An “initiator-target-lun” (ITL) identifies a fully-configured link between an initiator and storage.

Topspin recommends that you create ITLs with the **discover-itl** keyword in the CLI or the **Discover LUNs** button in Element Manager.

Table 3-5: fc srp itl Command Usage Examples

| Example | Result |
|---|--|
| fc srp itl guid extension wwpn LUN srp-lunid lunid logical-id logical-id | Creates an SRP LUN ID alias for an existing FC LUN ID. |

fc srp lu

Synopsis:

To configure a logical unit, enter the **fc srp lu** command in Global Configuration mode. To delete a logical unit or to set a LU attribute to the factory default value, use the **no** form of this command.

Syntax:

fc srp lu *logical-id* {**description** “*descr*” | **device-category** {**random** **target** *wwpn* | **sequential** **target** *wwpn*} | **dynamic-gateway-port-failover** [**default**] | **dynamic-gateway-port-loadbalancing** [**default**] | **dynamic-path-affinity** [**default**] | **io-hi-mark** *mark* [**default**] | **max-retry** *retry* [**default**] | **min-io-timeout** *timeout* [**default**] | **target** *wwpn*}

no fc srp lu *logical-id* {**dynamic-gateway-port-failover** | **dynamic-gateway-port-loadbalancing** | **dynamic-path-affinity** | **target**}

Table 3-6: fc srp ltl Command Arguments

| Argument | Description |
|---|--|
| <i>logical-id</i> | LU identifier in 64-byte, hexadecimal format <i>without colons</i> (see example). |
| description | Assigns a textual description to the LU. |
| <i>descr</i> | Alphanumeric description to assign to the LU. |
| device-category | Configures the device category of the LU: random (disk) or sequential (tape). |
| random | Identifies a LU for a random device. |
| sequential | Identifies a LU for a sequential device |
| dynamic-gateway-port-failover | Enables dynamic gateway port failover so that if one gateway port fails, the other port on the gateway maintains the traffic to the LU. |
| default | Sets an attribute to its global default value. |
| dynamic-gateway-port-loadbalancing | Enables gateway port load balancing across multiple ports for this LU to optimize performance and utilize all available bandwidth. |
| dynamic-path-affinity | Enables dynamic path affinity for this LU, which locks a storage connection to a path for the duration of data transfer to provide faster, more efficient data delivery. |
| io-hi-mark | Configures the maximum amount of I/O that the LU can send to the initiator. |
| <i>mark</i> | Maximum amount of I/O (integer value from 1 - 256) that the initiator can send to the storage device (LU). This value defaults to 5. |
| max-retry | Maximum number of times that the initiator unsuccessfully sends data to a LU before the initiator identifies the LU as inaccessible. |
| <i>retry</i> | Integer value from 1 - 100. The <i>retry</i> variable defaults to 5. |
| min-io-timeout | Configures the maximum amount of time during which the storage device can accept I/O. |

Table 3-6: fc srp itl Command Arguments (Continued)

| Argument | Description |
|----------------|--|
| <i>timeout</i> | Maximum amount of time during which a storage device can accept I/O. Integer value from 1 - 1800. This value defaults to 10. |
| target | Specifies a target to add to the LU target list. |
| <i>wwpn</i> | World-wide port name (WWPN) of the target port to add to the LU target list. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user or Fibre Channel read-write user.

Usage Guidelines:

Use the **fc srp lu** command to configure LU attributes.

We recommend that you do not manually create LUs. We recommend that you let your gateway card(s) detect LUs. The gateway card automatically creates LU entries when it discovers LUs.

Examples:

The following example assigns a name to more easily identify the LU.

[illegible]

Defaults:

Refer to Table 3-6 on page 96 for default behavior and values.

Related Commands:

“fc srp itl” on page 93

“interface” on page 45

“show fc srp initiator” on page 158

“show interface fc” on page 239

fc srp target

Synopsis:

To configure targets, enter the **fc srp target** command in Global Configuration mode. To delete a target from the running configuration, use the **no** form of this command.

Syntax:

fc srp target *wwpn* {**description** “*desc*” | **ioc-guid** *guid*}

no fc srp target *wwpn* [**description** | **service-name**]

Table 3-7: fc srp target Command Arguments

| Argument | Description |
|---------------------|---|
| <i>wwpn</i> | World-wide port name (WWPN) of the target port. |
| description | Applies a text description to the target port. |
| <i>desc</i> | Description to apply to the target port. |
| ioc-guid | Manually assigns an I/O Controller (IOC) to the target. |
| <i>guid</i> | GUID of the IOC to assign to the target. |
| service-name | Configures the service name of the target to an empty string. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user or Fibre Channel read-write user.

Usage Guidelines:

Use the **fc srp target** command to configure target attributes.

We recommend that you do not manually create targets. We recommend that you let your gateway card(s) detect targets. The gateway card automatically creates FC-SRP target entries when it discovers targets.

Examples:

The following example assigns a name to more easily identify the target.

```
Topspin-90(config)# fc srp target 21:00:00:04:cf:75:6b:3b description jumbalya
```

Defaults:

The service name serves as the default target name.

Related Commands:

[“fc srp itl” on page 93](#)

[“interface” on page 45](#)

[“show interface fc” on page 239](#)

[“show fc srp initiator” on page 158](#)

fc srp-global gateway-portmask-policy restricted

Synopsis:

To deny new initiators port access to FC gateway ports, enter the **fc srp-global gateway-portmask-policy restricted** command in Global Configuration mode. To grant port access to new initiators, enter the **no** form of this command.

Syntax:

fc srp-global gateway-portmask-policy restricted
no fc srp-global gateway-portmask-policy restricted

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user or Fibre Channel read-write user.

Usage Guidelines:

Apply the default policy to new ITs and ITLs to restrict access so new SRP initiators do not use the Fibre Channel gateway or see the Fibre Channel fabric. If you do not restrict access, new SRP initiators can communicate through the FC gateway ports. You can modify access policies on an individual basis with the **fc srp itl** command.



NOTE: Policies only apply to ITs and ITLs that you create after you configure the policies.

Examples:

The following example denies port access to all new ITLs.

```
Topspin-360(config)# fc srp-global gateway-portmask-policy restricted
```

Defaults:

By default, ports deny access to initiators.

Related Commands:

[“interface” on page 45](#)

[“show fc srp initiator” on page 158](#)

[“show interface fc” on page 239](#)

fc srp-global itl

Synopsis:

To configure the default attributes that your Server Switch assigns to all new ITLs, enter the **fc srp-global itl** command in Global Configuration mode. To configure any attribute to an empty string or disable an attribute, use the **no** form of this command.

Syntax:

fc srp-global itl [**sequential**] {**dynamic-gateway-port-failover** | **dynamic-gateway-port-loadbalancing** | **dynamic-path-affinity** | **io-hi-mark** *mark* | **max-retry** *retry* | **min-io-timeout** *timeout*}

no fc srp-global itl [**sequential**] {**dynamic-gateway-port-failover** | **dynamic-gateway-port-loadbalancing** | **dynamic-path-affinity** | **io-hi-mark** | **max-retry** | **min-io-timeout**}

Table 3-8: fc srp-global itl Command Arguments

| Argument | Description |
|---|--|
| sequential | Configures SRP global defaults for ITLs of sequential devices. |
| dynamic-gateway-port-failover | The fc srp-global itl command no longer supports this syntax. This syntax appears for legacy purposes. |
| dynamic-gateway-port-loadbalancing | The fc srp-global itl command no longer supports this syntax. This syntax appears for legacy purposes. |
| dynamic-path-affinity | The fc srp-global itl command no longer supports this syntax. This syntax appears for legacy purposes. |
| io-hi-mark | Assigns the maximum number of I/O requests that the initiator can send to the storage device. |
| <i>mark</i> | Maximum number of requests that the initiator can send to the storage device. |
| max-retry | Assigns the maximum number of consecutive, failed attempts to pass traffic to a LUN that the initiator makes before it identifies the LUN as inaccessible. |
| <i>retry</i> | Number of retries before an initiator recognizes a LUN as inaccessible. |
| min-io-timeout | Configures the maximum amount of time during which the storage device can accept I/O. |
| <i>timeout</i> | Maximum amount of time during which a storage device can accept I/O. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user or Fibre Channel read-write user.

Usage Guidelines:

[Table 3-9](#) provides usage guidelines for this command.

Table 3-9: Usage Guidelines for fc srp-global itl Command Arguments

| Policy | Description |
|---|--|
| dynamic-gateway-port-failover | Allows the controller to select an alternate gateway interface port if the primary path fails. Enter the fc srp-global itl command with this keyword to enable this feature. Otherwise, include the no keyword at the beginning of the command string to disable this feature. If you enable this policy, you implicitly disable port load balancing and dynamic path affinity. |
| dynamic-gateway-port-loadbalancing | Allows data to be sent between the initiator and Fibre Channel target using all available ports on the Topspin gateway interface. Port selection relies upon comparative IO traffic. The controller attempts to distribute traffic equally between the ports. Enter the fc srp-global itl command with this keyword to enable this feature. Otherwise, include the no keyword at the beginning of the command string to disable this feature. If you enable this policy, you implicitly disable port failover and dynamic path affinity. |
| dynamic-path-affinity | Allows the system to maintain a preference for a specific path. If the number of outstanding I/Os becomes excessive, or the path fails, the gateway uses an alternate path. When enabled, the gateway uses the current path until the path condition changes. Note that frequent switching degrades performance. Enter the fc srp-global itl command with this keyword to enable this feature. Otherwise, include the no keyword at the beginning of the command string to disable this feature. If you enable this policy, you implicitly disable port failover and port loadbalancing. |
| io-hi-mark <i>mark</i> | Sets the maximum number of requests that can be sent per logical unit. The value, an integer, must fall between 1 and 256. The hi mark defaults to 16. Enter the fc srp-global itl command with this keyword and the desired io-hi-mark value to set this feature. |
| max-retry <i>retry</i> | Number of times the same I/O may be sent to a logical unit. Increase the value if heavy traffic runs, or increase the min-io-timeout value. The value, an integer, must fall between 1 and 100. The retry value defaults to 5. Enter the fc srp-global itl command with this keyword and the desired max-retry value to set this feature. |
| min-io-timeout <i>timeout</i> | Maximum amount of time allowed for I/O traffic to be accepted by a logical unit. Increase this value (or increase the max-retry value) if you use a known slow connection. The value, an integer, must fall between 1 and 1800. The timeout defaults to 10 seconds. |
| sequential | Configures ITL defaults globally for sequential devices. |

Examples:

The following example sets the I/O high mark of the ITL to 32.

```
Topspin-90(config)# fc srp itl 00:05:ad:00:00:01:29:c5 00:00:00:00:00:00:00:00  
21:00:00:04:cf:f6:c2:ab 00:00:00:00:00:00:00:00 io-hi-mark 32
```

Defaults:

By default, the **fc srp-global itl** command configures ITLs for random (non-sequential) targets. For additional default values, see Table 3-9 on page 101.

Related Commands:

[“show interface fc” on page 239](#)

[“show fc srp-global” on page 177](#)

fc srp-global lun-policy restricted

Synopsis:

To enable LUN masking on all new ITs and ITLs, enter the **fc srp-global lun-policy restricted** command in Global Configuration mode. To disable default LUN masking, use the **no** form of this command.

Syntax

fc srp-global lun-policy restricted

no fc srp-global lun-policy restricted

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted read-write user or Fibre Channel read-write user.

Usage Guidelines:

Enable global LUN masking to deny LUN access to new initiators so that they cannot communicate with SAN nodes until you grant them access on an individual basis. Disable LUN masking to grant new ITLs immediate access to all LUNs.



NOTE: An initiator requires both port and LUN access before it can successfully access a LUN. To grant port access, use the **fc srp-global gateway-portmask-policy restricted**, **fc srp it** and **fc srp itl** commands.



NOTE: Policies only apply to ITs and ITLs that you create after you configure the policies.

Examples:

The following example denies all new initiators access to all LUNs.

```
Topspin-360(config)# fc srp-global lun-policy restricted
```

Defaults:

Topspin restricts the LUN policy by default.

Related Commands:

[“fc srp it” on page 91](#)

[“fc srp itl” on page 93](#)

[“fc srp-global gateway-portmask-policy restricted” on page 99](#)

[“show fc srp-global” on page 177](#)

InfiniBand Commands

This chapter documents the following commands:

- [ib sm db-sync command on page 106](#)
- [ib sm command on page 108](#)
- [ib-agent command on page 111](#)

ib sm db-sync

Synopsis:

To synchronize the databases of the master subnet manager and one or more standby (slave) subnet managers, enter the **ib sm db-sync** command in Global Configuration mode. To disable database synchronization features, use the **no** form of this command.

Syntax:

ib sm db-sync subnet-prefix *prefix* {**enable** | **max-backup-sms** *max* | **session-timeout** *timeout* | **poll-interval** *interval* | **cold-sync-timeout** *cs-timeout* | **cold-sync-limit** *cs-limit* | **cold-sync-period** *cs-period* | **new-session-delay** *delay* | **resync-interval** *resync*}

no ib sm db-sync subnet-prefix *prefix* {**enable** | **max-backup-sms** | **session-timeout** | **poll-interval** | **cold-sync-timeout** | **cold-sync-limit** | **cold-sync-period** | **new-session-delay** | **resync-interval**}

Table 4-1: ib sm db-sync Command Arguments

| Argument | Description |
|--------------------------|--|
| enable | Enables database synchronization on your IB fabric. |
| max-backup-sms | Specifies the maximum number of backup subnet managers that will synchronize with the master SM. |
| <i>max</i> | Maximum number of backup subnet managers that will synchronize with the master SM. This value defaults to 1. |
| session-timeout | Specifies the interval, in seconds, during which a synchronization session status MAD packet must arrive at the master SM to maintain synchronization. |
| <i>timeout</i> | Timeout interval, in seconds. This value defaults to 10 seconds. |
| poll-interval | Interval at which the master SM polls an active slave SM to verify synchronization. |
| <i>interval</i> | Poll interval, in seconds. This value defaults to 3 seconds. |
| cold-sync-timeout | Allots a maximum amount of time in which to perform a cold sync. During the cold sync, the master SM copies all out-of-sync tables to the standby. |
| <i>cs-timeout</i> | Cold sync interval, in seconds. This value defaults to 10 seconds. |
| cold-sync-limit | Specifies the maximum number of cold syncs that may take place during the cold sync period. This value defaults to 2. |
| <i>cs-limit</i> | Maximum number of cold syncs per cold sync period (integer). |
| cold-sync-period | Specifies the length of the interval during which cold syncs may occur. |
| <i>cs-period</i> | Duration, in seconds, of the cold sync period. This value defaults to 900 seconds. |
| new-session-delay | Specifies the amount of time that the master SM waits before it attempts to initiate a synchronization session with a new SM. |
| <i>delay</i> | Delay length, in seconds. This value defaults to 120 seconds. |
| resync-interval | Specifies the interval at which the master SM sends a resynchronization request to all active sync sessions. |
| <i>resync</i> | Resynchronization interval, in seconds. This value defaults to 3600 seconds. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

InfiniBand read-write access

Usage Guidelines:

Synchronize the database of the master subnet manager with one or more standby subnet managers to retain all database information in the event of a failover.

Examples:

The following example enables database synchronization on the IB fabric.

```
Topspin-360(config)# ib sm db-sync subnet-prefix fe:80:00:00:00:00:00 enable
```

Defaults:

By default, databases do not synchronize. Use the **enable** keyword to start synchronizing SM databases. For attribute-specific defaults, refer to [Table 4-1](#).

Related Commands:

[“show ib sm db-sync” on page 188](#)

ib sm

Synopsis:

To administer the subnet manager (SM) on your Server Switch, and to create and populate partitions, enter the **ib sm** command in Global Configuration mode. To undo configurations and partitions, use the **no** form of this command.

Syntax:

ib sm subnet-prefix *prefix* [**p_key** *pkey* | **priority** *sm-priority* [**sm-key** *key*] | **response-timeout** *timeout* | **sm-key** *key* | **sweep-interval** *interval* | **lid-mask-control** *LMC* | **master-poll-intval** *mp-interval* | **master-poll-retries** *retries* | **max-active-sms** *SMs*]
no ib sm subnet-prefix *guid* [**p_key** *pkey* [**partition-member** *member-guid member-port*] | **priority** | **response-timeout** | **sweep-interval**]

Table 4-2: ib sm Command Arguments


| Argument | Description |
|-------------------------|---|
| subnet-prefix | Specifies the subnet prefix of the subnet manager. |
| <i>prefix</i> | Subnet prefix of the subnet manager. You may enter any prefix, but Topspin recommends that you enter fe:80:00:00:00:00:00 to indicate a locally administered subnet. |
| p_key | Creates a partition and optionally assigns members to the partition. |
| <i>pkey</i> | Partition identifier, in ##:## format. |
| priority | Assigns a priority level to the subnet manager. Because multiple subnet managers can run on the system and other SMs may run in your IB network, the priority attribute identifies the master SM. |
| <i>sm-priority</i> | Integer value that represents the subnet manager priority level. The higher the integer, the higher the priority. |
| sm-key | Assigns a subnet management key to a new subnet manager. |
| |  NOTE: We recommend that you do not create additional subnet managers. A subnet manager resides on your Server Switch from the moment you boot. |
| <i>key</i> | 64-bit subnet management key. |
| response-timeout | Specifies the maximum amount of time that the SM waits for a response after it sends a packet to a port. If the SM does not receive a response in time, the SM identifies the port as unresponsive. |
| <i>timeout</i> | Maximum amount of time, in milliseconds, that the SM waits for a response after it sends a packet to a port. The <i>timeout</i> variable defaults to 2000 milliseconds. |
| sweep-interval | Specifies how frequently the SM queries the InfiniBand fabric for network changes. |
| <i>interval</i> | Frequency, in seconds, at which the SM queries the InfiniBand fabric for network changes. |
| lid-mask-control | Assigns the number of path bits present in the base LID to each channel adapter port. Increasing the LMC value increases the number of LIDs assigned to each port to increase the number of potential paths to reach each port. This value defaults to 0. |

Table 4-2: ib sm Command Arguments (Continued)

| Argument | Description |
|----------------------------|--|
| <i>LMC</i> | Number of path bits. |
| master-poll-intval | Specifies the interval at which the slave SM polls the master to see if it still runs. |
| <i>mp-interval</i> | Poll interval, in seconds. This value defaults to 3 seconds. |
| master-poll-retries | Specifies the number of unanswered polls that cause the slave to identify the master as dead. |
| <i>retries</i> | Number of unanswered polls (integer). This value defaults to 2. |
| max-active-sms | Specifies the maximum number of standby SMs that the master supports. This value defaults to 0, which indicates unlimited SMs. |
| <i>SMs</i> | Number of standby SMs that the master supports (integer). |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

General read-write user.

Usage Guidelines:

The subnet manager

- Discovers the subnet topology and dynamically updates it at a specified sweep interval that you specify with the *interval* variable.
- Assigns the local identifiers (LIDs), global identifier (GID) subnet prefix, and partition keys for each HCA port.
- Assigns the LIDs, GID subnet prefix, and forwarding databases for each switch on the subnet.
- Maintains the end-node and service databases of the subnet, providing a GUID to LID/GID resolution service as well as a services directory.

One subnet manager administers the InfiniBand fabric. All InfiniBand hosts run on this one subnet. The subnet manager loads upon bootup.

Each node in the fabric has a subnet management agent (SMA) to shuttle communication requests between the node and the subnet manager. Communication between the subnet manager and the subnet management agent uses the common management datagram (MAD) message structure.

Regarding Partitions:

Partitions are created, and then ports are added to those partitions to enforce isolation.

Examples:

The following example defines a subnet manager, or redefines the existing subnet manager, with the specified priority, sm-key, response-timeout, and sweep-interval configurations.

```
Topspin-360(config)# ib sm subnet-prefix fe:80:00:00:00:00:00 priority 10 sm-key
00:00:00:00:00:00 response-timeout 2000 sweep-interval 10
```

The following example removes a specified subnet manager.

```
Topspin-360(config)# no ib sm subnet-prefix fe:80:00:00:00:00:00
```

The following example resets the response-timeout value for the specified subnet manager back to its default value.

```
Topspin-360(config)# no ib sm subnet-prefix fe:80:00:00:00:00:00:00 response-timeout
```


The following example creates a partition, and adds a member.

```
Topspin-360(config)# ib sm subnet-prefix fe:80:00:00:00:00:00:00 p_key 00:02
partition-member 00:00:2c:90:01:1a:c8:00 3 full-member
```

Defaults:

Table 4-3: ib sm subnet-prefix Command Defaults

| Variable | Default |
|------------------|-------------------------|
| sm-key | 00:00:00:00:00:00:00:00 |
| priority | 10 |
| sweep-interval | 10 seconds |
| response-timeout | 400 microseconds |

 **NOTE:** You may enter this command without arguments to add a subnet manager with default values.

Related Commands:

- [“ib-agent” on page 111](#)
- [“show ib sm configuration” on page 185](#)

ib-agent

Synopsis:

To configure subnet management agent (SMA) node strings, enter the **ib-agent** command in Global Configuration mode.

Syntax:

ib-agent {**channel-adapter** *HCA-port-guid* | **switch** *switch-guid*} **node-string** “string”

Table 4-4: ib-agent Command Arguments

| Argument | Description |
|------------------------|--|
| channel-adapter | Specifies the HCA that you want to identify with a node string. |
| <i>HCA-port-guid</i> | GUID of the HCA that you want to identify with a node string. |
| switch | Specifies the switch that you want to identify with a node string. |
| <i>switch-guid</i> | GUID of the switch that you want to identify with a node string. |
| node-string | Specifies the node string description. |
| <i>string</i> | Node string description. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Unrestricted and InfiniBand read-write users.

Usage Guidelines:

A node string identifies an object.

A subnet management agent (SMA) serves as the intermediary between a subnet manager and the network entities that it manages, such as the internal InfiniBand switches and host channel adapters. The subnet management agent maps the operations between managed conceptual objects and the physical resources inside the Topspin system chassis and routes event notifications from locally managed objects to remote entities.

Each node in the fabric has a subnet management agent (SMA) to shuttle communication requests between the node and the subnet manager. Communication between the subnet manager and the subnet management agent uses the common management datagram (MAD) message structure. This structure entails the passing of subnet management packets (SMP).

The subnet management agent receives and transmits subnet management packets to and from the subnet manager. The subnet management packets never extend beyond their respective local InfiniBand subnet.

Internally, the InfiniBand switch consists of multiple switch chips. Each switch chip runs its own subnet management agent and can be viewed by the subnet manager as a unique entity. Change the node-string for a channel-adapter or switch to make it easier to identify.

Examples:

The following example changes the node string of a channel adapter.

```
Topspin-90(config)# ib-agent channel-adapter 00:05:ad:00:00:00:13:f7 node-string "primary HCA"
```

The following example changes the node string of a switch.

```
Topspin-90(config)# ib-agent switch 00:05:ad:00:00:00:13:da node-string "Switch 0, LID 2"
```

Defaults:

No default behavior or values.

Related Commands:

[“ib sm” on page 108](#)

[“interface” on page 45](#)

[“show ib sm configuration” on page 185](#)

[“show ib-agent summary” on page 218](#)

IP Commands

This chapter documents the following commands:

- [arp ethernet command](#) on page 114
- [bridge-group command](#) on page 115
- [distribution-type command](#) on page 117
- [half-duplex command](#) on page 119
- [ip command](#) on page 120
- [redundancy-group command](#) on page 123
- [trunk-group command](#) on page 124



NOTE: The 6-port Ethernet gateway does not support half duplex transmission or 10 Mbps speed.

arp ethernet

Synopsis:

To statically map an IP address to the physical machine address of an Ethernet host on the local network, enter the **arp ethernet** command in Global Configuration mode. To clear a static IP address, use the **no** form of this command.

Syntax:

arp ethernet *ip-address mac-address slot#/port#*

no arp ethernet *ip-address mac-address*

Table 5-1: arp ethernet Command Arguments

| Argument | Description |
|--------------------|--|
| <i>ip-address</i> | IP address of the host. |
| <i>mac-address</i> | MAC address of the host. |
| <i>slot#</i> | Slot on the Server Switch that holds the Ethernet gateway that connects to the host. |
| <i>port#</i> | Ethernet gateway port that connects to the host. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Ethernet read-write user.

Usage Guidelines:

The Topspin system supports dynamic ARP so that any IP host that connects to an Ethernet gateway port may see or detect all the other connected IP and IPoIB hosts.

An ARP table contains the available ARP records in the gateway. An ARP record may be dynamically learned or statically created. In most cases, you can rely upon dynamic ARP addressing. Dynamic ARP records may be deleted from the table after a period of time, or updated, if a host address-change occurs.

Examples:

```
Topspin-360(config)# arp ethernet 10.2.0.50 00:30:48:23:A9:0A 4/1
```

Defaults:

No default behavior or values.

Related Commands:

[“show arp ethernet” on page 127](#)

bridge-group

Synopsis:

To create and configure bridge groups, enter the **bridge-group** command in Global Configuration mode or Ethernet Interface Configuration submode. To remove bridge groups or attributes of bridge groups, use the **no** form of this command.

Syntax:

bridge-group *bridgegroupID* {**broadcast-forwarding** | **eth-next-hop** *ip-address* | **ib-next-hop** *ip-address* | **name** “*name-string*” | **subnet-prefix** *prefix* *length* | **loop-protection** **one** | **multicast** | **fail-over-priority** *priority* | **redundancy-group** *group*}

no bridge-group *bridgegroupID* [**broadcast-forwarding** | **eth-next-hop** | **ib-next-hop** | **loop-protection** **one** | **multicast** | **redundancy-group** *group*]

Table 5-2: bridge-group Command Arguments

| Argument | Description |
|-----------------------------|---|
| <i>bridgegroupID</i> | Bridge group to create or reconfigure. |
| broadcast-forwarding | Enables broadcast forwarding for the bridge group. |
| eth-next-hop | Identifies the next-hop IP address connected to the ethernet gateway. |
| <i>ip-address</i> | Next-hop IP address |
| ib-next-hop | Identifies the next-hop IP address connected to the IB switch. |
| loop-protection | Specifies the type of loop protection for the bridge-group. |
| one | Specifies type one loop protection (ARP packet painting enabled). |
| multicast | Enables IP-V4 multicast forwarding for the bridge group. |
| name | Assigns an ASCII text string identifier to the bridge group. |
| <i>name-string</i> | ASCII text string identifier for the bridge group. |
| subnet-prefix | Assigns a subnet to the bridge-group. |
| <i>prefix</i> | Subnet to assign to the bridge group. |
| <i>length</i> | Length, in bits, of the subnet mask to assign to the bridge group. |
| fail-over-priority | Specifies the failover priority of the bridge group. |
| <i>priority</i> | Integer value (1 - 255), where the lower the integer the higher the priority. |
| redundancy-group | Assigns the bridge group to a redundancy group. |
| <i>group</i> | Redundancy group to which you want the bridge group to belong. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Global Configuration (config) mode, Ethernet Interface Configuration (config-if-ether) submode, Gateway Interface Configuration (config-if-gw) mode.

Privilege Level:

Ethernet read-write user.

Usage Guidelines:

Create bridge-groups to associate specific Ethernet gateway ports with Ethernet switch ports. Bridge Groups are used to associate the InfiniBand fabric with an Ethernet subnet.

Examples:

The following example creates a bridge group and uses auto-detect to discover all available subnets.

```
Topspin-360 (config) # bridge-group 61
```

The following example assigns a subnet prefix to a bridge group.

```
Topspin-360> Topspin-360 (config) # bridge-group 61 subnet-prefix 61.0.0.0 16
```

The following example disables multicast forwarding for a bridge-group.

```
Topspin-360 (config) # no bridge-group 61 multicast
```

The following example assigns bridge group 62 to the Ethernet interface slot 6, port 2.

```
Topspin-360 (config-if-ether-6/2) # bridge-group 62
```

The following example assigns bridge group 62 to the internal gateway interface slot 6, ports 1 and 2.

```
Topspin-360 (config-if-gw-6) # bridge-group 62
```

The following example assigns a bridge group to a redundancy group and configures the failover priority of the bridge group.

```
Topspin-360 (config) # bridge-group 11 redundancy-group 11 fail-over-priority 10
```

Defaults:

No default behavior or values.

Related Commands:

[“configure terminal” on page 24](#)

[“interface” on page 45](#)

[“redundancy-group” on page 123](#)

[“show bridge-group” on page 133](#)

distribution-type

Synopsis:

To configure the type of load distribution that your Ethernet gateway uses to communicate with a Link Aggregation-aware switch, enter the **distribution-type** command in Trunk Interface Configuration submode.

Syntax:

distribution-type {**dist-ip** | **dst-mac** | **src-dst-ip** | **src-dst-mac** | **src-ip** | **src-mac** | **round-robin**}

Table 5-3: distribution-type Command Arguments

| Argument | Description |
|--------------------|--|
| dst-ip | Bases the load distribution on the destination IP address of the incoming packet. Packets to the same destination travel on the same port, but packets to different destinations travel on different ports in the channel. |
| dst-mac | Bases the load distribution on the destination host MAC address of the incoming packet. Packets to the same destination travel on the same port, but packets to different destinations travel on different ports in the channel. |
| src-dst-ip | Bases load distribution on the IP address of the source logic gate (XOR) destination. |
| src-dst-mac | Bases load distribution on the MAC address of the source logic gate (XOR) destination. |
| src-ip | Bases the load distribution on the source IP address. Packets from the same source travel on the same port, but packets from different sources travel on different ports in the channel. |
| src-mac | Bases load distribution on the source MAC address of the incoming packet. Packets from different hosts use different ports in the channel, but packets from the same host use the same port in the channel. |
| round-robin | Bases the load distribution on a circular pattern to create an evenly distributed load. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Trunk Interface Configuration (config-if-trunk) submode.

Privilege Level:

Ethernet read-write user.

Usage Guidelines:

You must configure a distribution type to bridge to a load aggregation-aware Ethernet switch. Contact your administrator to discover if a switch is load aggregation-aware.

Examples:

The following example configures src-mac distribution for the trunk interface.

```
Topspin-90# interface trunk 1
Topspin-90(config-if-trunk)# distribution-type src-mac
```

Defaults:

The distribution-type defaults to src-mac.

Related Commands:

[“show trunk” on page 285](#)

[“interface” on page 45](#)

half-duplex

Synopsis:

To configure an Ethernet connection in half duplex mode, enter the **half-duplex** command in Ethernet Interface Configuration submode. To undo this configuration, use the **no** form of this command.

Syntax:

half-duplex

no half-duplex

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Ethernet Interface Configuration (config-if-ether) submode.

Privilege Level:

Ethernet read-write user.

Usage Guidelines:

If you disable auto-negotiation, set speed and duplex mode with the **half-duplex** command and **speed** command.

You cannot manually configure half duplex mode while auto-negotiation runs on your Server Switch or while the connection speed exceeds 1000 Mbps.



NOTE: The 6-port Ethernet gateway does not support half duplex transmission or 10 Mbps speed.

Examples:

The example below configures half duplex mode for ports 1 - 4 on slot 4.

```
Topspin-360 (config-if-ether-4/1-4/4) # half-duplex
```

Defaults:

Your Server Switch runs in full duplex mode by default.

Related Commands:

[“auto-negotiate” on page 17](#)

[“show interface ethernet” on page 231](#)

[“speed” on page 70](#)

ip

Synopsis:

To assign an IP address and subnet mask to an Ethernet port, enter the **ip** command in Ethernet Interface Configuration submode. To clear this configuration, use the **no** form of this command.

To assign an IP address to the Ethernet Management Interface port, enter the **ip** command in Ethernet Management Interface submode. To clear this configuration, use the **no** form of this command.

To assign an IP address to the InfiniBand Management Interface port, enter the **ip** command in InfiniBand Management Interface submode. To clear this configuration, use the **no** form of this command.

To configure IP networking attributes on your Server Switch, enter the **ip** command in Global Configuration mode. To clear this configuration, use the **no** form of this command.

Syntax:

To configure Ethernet ports:



NOTE: Layer 3 only; available to 4-port Ethernet gateways but not 6-port.

ip address *ip-address subnet-mask*

no ip address *ip-address subnet-mask*

To configure the Ethernet Management port:

ip address *ip-address subnet-mask*

no ip

To configure the InfiniBand Management port:

ip address *ip-address subnet-mask*

no ip

To configure your Server Switch:

ip {**domain-name** “name-string” | **name-server-one** *server* | **name-server-two** *server* | **route** *dest-address dest-subnet-mask next-hop*}

no ip {**domain-name** | **name-server-one** | **name-server-two** | **route** *dest-address subnet-mask next-hop*}

Table 5-4: ip Command Arguments

| Argument | Description |
|------------------------|--|
| address | Assigns a primary IP address to a port. |
| <i>ip-address</i> | IP address to assign |
| <i>subnet-mask</i> | Subnet mask to assign. |
| domain-name | Assigns a DNS name to your Server Switch. |
| <i>name-string</i> | Domain name to assign. |
| name-server-one | Specifies a primary domain name server (DNS). |
| name-server-two | Specifies a secondary DNS. |
| <i>server</i> | Domain name server for your Server Switch to use. |
| route | Defines static routes to remote hosts or networks to forward IP packets. |
| <i>dest-address</i> | IP address of the host or network that you want to reach. |

Table 5-4: ip Command Arguments (Continued)

| Argument | Description |
|-------------------------|--|
| <i>dest-subnet-mask</i> | Netmask used to resolve host and network addressing. The netmask may be an IP network address, a host route (i.e. 255.255.255.255), or the default route (i.e. 0.0.0.0). |
| <i>next hop</i> | IP address of the next hop (out of your Server Switch) on the way to the destination. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Ethernet Interface Configuration (config-if-ether) submode, Ethernet Management Interface Configuration (config-if-mgmt-ethernet) submode, InfiniBand Management Interface (config-if-mgmt-ib) submode, Global Configuration (config) mode.

Privilege Level:

Ethernet read-write user.

Usage Guidelines:

- You can only assign an IP address to one port at a time.
- Assign a DNS name and servers to support network name resolution.
- The maximum transmission unit dictates payload size. TCP uses the MTU to determine the maximum payload allowed for every transmission. Too great a value can overwhelm routers and result in data retransmission. Too small a value results in degraded performance because there are more headers and acknowledgements required to transmit the same amount of data.
- Configure ip routes to hosts that reside one or more hops away from your Server Switch.

Examples:

The following example assigns the IP address 10.3.0.24 and the subnet mask 255.255.255.0 to ethernet card 4, port 1.

```
Topspin-360(config-if-ether-4/1) # ip address 10.3.0.24 255.255.255.0
```

The following example assigns the domain name **shasta** to the Server Switch.

```
Topspin-90(config) # ip domain-name "shasta"
```

The following example configures your Server Switch to use a primary DNS.

```
Topspin-90(config) # ip name-server-one 10.3.103.22
```

The following example configures your Server Switch to use a secondary DNS.

```
Topspin-360(config) # ip name-server-two 10.3.103.23
```

The following example configures a static route on which to forward IP packets.

```
Topspin-90(config) # ip route 192.168.3.0 255.255.255.0 10.10.1.0
```

Defaults:

No default behavior or values.

Related Commands:

[“hostname” on page 42](#)

[“ip” on page 120](#)

[“interface” on page 45](#)

[“ping” on page 58](#)

redundancy-group

Synopsis:

To create or configure a redundancy group, enter the **redundancy-group** command in Global Configuration mode. To disable an attribute of a redundancy group or to delete a redundancy group, use the **no** form of this command.

Syntax:

redundancy-group *rg-number* [**load-balancing** | **name** *name* | **recover-failover-order**]

no redundancy-group *rg-number* [**load-balancing** | **name** | **recover-failover-order**]

Table 5-5: redundancy-group Command Arguments

| Argument | Description |
|-------------------------------|---|
| <i>rg-number</i> | Number of the redundancy group. |
| load-balancing | Enables load balancing among all members of the group. |
| name | Configures a name for the redundancy group |
| <i>name</i> | Name to assign to the redundancy group. |
| recover-failover-order | Sets failover priorities to the configured order (see the bridge-group command on page 115). |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Ethernet read-write user.

Usage Guidelines:

Create and configure redundancy groups with this command.

Examples:

The following example creates a redundancy group.

```
Topspin-360(config)# redundancy-group 11
```

Defaults:

By default, load balancing does not run on redundancy groups.

Related Commands:

[“show redundancy-group” on page 273](#)

[“bridge-group” on page 115](#)

trunk-group

Synopsis:

To assign a trunk group to one or more Ethernet interfaces, enter the **trunk-group** command in Ethernet Interface Configuration submode. To remove a trunk group from the configuration, enter the **no** form of this command.

Syntax:

trunk-group *id*

no trunk-group *id*

Table 5-6: Command Syntax Description

| Command | Description |
|-----------|--|
| <i>id</i> | Integer that identifies the trunk-group. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Ethernet Interface Configuration (config-if-ether) submode.

Privilege Level:

Ethernet read-write user.

Usage Guidelines:

The **trunk-group** command assigns an already-configured trunk group to the Ethernet interface. To create a trunk group, refer to [“interface” on page 45](#)

Examples:

The following example assigns a trunk group to the Ethernet interface (slot 2, ports 1 - 4).

```
Topspin-360(config-if-ether-2/1-2/4)# trunk-group 2
```

Defaults:

By default, trunk groups do not apply to interfaces.

Related Commands:

[“configure terminal” on page 24](#)

[“show trunk” on page 285](#)

[“show interface ethernet” on page 231](#)

[“interface” on page 45](#)

Show Commands

This chapter documents the following commands:

- [show arp ethernet](#) command on page 127
- [show authentication](#) command on page 128
- [show backplane](#) command on page 129
- [show boot-config](#) command on page 131
- [show bridge-group](#) command on page 133
- [show card](#) command on page 135
- [show card-inventory](#) command on page 140
- [show clock](#) command on page 142
- [show config](#) command on page 155
- [show diagnostic card](#) command on page 143
- [show diagnostic fan](#) command on page 145
- [show diagnostic interface ethernet](#) command on page 147
- [show diagnostic interface fc](#) command on page 149
- [show diagnostic interface ib](#) command on page 151
- [show diagnostic power-supply](#) command on page 153
- [show fan](#) command on page 156
- [show fc srp initiator](#) command on page 158
- [show fc srp initiator-wwpn-view](#) command on page 161
- [show fc srp it](#) command on page 163
- [show fc srp itl](#) command on page 165
- [show fc srp itl-statistics](#) command on page 168
- [show fc srp lu](#) command on page 170

- **show fc srp statistics** command on page 173
- **show fc srp target** command on page 175
- **show fc srp-global** command on page 177
- **show host** command on page 180
- **show ib dm ioc** command on page 181
- **show ib dm iou** command on page 184
- **show ib sm configuration** command on page 185
- **show ib sm db-sync** command on page 188
- **show ib sm multicast** command on page 190
- **show ib sm neighbor** command on page 192
- **show ib sm node** command on page 194
- **show ib sm partition** command on page 197
- **show ib sm port** command on page 199
- **show ib sm service** command on page 206
- **show ib sm switch** command on page 209
- **show ib sm switch-elem-route** command on page 212
- **show ib sm switch-route** command on page 214
- **show ib-agent channel-adapter** command on page 216
- **show ib-agent summary** command on page 218
- **show ib-agent switch** command on page 220
- **show interface ethernet** command on page 231
- **show interface fc** command on page 239
- **show interface gateway** command on page 245
- **show interface ib** command on page 250
- **show interface mgmt-ethernet** command on page 259
- **show interface mgmt-ib** command on page 261
- **show interface mgmt-serial** command on page 262
- **show ip** command on page 263
- **show ip http** command on page 265
- **show location** command on page 267
- **show logging** command on page 268
- **show ntp** command on page 270
- **show power-supply** command on page 271
- **show running-status** command on page 275
- **show sensor** command on page 277
- **show snmp** command on page 279
- **show system-services** command on page 281
- **show terminal** command on page 283
- **show trace** command on page 284
- **show trunk** command on page 285
- **show user** command on page 286
- **show version** command on page 288

show arp ethernet

Synopsis:

To display entries in the Ethernet ARP routing table, enter the **show arp ethernet** command in User Exec mode or Privileged Exec mode.

Syntax:

show arp ethernet

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Ethernet read-only user.

Usage Guidelines:

Your Server Switch dynamically creates ARP connections on an as-needed basis and removes ARP entries from ARP routing tables when connections drop.

[Table 6-1](#) describes the fields in the **show arp ethernet** command output.

Table 6-1: show arp ethernet Command Field Descriptions

| Field | Description |
|------------------|---|
| port | Port (in slot#/port# format) on your Server Switch to which the host connects. |
| physical-address | MAC address of the host. |
| net-address | IP address of the host. |
| type | Type of route between the host and your Server Switch, either static or dynamic . |

Examples:

The following example displays the entries in the Ethernet ARP routing table of the Server Switch.

```
Topspin-360# show arp ethernet
```

```
=====
```

```
      ARP Information
```

```
=====
```

```
port      physical-address      net-address      type
```

```
-----
```

```
4/1      00:05:ad:00:10:41      20.45.0.1      static
```

Defaults:

No default behavior or values.

Related Commands:

[“arp ethernet” on page 114](#)

show authentication

Synopsis:

To display how your system authenticates logins, enter the **show authentication** command in Privileged Exec mode.

Syntax:

show authentication

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

Use this command to determine if your Server Switch uses a RADIUS server, along with the local database, to authenticate CLI user logins. If your Server Switch uses both resources, the command output displays the order in which your Server Switch authenticates logins.

[Table 6-2](#) describes the fields in the **show authentication** command output.

Table 6-2: show authentication Command Field Descriptions

| Field | Description |
|-----------------------|---|
| authentication method | Displays whether your Server Switch authenticates logins with the local CLI database, the RADIUS server, or both. If both, the output displays the order in which your Server Switch authenticates the login. |

Examples:

The following example displays the authentication method that the Server Switch uses.

```
Topspin-360# show authentication

authentication method: local
-----
```

Defaults:

No default behavior or values.

Related Commands:

[“authentication” on page 16](#)

show backplane

Synopsis:

To display a breakdown of Serial Electrically Erasable and Programmable Read-Only Memory (EEPROM) details of your Server Switch, enter the **show backplane** command in User Exec mode or Privileged Exec mode.

Syntax:

show backplane

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

The output of the **show backplane** command assists product support personnel.

[Table 6-3](#) describes the fields in the **show backplane** command output.

Table 6-3: show backplane Command Field Descriptions

| Field | Description |
|-----------------------|--|
| base-mac-addr | 24-bit base MAC address of this chassis. |
| chassis-id | Factory-assigned, 64-bit chassis-identification number. |
| chassis-guid | Factory-assigned GUID of the chassis. |
| product serial-number | Factory-assigned product serial number. |
| pca serial-number | Printed circuit assembly (PCA) serial number. |
| pca number | Printed Circuit Assembly (PCA) assembly number. |
| fru number | Field replaceable unit (FRU) number for the actual switch (Topspin 90) or chassis (Topspin 360). |

Examples:

The following example displays the SEEPROM details of the Server Switch backplane.

```
Topspin-270> show backplane
```

```
=====
                        Backplane Seeprom
=====
base-mac-addr      chassis-id      chassis-guid
-----
0:5:ad:0:0:0       0x5ad000000197d      0x5ad000000197d

=====
                        Backplane Seeprom
=====
product            pca              pca              fru
serial-number      serial-number    number          number
-----
0                  PY-0405-00044    TOPSPIN-270     248
```

Defaults:

No default behavior or values.

Related Commands:

None.

show boot-config

Synopsis:

To display the active system image that runs when your Server Switch boots, enter the **show boot-config** command in User Exec mode or Privileged Exec mode.

Syntax:

show boot-config

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

The **show boot-config** command displays the image that initializes chassis firmware and configures the interfaces.

This command lists the files that were used to bring up the system, the files to use the next time the system reboots, and the backup files to use in the event that the primary boot files are not available.

[Table 6-4](#) describes the fields in the **show boot-config** command output.

Table 6-4: show boot-config Command Field Descriptions

| Field | Description |
|----------------------|--|
| slot-id | Slot identifier of the controller card in use. |
| sw-version | Version of the software image that initialized chassis components. |
| last-image-source | Directory name of the active system image used to initialize chassis components. |
| primary-image-source | Name and directory location of the active system image to use to initialize chassis components the next time the system boots. |

Examples:

The following example displays the image that the Server Switch boots.

```
Topspin-360# show boot-config
=====
System Boot Configuration
=====
slot-id : 1
sw-version : TopspinOS-1.1.3/build255
last-image-source : TopspinOS-1.1.3/build255
primary-image-source : TopspinOS-1.1.3/build255
```

Defaults:

No default behavior or values

Related Commands:

[“boot-config” on page 19](#)

[“install” on page 43](#)

[“reload” on page 61](#)

[“show version” on page 288](#)

show bridge-group

Synopsis:

To display the attributes of bridge groups, enter the **show bridge-group** command in User Exec mode or Privileged Exec mode.

Syntax:

show bridge-group [*bridge-groupID#*]

Table 6-5: Syntax Description

| Syntax | Description |
|------------------------|---|
| <i>bridge-groupID#</i> | Integer value that represents a bridge group. Use the bridge-group ID number to view the attributes of one specific bridge group. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

[Table 6-6](#) describes the fields in the **show bridge-group** command output.

Table 6-6: show bridge-group Command Field Descriptions

| Field | Description |
|----------------------|--|
| bridge-group-id | Displays the integer-value identifier of the bridge group that the administrator assigned with the bridge-group command. |
| bridge-group-name | Displays the ASCII text string identifier that the administrator assigned with the bridge-group command. |
| subnet-prefix | Displays the subnet prefix that the administrator assigned to the bridge group. If no output appears in this field, the administrator has not assigned a subnet prefix to this bridge group. |
| subnet-prefix-len | Displays the length (in bits) of the subnet prefix that the administrator assigned to the bridge group. |
| eth-bridge-port | Displays the trunk that the bridge group uses to connect to the Ethernet switch. |
| ib-bridge-port | Displays the internal gateway slot#/port# of the bridge-group. |
| eth-next-hop-addr | Displays the Ethernet next hop address that the administrator configured with the bridge-group command. |
| ib-next-hop-addr | Displays the InfiniBand next hop address that the administrator configured with the bridge-group command. |
| broadcast-forwarding | Displays True if you enable broadcast-forwarding. Displays False if you disable broadcast forwarding. |
| loop-protection | Displays one if you enable ARP Packet Painting. Displays ? if you disable ARP Packet Painting. . |

Table 6-6: show bridge-group Command Field Descriptions (Continued)

| Field | Description |
|-------------------------|---|
| multicast | Displays true if the bridge group belongs to a multicast group. Displays false if the bridge group does not belong to a multicast group. |
| redundancy-group | Displays the redundancy group to which the bridge group belongs. |
| admin-failover-priority | Displays the administratively-configured failover priority of the bridge group. |
| oper-failover-priority | Displays the dynamically-discovered failover priority of the bridge group. <ul style="list-style-type: none"> • 1 identifies the primary group • 0 indicates that this group went down (another one took over) • 2, 3, 4 represents the current fail-over assignments. 2 means this group will be the next one to take over, 3 takes over next, etc. • -1 indicates that catastrophic failure occurred during the fail-over process. Contact Technical Support. |

Examples:

The following example (output abridged) shows all bridge groups on the Server Switch.

```
Topspin-360# show bridge-group
```

```
=====
                        Bridge Groups
=====
    bridge-group-id : 11
    bridge-group-name :
        subnet-prefix : 0.0.0.0
    subnet-prefix-len : 0
    eth-bridge-port : 3/1 (not tagged)
    ib-bridge-port : 3/2(gw) (pkey: ff:ff)
    eth-next-hop-addr : 0.0.0.0
    ib-next-hop-addr : 0.0.0.0
    broadcast-forwarding : false
    loop-protection-method : one
        multicast : false
    redundancy-group : 11
    admin-failover-priority : 10
    oper-failover-priority : 10
```

Defaults:

Without an argument, the **show bridge-group** command shows all bridge groups.

Related Commands:

[“bridge-group” on page 115](#)

show card

Synopsis:

To display the configuration, status, and Serial Electrically Erasable and Programmable Read Only Memory (SEEPROM) details of interface cards, enter the **show card** command in User Exec mode or Privileged Exec mode.

Syntax:

show card {*card-selection* | **all**}

Table 6-7: show card Command Arguments

| Argument | Command |
|-----------------------|--|
| <i>card-selection</i> | Card, list of cards, or range of cards to view. |
| all | Displays the details of all interface cards in your Server Switch. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

- Use the following syntax format to display the details of one card:
show card 5
- Use the following syntax format to display the details of a list of cards:
show card 5,9,14
- Use the following syntax format to display the details of a range of cards:
show card 5-9
- Use the following syntax format to display the details of a list with ranges of cards:
show card 5, 7-9, 14

[Table 6-8](#) describes the fields in the **show card** command output.

Table 6-8: show card Command Field Descriptions

| Field | Description |
|-------|---|
| slot | Displays the number of the slot that the card occupies. |

Table 6-8: show card Command Field Descriptions (Continued)


| Field | Description |
|--------------|--|
| admin type | <p>Displays the type of the interface card that the administrator specified with the type command. The first two letters of the entry indicate the general type of the card:</p> <ul style="list-style-type: none"> • en for Ethernet • ib for InfiniBand • fc for Fibre Channel <p>The number of ports on the card follow the two-letter type identifier. The remaining number and letter identify the speed of the ports on the card. The admin type fc2port2G indicates a Fibre Channel card with two ports that run at a maximum speed of 2 Gbps.</p> <hr/> <p> NOTE: The controller and controllerIb12port4x cards serve as an exception to these rules.</p> <hr/> <p>The “admin type” identifier controller indicates the type of independent controller card found on both sides of the Topspin system chassis. The “admin type” identifier controllerIb12port4x indicates a controller card that piggy-backs onto a 12-port InfiniBand switch card where each port connection can support speeds up to 4X.</p> |
| oper type | <p>Displays the type of the card as detected by the controller. If any conflict occurs between admin type and oper type, the Topspin system assumes that the type specified by oper type is correct and allows you to configure the card based upon this assumption. If a type mismatch occurs, verify that you are selecting the correct type for the card in the chassis.</p> |
| admin status | <p>Displays the administrative status (that you configure with the shutdown and no shutdown commands) of the port.</p> |
| oper status | <p>Displays the operational status as detected by the controller. This represents the absolute status of the interface card based upon self-detection. The value of this read-only field appears as one of the following:</p> <ul style="list-style-type: none"> • unknown, which generally indicates that an error occurred when the card booted • up, which indicates that the card successfully runs • down, which indicates that a user disabled the card with the shutdown command • failure, which indicates that the card failed to boot correctly <p>The up indicator means that your card runs successfully. You can only configure cards with an operational status of up.</p> |

Table 6-8: show card Command Field Descriptions (Continued)

| Field | Description |
|------------|---|
| oper code | <p>Displays the general condition of the interface card. The general condition may appear as any of the following:</p> <ul style="list-style-type: none"> • unknown • normal • wrongBootImage • bootFailed • tooHot • checkingBootImage • rebooting • booting • standby • recoveryImage <p>A condition of unknown indicates an unsupported interface card. To address this condition, replace the card with a supported card.</p> <p>The oper code of a card must appear as normal for the oper status of the card to appear as up.</p> <p>A wrong-image condition indicates that the active system image on the interface card does not match the active system image on the controller. All cards must run the same active system image as the controller card to function.</p> <p>A bootFailed condition indicates that the active system image on the card was incompletely or incorrectly loaded. If the other interface cards come up successfully, reset the individual card. Otherwise, reboot your entire Server Switch.</p> <p>When your card overheats, the tooHot condition appears in the show card command output. Enter the show fan command to check to see if your fans have failed.</p> <p>The booting condition indicates that the card has not finished loading necessary image data for internal configuration.</p> |
| boot stage | <p>Boot Stage could be any of the following:</p> <ul style="list-style-type: none"> • recovery • ipl • ppcboot • fpga • pic • ib • rootfs • kernel • exe • done |

Table 6-8: show card Command Field Descriptions (Continued)

| Field | Description |
|-----------------------|---|
| boot status | <p>Boot Status may appear as any of the following:</p> <ul style="list-style-type: none"> • upgrading • success • failed • badVersion • badCrc • memoryError • outOfSpace • programmingError • hardwareError • fileNotFound • inProgress |
| boot image | Displays the active system image that the card runs when it boots. |
| product serial-number | Displays the factory-assigned product serial number of the card. |
| pca serial-number | Displays the Printed Circuit-Assembly (PCA) serial number of the card. |
| pca number | Displays the Printed Circuit-Assembly (PCA) assembly number of the card. |
| fru number | Displays the field-replaceable unit (FRU) number of the card. |

Examples:

To display the configuration and status information for cards 5, 9, 14, and 16:

```
Topspin-360# show card 5,9,14,16
```

```
=====
                        Card Information
=====
```

| slot | admin type | oper type | admin status | oper status | oper code |
|------|---------------|--------------|-----------------|----------------|--------------|
| 5 | en4port1G | en4port1G | up | up | normal |
| 9 | fc2port2G | fc2port2G | up | up | normal |
| 14 | controller | controller | up | up | normal |
| 16 | ib12port4x | ib12port4x | up | up | normal |

```
=====
                        Card Boot Information
=====
```

| slot | boot stage | boot status | boot image |
|------|---------------|----------------|--------------------------|
| 5 | done | success | TopspinOS-1.1.2/build084 |
| 9 | done | success | TopspinOS-1.1.2/build084 |
| 14 | done | success | TopspinOS-1.1.2/build084 |
| 16 | done | success | TopspinOS-1.1.2/build084 |

```
=====
                        Card Seeprom
=====
```

| slot | product serial-number | pca serial-number | pca number | fru number |
|------|--------------------------|----------------------|---------------|---------------|
| 5 | 00024 | 1234 | 95-00007-01 | 1234 |
| 9 | 1234 | 1234 | 95-00008-01 | 1234 |
| 14 | 00002 | 00002 | 95-00005-01 | 1234 |
| 16 | 1234 | 1234 | 95-00006-01 | 1234 |

```
Topspin-360#
```

Defaults:

The **show card** command displays all cards by default.

Related Commands:

[“action” on page 13](#)
[“boot-config” on page 19](#)
[“card” on page 21](#)
[“install” on page 43](#)
[“shutdown” on page 64](#)
[“type” on page 77](#)

show card-inventory

Synopsis:

To display the system resources and image data of interface cards, enter the **show card-inventory** command in User Execute mode or Privileged Execute mode.



NOTE: The **show card-inventory** command only displays cards with an oper-status of **up**.

Syntax:

show card-inventory [*card-selection* | **all**]

Table 6-9: show card-inventory Command Arguments

| Argument | Description |
|-----------------------|--|
| <i>card-selection</i> | Card, list of cards, or range of cards to view. |
| all | Displays resources and data of all cards in the chassis. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

Each Topspin interface card is a system in itself. The following comprise system resources:

- available and used memory
- available and used flash memory
- active system image on the interface card
- CPU name and version

The active system image should match the active image that runs on the controller card. Occasions may occur when you update the system image on the controller but not on an interface card, such as when you swap interface cards between chassis or update the system image on the controller when an interface card goes down. Disk space may be an issue if you try to update the system image on the controller but cannot propagate this data to the interface card because the interface card has no free space.

The CPU description may be requested by Topspin support-personnel in the event you are experience difficulties with a controller or interface card.

[Table 6-10](#) describes the fields in the **show card-inventory** command output.

Table 6-10: show card-inventory Command Field Descriptions

| field | description |
|-------------|---|
| slot-id | Slot number of the controller card, gateway module, or InfiniBand switch. |
| used-memory | Total amount of local RAM being used by the card. |
| free-memory | Total amount of available local RAM. |

Table 6-10: show card-inventory Command Field Descriptions (Continued)

| field | description |
|----------------------|--|
| used-disk-space | Total amount of local flash memory space being used by the card. |
| free-disk-space | Total amount of available local flash memory space. |
| last-image-source | Last image that the card booted. |
| primary-image-source | Active system image to use when the system reboots. This value should be the same for all cards in the system. |
| image | If only one instance of the image field appears, it indicates the system image used to initialize the card firmware. If there are two instances of the image field, the second instance indicates a second system image present on the card. |
| cpu-descr | CPU type, model, and firmware version. |
| fpga-firmware-rev | Current FPGA firmware version that the card runs. |
| ib-firmware-rev | Version of InfiniBand firmware on the card. |

Examples:

The following example displays the configuration and status information for the cards on the Server Switch.

```
Topspin-360# show card-inventory
```

```
=====
                        Card Resource/Inventory Information
=====

      slot-id : 1
      used-memory : 73936 (kbytes)
      free-memory : 53368 (kbytes)
      used-disk-space : 44833 (kbytes)
      free-disk-space : 57546 (kbytes)
      last-image-source : TopspinOS-2.0.0/build543
      primary-image-source : TopspinOS-2.0.0/build543
      image : TopspinOS-2.0.0/build543
      cpu-descr : PPC 440GP Rev. C - Rev 4.129 (pvr 4012 0481)
      fpga-firmware-rev : 6
      ib-firmware-rev : 200000000
```

Defaults:

The **show card-inventory** defaults to **show card-inventory all**.

Related Commands:

[“boot-config” on page 19](#)

[“card” on page 21](#)

show clock

Synopsis:

To display the current system time, enter the **show clock** command in User Exec mode or Privileged Exec mode.

Syntax:

show clock

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

If you have not set the clock, system time begins at 00:00:00, January 1, 1970.

Examples:

The following example displays the clock settings of the Server Switch.

```
Topspin-360# show clock
Mon Mar 17 02:26:32 2003 (UTC)
Topspin-360#
```

Defaults:

No default behavior or values.

Related Commands:

[“clock set” on page 22](#)

show diagnostic card

Synopsis:

To display completed or ongoing diagnostic tests for cards, enter the **show diagnostic card** command in User Exec mode or Privileged Exec mode.

Syntax:

show diagnostic card {**all** | *card-selection*}

Table 6-11: show diagnostic card Command Arguments

| Argument | Description |
|-----------------------|---|
| all | Specifies all cards on the Server Switch. |
| <i>card-selection</i> | Card or cards whose tests you want to view. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

[Table 6-12](#) lists and describes the fields in the **show diagnostic card** command.

Table 6-12: show diagnostic card Command Field Descriptions

| Field | Description |
|----------------------|--|
| test | Test that ran or runs on the card. |
| slot-id | Slot of the card. |
| iterations | Number of iterations that the test completed. |
| action | Last action that an administrator applied to the test. |
| result | Result of the last action that an administrator applied to the test. |
| percentage-completed | Percentage of the test that has executed. |
| result-string | Diagnostic test results. |

Examples:

The following example displays the completed and ongoing diagnostic tests on card 3.

```
Topspin-360# show diag card 3
```

```
=====
                        Diagnostic Tests For Cards
=====
      test : led
    slot-id : 3
  iterations : 1
      action : start
      result : invalidValue
percentage-completed : 0
    result-string :
```

Defaults:

No default behavior or values.

Related Commands:

[“diagnostic” on page 291](#)

[“test” on page 300](#)

show diagnostic fan

Synopsis:

To display completed or ongoing diagnostic tests for fans, enter the **show diagnostic fan** command in User Exec mode or Privileged Exec mode.

Syntax:

show diagnostic fan {**all** | *fan-selection*}

Table 6-13: show diagnostic card Command Arguments

| Argument | Description |
|----------------------|---|
| all | Specifies all fans on the Server Switch. |
| <i>fan-selection</i> | Fan or fans whose tests you want to view. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 120, Topspin 270

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

[Table 6-14](#) lists and describes the fields in the **show diagnostic fan** command.

Table 6-14: show diagnostic card Command Field Descriptions

| Field | Description |
|----------------------|--|
| test | Test that ran or runs on the card. |
| slot-id | Slot of the card. |
| iterations | Number of iterations that the test completed. |
| action | Last action that an administrator applied to the test. |
| result | Result of the last action that an administrator applied to the test. |
| percentage-completed | Percentage of the test that has executed. |
| result-string | Diagnostic test results. |

Examples:

The following example displays the completed and ongoing diagnostic tests on card 3.

```
Topspin-360# show diag card 3
```

```
=====
                        Diagnostic Tests For Cards
=====
      test : led
    slot-id : 3
  iterations : 1
      action : start
      result : invalidValue
percentage-completed : 0
    result-string :
```

Defaults:

No default behavior or values.

Related Commands:

[“diagnostic” on page 291](#)

[“test” on page 300](#)

show diagnostic interface ethernet

Synopsis:

To display completed or ongoing diagnostic tests for Ethernet gateway ports, enter the **show diagnostic interface ethernet** command in User Exec mode or Privileged Exec mode.

Syntax:

show diagnostic interface ethernet {*port* | **all**}

Table 6-15: show diagnostic card Command Arguments

| Argument | Description |
|-------------|--|
| <i>port</i> | Ethernet port, in slot#/port# notation. |
| all | Specifies all Ethernet ports on the Server Switch. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Ethernet read-only user.

Usage Guidelines:

[Table 6-16](#) lists and describes the fields in the **show diagnostic interface ethernet** command.

Table 6-16: show diagnostic interface ethernet Command Field Descriptions

| Field | Description |
|----------------------|--|
| test | Test that ran or runs on the card. |
| port | Ethernet port number, in slot#/port# notation. |
| validation | Displays enabled or disabled to indicate validation status. |
| data-size | Size of the test data. |
| data-pattern | Pattern of the test data. |
| iterations | Number of iterations of the test. |
| action | Last action that an administrator performed on the test. |
| result | Result of the last action that an administrator performed on the test. |
| percentage-completed | Percentage of the test that has executed. |
| result-string | Result of the diagnostic test. |

Examples:

The following example displays the completed and ongoing diagnostic tests on port 1 of Ethernet gateway 9.

```
Topspin-360# show diagnostic interface ethernet 9/1

=====
Diagnostic Tests For Ethernet Interfaces
=====
      test : led
      port : 9/1
validation : enabled
  data-size : 0
data-pattern : 00:00:00:00
  iterations : 0
      action : stop
      result : none
percentage-completed : 0
  result-string : Unknown Test Unknown status, Current report : Passed=0,
Failed=0, Total=0
```

Defaults:

No default behavior or values.

Related Commands:

[“diagnostic” on page 291](#)

[“test” on page 300](#)

show diagnostic interface fc

Synopsis:

To display completed or ongoing diagnostic tests for Fibre Channel gateway ports, enter the **show diagnostic interface fc** command in User Exec mode or Privileged Exec mode.

Syntax:

show diagnostic interface fc {*port* | **all**}

Table 6-17: show diagnostic card Command Arguments

| Argument | Description |
|-------------|--|
| <i>port</i> | Ethernet port, in slot#/port# notation. |
| all | Specifies all Ethernet ports on the Server Switch. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Fibre Channel read-only user.

Usage Guidelines:

[Table 6-18](#) lists and describes the fields in the **show diagnostic interface fc** command.

Table 6-18: show diagnostic card Command Field Descriptions

| Field | Description |
|----------------------|--|
| test | Test that ran or runs on the card. |
| port | Fibre Channel port number, in slot#/port# notation. |
| validation | Displays enabled or disabled to indicate validation status. |
| data-size | Size of the test data. |
| data-pattern | Pattern of the test data. |
| iterations | Number of iterations of the test. |
| source-id | Source WWPN for the test. |
| target-id | Target WWPN for the test. |
| action | Last action that an administrator performed on the test. |
| result | Result of the last action that an administrator performed on the test. |
| percentage-completed | Percentage of the test that has executed. |
| result-string | Result of the diagnostic test. |

Examples:

The following example displays the completed and ongoing diagnostic tests on port 2 of Fibre Channel gateway 6.

```
Topspin-360> show diagnostic interface fc 6/2

=====
Diagnostic Tests For Fibre Channel Interfaces
=====
      test : external-loopback
      port : 6/2
  validation : enabled
    data-size : 0
data-pattern : 00:00:00:00
  iterations : 0
    source-id : 00:00:00
    target-id : 00:00:00
      action : stop
      result : success
percentage-completed : 100
  result-string : External Loopback Test Completed/Stopped, Final report :
Passed=203, Failed=0, Total=203
```

Defaults:

No default behavior or values.

Related Commands:

[“diagnostic” on page 291](#)

[“test” on page 300](#)

show diagnostic interface ib

Synopsis:

To display completed or ongoing diagnostic tests for InfiniBand switch ports, enter the **show diagnostic interface ib** command in User Exec mode or Privileged Exec mode.

Syntax:

show diagnostic interface ib {*port* | **all**}

Table 6-19: show diagnostic card Command Arguments

| Argument | Description |
|-------------|--|
| <i>port</i> | Ethernet port, in slot#/port# notation. |
| all | Specifies all Ethernet ports on the Server Switch. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

[Table 6-20](#) lists and describes the fields in the **show diagnostic interface ib** command.

Table 6-20: show diagnostic card Command Field Descriptions

| Field | Description |
|----------------------|--|
| test | Test that ran or runs on the card. |
| port | InfiniBand port number, in slot#/port# notation. |
| validation | Displays enabled or disabled to indicate validation status. |
| data-size | Size of the test data. |
| data-pattern | Pattern of the test data. |
| iterations | Number of iterations of the test. |
| source-id | Source LID for the test. |
| target-id | Target LID for the test. |
| action | Last action that an administrator performed on the test. |
| result | Result of the last action that an administrator performed on the test. |
| percentage-completed | Percentage of the test that has executed. |
| result-string | Result of the diagnostic test. |

Examples:

The following example displays the completed and ongoing diagnostic tests on port 1 of InfiniBand switch card 16.

```
Topspin-360> show diagnostic interface ib 16/1

=====
Diagnostic Tests For IB Interfaces
=====
      test : external-loopback
      port : 16/1
  validation : enabled
    data-size : 0
data-pattern : 00:00:00:00
  iterations : 0
    source-id : 00:00:00
    target-id : 00:00:00
      action : stop
      result : none
percentage-completed : 0
    result-string : External Loopback Test Unknown status, Current report :
Passed=0, Failed=0, Total=0
```

Defaults:

No default behavior or values.

Related Commands:

[“diagnostic” on page 291](#)

[“test” on page 300](#)

show diagnostic power-supply

Synopsis:

To display completed or ongoing diagnostic tests for power supplies, enter the **show diagnostic power-supply** command in User Exec mode or Privileged Exec mode.

Syntax:

show diagnostic power-supply {**all** | *power-supply-selection*}

Table 6-21: show diagnostic card Command Arguments

| Argument | Description |
|-------------------------------|--|
| all | Specifies all fans on the Server Switch. |
| <i>power-supply-selection</i> | Power supply or supplies whose tests you want to view. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 120, Topspin 270

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

[Table 6-14](#) lists and describes the fields in the **show diagnostic power-supply** command.

Table 6-22: show diagnostic card Command Field Descriptions

| Field | Description |
|----------------------|--|
| module-number | Power supply module number. |
| test | Test that ran or runs on the card. |
| iterations | Number of iterations that the test completed. |
| action | Last action that an administrator applied to the test. |
| result | Result of the last action that an administrator applied to the test. |
| percentage-completed | Percentage of the test that has executed. |
| result-string | Diagnostic test results. |

Examples:

The following example displays the completed and ongoing diagnostic tests on all power supplies.

```
Topspin-270> show diagnostic power-supply all

=====
Diagnostic Tests For Power Supplies
=====
      module-number : 1
            test    : none
      iterations    : 1
            action   : stop
            result   : none
percentage-completed : 0
      result-string :
```

Defaults:

No default behavior or values.

Related Commands:

None.

show config

Synopsis:

To display the running configuration, enter the **show config** command in User Exec mode or Privileged Exec mode.

Syntax:

show config

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

The **show config** command displays the current configuration as a series of commands in the format that you use when you execute commands in a CLI session. This command queries all active service components to collect their current configuration data and translates the data into a CLI command format.

This record of the configuration may be saved, edited, and reused to replicate a configuration.

Examples:

The following example displays the running configuration on the Server Switch:

```
Topspin-90# show config
enable
config terminal
card 2
type en4port1G
no shutdown
ib sm subnet-prefix fe:80:00:00:00:00:00:00 priority 0
interface gateway 2
ip address 192.168.2.1 255.255.255.0
interface ethernet 2/1
ip address 192.168.1.1 255.255.255.0
interface ethernet 2/2
ip address 192.168.3.1 255.255.255.0
arp ib 192.168.2.2 gid fe:80:00:00:00:00:00:00:02:c9:00:00:13:68:c3 qpn 2 2/0
arp ib 192.168.2.3 gid fe:80:00:00:00:00:00:00:02:c9:00:00:16:af:d3 qpn 2 2/0
Topspin-90#
```

Defaults:

No default behavior or values.

Related Commands:

[“copy” on page 26](#)

[“history” on page 41](#)

show fan

Synopsis:

To display the status of the fans in your Server Switch, enter the **show fan** command in User Exec mode or Privileged Exec mode.

Syntax:

show fan

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

For the health of your Server Switch, you want both fans to function while your Server Switch runs. If the operational status of a fan appears as **down**, contact customer support for a fan module replacement.

[Table 6-23](#) describes the fields in the **show fan** command output.

Table 6-23: show fan Command Field Descriptions

| field | description |
|-----------------------|--|
| fan | Fan number. Fan 1 resides on the left-side as you are facing the front of the chassis. Fan 2 resides on the right-side of the chassis. |
| oper status | Operational status of the fan. The value appears as unknown, up, down, or failure. An up value indicates the fan functions correctly. |
| speed (%) | Speed of the fan as a percentage of the maximum speed of the fan. |
| product serial number | Factory-assigned product serial-number. |
| pca serial-number | Printed Circuit-Assembly (PCA) serial-number. |
| pca number | Printed Circuit-Assembly (PCA) assembly-number. |
| fru number | Field-replaceable unit (FRU) number. |

Examples:

The following example displays the fan settings on the Server Switch.

```
Topspin-270> show fan
```

```
=====
                        Fan Information
=====
fan    oper-status    speed(%)
-----
1      up              76
2      up              77
3      up              74
4      up              77

=====
                        Fan Seeprom
=====
fan    product        pca          pca          fru
serial-number  serial-number  number      number
-----
1      -              -            -            -
2      -              -            -            -
3      -              -            -            -
4      -              -            -            -
```

Defaults:

No default behavior or values.

Related Commands:

[“show power-supply” on page 271](#)

[“show sensor” on page 277](#)

show fc srp initiator

Synopsis:

To display the attributes of initiators that you have configured on your Server Switch, enter the **show fc srp initiator** command in User Exec mode or Privileged Exec mode.

Syntax:

show fc srp initiator [*guid extension*]

Table 6-24: show fc srp initiator Command Syntax Description

| Syntax | Description |
|------------------|--|
| <i>guid</i> | GUID of the initiator to view. |
| <i>extension</i> | GUID extension of the initiator to view. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Fibre Channel read-only user.

Usage Guidelines:

This command displays active and inactive initiators.

Enter this command without any arguments to display the initiator information for all configured SRP initiators. If you specify a GUID, you must also specify the extension.



NOTE: Initiators do not need to connect to the Server Switch to appear in the show output. As long as you configured them, they appear in the command output.

Table 6-25: show fc srp initiator Command Field Descriptions

| Field | Description |
|--------------|--|
| guid | GUID of the initiator. |
| extension | GUID extension of the initiator. |
| description | User-assigned ASCII description of the initiator. |
| wwnn | World-wide node name (WWNN) of the initiator. |
| credit | Indicates the amount of traffic that the initiator can accept. |
| active-ports | IB ports on your Server Switch through which the initiator passes traffic. |
| pkeys | Partition key(s) of the initiator. |
| action | Last action that the initiator took. |
| result | Result of the action that appears in the “action” field. Any result other than Operation completed successfully occur do to interface errors. |
| wwpns | World-wide port names (WWPNs) of the virtual ports (NL_ports) that point to the initiator. |

Examples:

The following example displays the initiators that users have configured on the Server Switch.

```
Topspin-360# show fc srp initiator

=====
                        SRP Initiators
=====
      guid: 00:05:ad:00:00:01:29:c5
    extension: 00:00:00:00:00:00:00:00
  description: Bender
      wwnn: 20:01:00:05:ad:00:40:00
    credit: 0
active-ports: 6/1
    pkeys:
  action: none
  result: none
    wwpns: port      wwpn      fc-addr
              2/1      20:01:00:05:ad:20:40:00  00:00:00
              2/2      20:01:00:05:ad:24:40:00  00:00:00
              3/1      20:01:00:05:ad:30:40:00  00:00:00
              3/2      20:01:00:05:ad:34:40:00  00:00:00
              4/1      20:01:00:05:ad:40:40:00  00:00:00
              4/2      20:01:00:05:ad:44:40:00  00:00:00
              5/1      20:01:00:05:ad:50:40:00  00:00:00
              5/2      20:01:00:05:ad:54:40:00  00:00:00
              6/1      20:01:00:05:ad:60:40:00  00:00:02
              6/2      20:01:00:05:ad:64:40:00  00:00:00
              7/1      20:01:00:05:ad:70:40:00  00:00:00
              7/2      20:01:00:05:ad:74:40:00  00:00:00
              8/1      20:01:00:05:ad:80:40:00  00:00:00
              8/2      20:01:00:05:ad:84:40:00  00:00:00
              9/1      20:01:00:05:ad:90:40:00  00:00:00
              9/2      20:01:00:05:ad:94:40:00  00:00:00
             10/1      20:01:00:05:ad:a0:40:00  00:00:00
             10/2      20:01:00:05:ad:a4:40:00  00:00:00
             11/1      20:01:00:05:ad:b0:40:00  00:00:00
             11/2      20:01:00:05:ad:b4:40:00  00:00:00
             12/1      20:01:00:05:ad:c0:40:00  00:00:00
             12/2      20:01:00:05:ad:c4:40:00  00:00:00
             13/1      20:01:00:05:ad:d0:40:00  00:00:00
             13/2      20:01:00:05:ad:d4:40:00  00:00:00
             14/1      20:01:00:05:ad:e0:40:00  00:00:00
             14/2      20:01:00:05:ad:e4:40:00  00:00:00

Total: 1 initiators.
```

Defaults:

Enter the **show fc srp initiator** command with no arguments to display all initiators.

Related Commands:

[“auto-negotiate” on page 17](#)

[“fc srp initiator” on page 86](#)

[“fc srp it” on page 91](#)

[“fc srp itl” on page 93](#)

[“fc srp target” on page 98](#)

[“fc srp-global gateway-portmask-policy restricted” on page 99](#)

[“fc srp-global lun-policy restricted” on page 103](#)

“speed” on page 70

show fc srp initiator-wwpn-view

Synopsis:

To display SRP targets that an initiator can access through one of its virtual ports, enter the **show fc srp initiator-wwpn-view** command in User Exec mode or Privileged Exec mode.

Syntax:

show fc srp initiator-wwpn-view *wwpn target*

Table 6-26: Syntax Description

| Syntax | Description |
|---------------|---|
| <i>wwpn</i> | World-wide port name (WWPN) of the virtual port of the initiator. |
| target | Displays the targets that your initiator can access through the virtual port. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Fibre Channel read-only user.

Usage Guidelines:

Use this command to verify that your initiator connects to all of the targets that you configured for it.

[Table 6-27](#) lists and describes the fields in the **show fc srp initiator-wwpn-view** command output.

Table 6-27: show fc srp initiator-wwpn-view Command Field Descriptions

| Field | Description |
|-----------------|--|
| wwpn | World-wide port name (WWPN) of the target port that the initiator can access through the virtual port. |
| wwnn | World-wide node name (WWNN) of the target. |
| description | Description of the target. |
| ioc-guid | GUID of the I/O controller of the target. |
| service-name | Service name of the target. |
| protocol-ids | Protocols that the target supports. |
| fc-address | Fibre Channel address of the target. |
| mtu | Maximum transmission unit (MTU), in bytes, of the target. |
| connection-type | Displays nl-port to indicate a virtual FC port. |
| physical-access | Physical FC port (in slot#/port# format) of the virtual port. |

Examples:

The following example displays the targets that the initiator can access through the specified virtual port.

```
Topspin-360> show fc srp initiator-wwpn-view 20:03:00:05:ad:21:5a:5c target

=====
      SRP Targets Accessible to Initiator Via Port WWN 20:03:00:05:ad:51:5a:5c
=====
      wwpn: 20:01:00:60:45:17:36:1c
      wwnn: 20:09:00:60:45:17:36:1c
      description: SRP.T10:200100604517361C
      ioc-guid: 00:05:ad:00:00:01:38:80
      service-name: SRP.T10:200100604517361C
      protocol-ids: 04:00:00:00:00:00:00:00:00
      fc-address: 61:1b:13
      mtu: 0
      connection-type: nl-port
      physical-access: 5/1-5/2,7/1
```

Defaults:

No default behavior or values.

Related Commands:

[“fc srp initiator” on page 86](#)

[“fc srp-global lun-policy restricted” on page 103](#)

[“show fc srp initiator” on page 158](#)

show fc srp it

Synopsis:

To display initiator-target pairs that you have configured or that your Server Switch has discovered, enter the **show fc srp it** command in User Exec mode or Privileged Exec mode.

Syntax:

show fc srp it [*guid extension target-wwpn*]

Table 6-28: show fc srp it Syntax Description

| Syntax | Description |
|--------------------|---|
| <i>guid</i> | GUID of the initiator in the IT pair. |
| <i>extension</i> | GUID extension of the initiator in the IT pair. |
| <i>target-wwpn</i> | World-wide port name (WWPN) of the target FC storage port in the IT pair. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

Use this command to verify you successfully created IT pairs on your Server Switch.

Table 6-29: show fc srp it Command Output Field Descriptions

| Field | Description |
|----------------------|---|
| guid | GUID of the initiator in the initiator-target pair. |
| extension | GUID extension of the initiator in the initiator-target pair. |
| target-wwpn | WWPN of the target storage. |
| description | User-assigned description of the initiator-target pair. |
| non-restricted-ports | Ports on your Server Switch that grant the initiator of the IT pair access to storage. |
| active-ports | Ports on your Server Switch through which the initiator of the IT pair passes traffic. |
| physical-access | Physical port(s) on your Server Switch to which the initiator of the IT pair connects. |
| action | Last action that the initiator of the IT pair took. |
| result | Result of the action that appears in the “action” field. Any result other than Operation completed successfully occurs do to interface errors. |

Examples:

The following example displays the details of an IT pair.

```
show fc srp it 00:05:ad:00:00:00:17:3c 00:00:00:00:00:00:00:00 20:01:00:60:45:17:36:1c

=====
                        SRP IT
=====
                        guid: 00:05:ad:00:00:00:17:3c
                        extension: 00:00:00:00:00:00:00:00
                        target-wwpn: 20:01:00:60:45:17:36:1c
                        description: it
non-restricted-ports: 2/1-2/2,3/1-3/2,4/1-4/2,5/1-5/2,
                        : 6/1-6/2,7/1-7/2,8/1-8/2,9/1-9/2,
                        : 10/1-10/2,11/1-11/2,12/1-12/2,
                        : 13/1-13/2,14/1-14/2
                        active-ports: none
                        physical-access: 5/1-5/2
                        action: none
                        result: none

Topspin-360>
```

Defaults:

No default behavior or values.

Related Commands:

[“fc srp it” on page 91](#)

[“show interface fc” on page 239](#)

show fc srp itl

Synopsis:

To display all ITLs that run through your Server Switch, enter the **show fc srp itl** command in User Exec mode or Privileged Exec mode.

Syntax:

show fc srp itl [*guid extension wwpn LUN*]

Table 6-30: show fc srp itl Command Arguments

| Argument | Description |
|------------------|--|
| <i>guid</i> | Global unique identifier (GUID) of the initiator. |
| <i>extension</i> | GUID extension of the initiator. |
| <i>wwpn</i> | World-wide port name (WWPN) of the target port on the FC storage device. |
| <i>LUN</i> | Logical unit number (LUN) of the FC storage device. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

Enter this command without arguments to display the ITL information for all connected Fibre Channel devices. This command displays active and inactive ITLs.

[Table 6-31](#) describes the fields in the **show fc srp itl** command output.

Table 6-31: show fc srp itl Command Field Descriptions

| Field | Description |
|--------------------------------|--|
| guid | GUID of the initiator. |
| extension | GUID extension of the initiator. |
| target-wwpn | WWPN of the target port on the FC storage device. |
| fc-lunid | Fibre Channel LUN ID of the storage disk/tape/stripe. |
| description | User-configured description. |
| srp-lunid | Internal SRP LUN ID. This value serves as a SRP-side alias for a FC LUN ID. By default, the srp-lunid value matches the <i>LUN</i> variable. |
| logical-id (raw 64 bytes) | Numeric disk LU. |
| logical-id (formatted display) | Alphanumeric disk LU. |
| use-default-mask | No longer applicable. |
| gateway-port-mask-policy | Displays a list of unrestricted ports though which the ITL traffic can pass. |

Table 6-31: show fc srp itl Command Field Descriptions (Continued)

| Field | Description |
|------------------------------------|---|
| lun-policy | Displays restricted when the you activate the LUN masking policy and non-restricted when you deactivate the policy. |
| hi-mark | The maximum number of outstanding requests from the initiator to the storage that the ITL can maintain. |
| max-retry | Configures the maximum number of retries that the initiator can send to the storage device. |
| min-io-timeout | Maximum amount of time, in seconds, that elapses before a SRP request times out. |
| dynamic-path-affinity | Displays true when you enable the feature, otherwise displays false . |
| dynamic-gateway-port-loadbalancing | Displays true when you enable the feature, otherwise displays false . |
| dynamic-storage-port-loadbalancing | Displays true when you enable the feature, otherwise displays false . If this feature does not apply to the storage, no output appears. |
| dynamic-gateway-port-failover | Displays true when you enable the feature, otherwise displays false . |
| dynamic-storage-port-failover | Displays true when you enable the feature, otherwise displays false . If this feature does not apply to the storage, no output appears. |
| active-slots | Slots on which ITL traffic actively runs. |

Examples:

The following example displays the ITLs in the configuration file on the Server Switch.

```
Topspin-360# show fc srp itl

=====
                        SRP ITL
=====
                        guid: 00:05:ad:00:00:01:29:c5
                        extension: 00:00:00:00:00:00:00:00
                        target-wwpn: 21:00:00:04:cf:f6:c2:ab
                        fc-lunid: 00:00:00:00:00:00:00:00
                        srp-lunid: 00:00:00:00:00:00:00:00
logical-id (raw 64 bytes): 01:03:00:08:20:00:00:04:cf:f6:c2:ab:00:00:00:00
                        : 00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
                        : 00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
                        : 00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
logical-id (formatted display): 2000000000000000
                        description: itl
                        device-category: random
                        lun-policy: non restricted
non-restricted-ports: none
                        active-ports: 6/1
physical-access: 6/1
                        hi-mark: 16
                        max-retry: 5
                        min-io-timeout: 10
dynamic-path-affinity: false
dynamic-gateway-port-loadbalancing: true
dynamic-storage-port-loadbalancing:
dynamic-gateway-port-failover: false
dynamic-storage-port-failover:
                        active-slots: 6

Total: 1 itls.
```

Defaults:

Enter the **show fc srp itl** command with not arguments to display all ITLs on your Server Switch.

Related Commands:

[“fc srp itl” on page 93](#)

[“interface” on page 45](#)

[“show fc srp it” on page 163](#)

[“show interface fc” on page 239](#)

show fc srp itl-statistics

Synopsis:

To display ITL I/O statistics, enter the **show fc srp itl-statistics** command in User Exec mode or Privileged Exec mode.

Syntax:

show fc srp itl-statistics [*guid extension wwpn LUN*]

Table 6-32: show fc srp itl Command Arguments

| Argument | Description |
|------------------|--|
| <i>guid</i> | Global unique identifier (GUID) of the initiator. |
| <i>extension</i> | GUID extension of the initiator. |
| <i>wwpn</i> | World-wide port name (WWPN) of the target port on the FC storage device. |
| <i>LUN</i> | Logical unit number (LUN) of the FC storage device. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Fibre Channel read-only user.

Usage Guidelines:

Enter this command without any arguments to display the SRP/Fibre Channel statistics for every ITL.

[Table 6-33](#) lists and describes the output of the **show fc srp itl-statistics** command.

Table 6-33: show fc srp itl-statistics Command Field Descriptions

| Field | Description |
|----------------------|---|
| guid | GUID of the initiator. |
| extension | GUID extension of the initiator. |
| target-wwpn | WWPN of the target. |
| srp-lunid | LUN ID of the LUN in the ITL. |
| slot-id | Slot on the Server Switch in which the FC gateway resides. |
| srp-cmds-outstanding | Cumulative number of outstanding SRP commands. |
| srp-errors | Cumulative number of SRP errors. |
| srp-initiated-ios | Total number of SRP I/O requests. |
| srp-bytes-read | Cumulative number of SRP bytes read by one or all FC gateways. |
| srp-bytes-written | Cumulative number of SRP bytes written by one or all FC gateways. |
| fcg-cmds-outstanding | Cumulative number of outstanding FC commands. |
| fcg-cmds-completed | Cumulative number of commands that one or all FC gateways executed. |
| fcg-errors | Cumulative number of FC errors on one or all gateways. |
| fcg-initiated-ios | Total number of FC I/O requests. |

Table 6-33: show fc srp itl-statistics Command Field Descriptions (Continued)

| Field | Description |
|------------------|--|
| fc-bytes-read | Cumulative number of FC bytes read by one or all FC gateways. |
| fc-bytes-written | Cumulative number of FC bytes written by one or all FC gateways. |

Examples:

The following example displays ITL traffic statistics for the ITLs in the configuration file on the Server Switch.

```
Topspin-360# show fc srp itl-statistics
```

```
=====
                        SRP ITL statistics
=====
                        guid: 00:02:c9:00:01:1d:aa:00
                        extension: 00:00:00:00:00:00:00:00
                        target-wwpn: 20:01:00:60:45:17:36:1c
                        srp-lunid: 00:00:00:00:00:00:00:00
                        slot-id: 5
srp-cmds-outstanding: 0
      srp-errors: 0
srp-initiated-ios: 0
      srp-bytes-read: 0
      srp-bytes-written: 0
fc-cmds-outstanding: 0
fc-cmds-completed: 0
      fcp-errors: 0
fc-initiated-ios: 0
      fcp-bytes-read: 0
      fcp-bytes-written: 0
```

Defaults:

No default behavior or values.

Related Commands:

[“fc srp itl” on page 93](#)

[“show fc srp statistics” on page 173](#)

show fc srp lu

Synopsis:

To display attributes of logical units, enter the **show fc srp lu** command in User Exec mode or Privileged Exec mode.

Syntax:

show fc srp lu [*logical-id*]

Table 6-34: show fc srp lu Command Arguments

| Argument | Description |
|-------------------|--|
| <i>logical-id</i> | LU identifier, in 64-byte, hexadecimal format OMITTING ALL COLONS . |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Fibre Channel read-only user.

Usage Guidelines:

[Table 6-35](#) describes the fields in the **show fc srp lu** command output.

Table 6-35: show fc srp lu Command Field Descriptions

| Field | Description |
|------------------------------------|---|
| logical-id (formatted display) | ID of the LUN. |
| description | User-defined LU description. |
| device-category | Displays random or sequential to identify the type of LUN. |
| targets | Displays the WWPN of the target in which the LUN resides. |
| hi-mark | The maximum number of outstanding requests from the initiator to the storage that the ITL can maintain. |
| max-retry | Displays the number of failed communication attempts that must occur before the LUN identifies the initiator as inaccessible. |
| min-io-timeout | Maximum amount of time that elapses before a SRP request times out. |
| dynamic-path-affinity | Displays true if you enable the feature and false if you disable the feature. |
| dynamic-gateway-port-loadbalancing | Displays true if you enable the feature and false if you disable the feature. |
| dynamic-storage-port-loadbalancing | Displays true if you enable the feature and false if you disable the feature. |
| vendor-id | Vendor-assigned ID of the LUN. |
| product-id | Vendor-assigned product ID of the LUN. |
| product-revision | Manufacturer-assigned product revision number. |

Table 6-35: show fc srp lu Command Field Descriptions (Continued)

| Field | Description |
|-----------------|--|
| physical-access | FC gateway Ports on your Server Switch that connect to the LU. |

Examples:

The following example displays the LUs (storage disks) that connect to the Server Switch.

```
Topspin-360# show fc srp lu
```

```
=====
                        SRP LUs
=====
      logical-id (raw 64 bytes): 01:03:00:08:20:00:00:04:cf:f6:c2:ab:00:00:00:00
                                : 00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
                                : 00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
                                : 00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
      logical-id (formatted display): 2000000000000000
      description: lu-SEAGATE -ST336753FC      -0005
      device-category: random
      targets: 21:00:00:04:cf:f6:c2:ab
      hi-mark: 16
      max-retry: 5
      min-io-timeout: 10
      dynamic-path-affinity: false
dynamic-gateway-port-loadbalancing: true
dynamic-gateway-port-failover: false
      vendor-id: SEAGATE
      product-id: ST336753FC
      product-revision: 0005
      physical-access: 6/1

Total: 1 lus.
```

The following example displays details about one LU.

[illegible]

Defaults:

No default behavior or values.

Related Commands:

“fc srp lu” on page 96

“interface” on page 45

“show fc srp initiator” on page 158

“show fc srp itl” on page 165

[“show interface fc” on page 239](#)

show fc srp statistics

Synopsis:

To display aggregate SRP I/O statistics for all ITLs on your Server Switch, enter the **show fc srp statistics** command in User Exec mode or Privileged Exec mode.

Syntax:

show fc srp statistics

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Fibre Channel read-only user.

Usage Guidelines:

Use the **show fc srp statistics** command to determine load and error count.

The statistical information consists of the following:

- SRP and Fibre Channel commands initiated, outstanding, and completed.
- SRP and Fibre Channel bytes read and written.
- SRP and Fibre Channel errors reported.

[Table 6-36](#) describes the fields in the **show fc srp statistics** command output.

Table 6-36: show fc srp statistics Command Field Descriptions

| Field | Description |
|-----------------------|---|
| link-events | Total number of link events (e.g., link up, link down) processed by the Fibre Channel interface gateway(s). |
| srp-cmds-outstanding | Total number of SRP commands outstanding on the Fibre Channel interface gateway(s). |
| srp-cmds-completed | Total number of SRP commands completed on the Fibre Channel interface gateway(s). |
| srp-errors | Total number of SRP errors encountered on the Fibre Channel interface gateway(s). |
| srp-initiated-ios | Total number of I/O transactions requested by the SRP initiator. |
| srp-bytes-read | Total number of I/O bytes read by the SRP initiator that connects to this chassis. |
| srp-bytes-written | Total number of I/O bytes written by the SRP initiator. |
| srp-connections | Total number of connections used by the SRP initiator. |
| fc-p-cmds-outstanding | Total number of FCP commands outstanding on the Fibre Channel interface gateway(s). |
| fc-p-cmds-completed | Total number of FCP commands completed on the Fibre Channel interface gateway(s). |
| fc-p-errors | Total number of FCP errors encountered on the Fibre Channel interface gateway(s). |

Table 6-36: show fc srp statistics Command Field Descriptions (Continued)

| Field | Description |
|--------------------|--|
| fcip-initiated-ios | Total number of I/O responses by the Fibre Channel device to SRP initiator requests. |
| fcip-bytes-read | Total number of I/O bytes read by the target device. |
| fcip-bytes-written | Total number of I/O bytes written by the target device. |

Examples:

The following example displays traffic statistics for all of the ITLs on your Server Switch.

```
Topspin-360# show fc srp statistics
```

```
=====
                        SRP Global Statistics
=====
      link-events: 1410805
    srp-cmds-outstanding: 0
      srp-cmds-completed: 4
        srp-errors: 0
    srp-initiated-ios: 4
      srp-bytes-read: 288
    srp-bytes-written: 0
      srp-connections: 2
    fcp-cmds-outstanding: 0
    fcp-cmds-completed: 2
      fcp-errors: 0
    fcp-initiated-ios: 2
      fcp-bytes-read: 0
    fcp-bytes-written: 0
```

Defaults:

No default behavior or values.

Related Commands:

[“interface” on page 45](#)

[“show fc srp initiator” on page 158](#)

[“show fc srp itl” on page 165](#)

[“show interface fc” on page 239](#)

show fc srp target

Synopsis:

To display the properties of targets (that you manually configured or your Server Switch discovered), enter the **show fc srp target** command in User Exec mode or Privileged Exec mode.

Syntax:

show fc srp target [*wwpn*]

Table 6-37: show fc srp target Command Arguments

| Argument | Description |
|-------------|---|
| <i>wwpn</i> | World-wide port name (WWPN) of the target port. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Fibre Channel read-only user.

Usage Guidelines:

Enter this command without any arguments to display all the target devices known to the Topspin Server Switch.

[Table 6-38](#) describes the fields in the **show fc srp target** command output.

Table 6-38: show fc srp target Command Field Descriptions

| Field | Description |
|-------------------------|--|
| <i>wwpn</i> | Fibre Channel interface port name of the SRP target. |
| <i>wwnn</i> | World-wide node name of the target. |
| <i>description</i> | Text label used to identify the service in the Element Manager GUI or CLI output. If you do not apply a description, the Topspin system defaults to the service name. |
| <i>ioc-guid</i> | InfiniBand I/O controller (IOC) through which the initiator accesses the target. On the Topspin 360 and Topspin 90 platforms, the IOC identifies a Fibre Channel gateway slot. |
| <i>service-name</i> | Name of the service to associate with the target. |
| <i>protocol-ids</i> | Protocols that the target supports. |
| <i>fc-address</i> | 3-byte Fibre Channel Protocol address of the target. |
| <i>mtu</i> | Maximum transmission unit, in bytes, of the target. |
| <i>connection-type</i> | Displays down if the connection cannot pass traffic. Displays nl-port when the target communicates with the virtual port on the Fibre Channel gateway. |
| <i>physical -access</i> | Fibre Channel port that physically connects to the target. |

Examples:

The following example displays the targets that connect to the Server Switch.

```
Topspin-360# show fc srp target
=====
                        SRP Targets
=====
                wwpn: 20:01:00:60:45:17:36:1c
                wwnn: 20:09:00:60:45:17:36:1c
        description: SRP.T10:200100604517361C
            ioc-guid: 00:05:ad:00:00:01:38:80
        service-name: SRP.T10:200100604517361C
        protocol-ids: 04:00:00:00:00:00:00:00:00
            fc-address: 61:1b:13
                mtu: 0
        connection-type: nl-port
        physical-access: 5/1-5/2
```

Defaults:

No default behavior or values.

Related Commands:

[“fc srp target” on page 98](#)

[“interface” on page 45](#)

[“show fc srp initiator” on page 158](#)

show fc srp-global

Synopsis:

To display the permissions that automatically apply to all new ITs and ITLs, enter the **show fc srp-global** command in User Exec mode or Privileged Exec mode.

Syntax:

show fc srp-global

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Fibre Channel read-only user.

Usage Guidelines:

This command displays the policies that apply, by default, to all newly created ITLs. Configure defaults with the **fc srp-global** commands in [“Fibre Channel Commands” on page 85](#).

[Table 6-39](#) describes the fields in the **show fc srp-global** command output.

Table 6-39: show fc srp-global command Field Descriptions

| Field | Description |
|----------------------------------|--|
| default-gateway-port-mask-policy | Boolean value that indicates if ports allow new SRP initiators to communicate through the Fibre Channel interface card(s). The value appears as restricted or non-restricted . Ports deny access by default. |
| default-lun-policy | Boolean value that indicates if new SRP initiators have immediate access to target LUNs. The value appears as restricted or non-restricted . ITLs restrict LUN access by default. |
| default-itl-hi-mark | The maximum number of requests that can be sent per logical unit. This value, an integer, falls between 1 and 256. This value defaults to 16. |
| default-itl-max-retry | Number of times an initiator may send the same I/O to a logical unit. Increase the value (with the fc srp-global command) if you expect heavy traffic, or increase the default-itl-min-io-timeout value. The value, an integer, falls between 1 and 100. The value defaults to 5. |
| default-itl-min-io-timeout | Maximum amount of time for a logical unit to accept I/O traffic. Increase this value if you use a known slow connection or increase the default-itl-max-retry value. The value, an integer, falls between 1 and 1800. The value defaults to 10 seconds. |

Table 6-39: show fc srp-global command Field Descriptions (Continued)

| Field | Description |
|---|---|
| default-itl-dynamic-path-affinity | Boolean value that indicates if the system maintains a preference for a specific path. If the number of outstanding I/O requests becomes excessive, or the path fails, the ITL uses an alternative path. |
| default-itl-dynamic-gateway-port-load-balancing | Boolean value that indicates if data may be sent between the initiator and Fibre Channel target using both ports on the Topspin gateway interface. Port selection occurs based upon comparative I/O traffic. The controller attempts to distribute traffic equally between the ports. This feature runs by default. |
| default-itl-dynamic-gateway-port-failover | Boolean value that indicates if the controller may select an alternate gateway interface port if the primary path fails. This feature does not run by default. |
| default-seq-itl-hi-mark | Shows the default of the I/O high mark for a sequential device. Specify this value with the fc srp-global itl command. |
| default-seq-itl-max-retry | Shows the default of the maximum number of retries for a sequential device. Specify this value with the fc srp-global itl command. |
| default-seq-itl-min-io-timeout | Shows the default of the maximum number of retries for a sequential device. Specify this value with the fc srp-global itl command. |
| default-seq-itl-dynamic-path-affinity | Shows the default of the dynamic path affinity setting for a sequential device. Specify this value with the fc srp-global itl command. |
| default-seq-itl-dynamic-load-balancing | Shows the default of the dynamic path affinity setting for a sequential device. Specify this value with the fc srp-global itl command. |
| default-seq-itl-dynamic-gateway-port-failover | Boolean value that indicates if the controller may select an alternate storage port if the primary path fails. This feature does not run by default. |

Examples:

The following example displays the default attributes of new ITLs:

```
Topspin-360# show fc srp-global

=====
                        SRP Global Information
=====
                        default-gateway-portmask-policy : restricted
                        default-lun-policy : restricted
                        default-itl-hi-mark : 16
                        default-itl-max-retry : 5
                        default-itl-min-io-timeout : 10
                        default-itl-dynamic-path-affinity : false
default-itl-dynamic-gateway-port-load-balancing : true
default-itl-dynamic-gateway-port-failover : false
                        default-seq-itl-hi-mark : 1
                        default-seq-itl-max-retry : 1
                        default-seq-itl-min-io-timeout : 60
default-seq-itl-dynamic-path-affinity : false
default-seq-itl-dynamic-gateway-port-load-balancing : false
default-seq-itl-dynamic-gateway-port-failover : true
```

Defaults:

See [Table 6-39](#) for defaults.

Related Commands:

[“fc srp-global gateway-portmask-policy restricted” on page 99](#)

[“fc srp-global itl” on page 100](#)

[“fc srp-global lun-policy restricted” on page 103](#)

show host

Synopsis:

To display the DNS name servers and domain name that your Server Switch uses, enter the **show host** command in User Exec mode or Privileged Exec mode.

Syntax:

show host

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Fibre Channel read-only user.

Usage Guidelines:

Use this command to display the network domain of the chassis and the DNS servers that your Server Switch uses to resolve network names to IP addresses.

[Table 6-40](#) lists and describes the fields in the **show host** command output.

Table 6-40: show host Command Field Descriptions

| Field | Description |
|-----------------|--|
| name-server-one | IP address of the primary name server. |
| name-server-two | IP address of the backup name server. |
| domain-name | Host name of the Server Switch. |

Examples:

The following example displays the IP addresses of the DNS servers that the Server Switch uses to resolve host names.

```
Topspin-360# show host
=====
                        Host Information
=====
name-server-one  : 10.3.106.20
name-server-two  : 0.0.0.0
domain-name      : shasta
Topspin-360#
```

Defaults:

No default behavior or values.

Related Commands:

[“hostname” on page 42](#)

[“ip” on page 120](#)

show ib dm ioc

Synopsis:

To display the Device Manager input/output controller (IOC) configuration, enter the **show ib dm ioc** command in User Exec mode or Privileged Exec mode.

Syntax:

show ib dm ioc [*ioc-guid* | **all**] [**services**]

Table 6-41: show ib dm ioc Command Arguments

| Argument | Description |
|-----------------|---|
| <i>ioc-guid</i> | GUID of the controller that you want to view. |
| all | Displays all controllers on the IB fabric. |
| services | Displays the services that run on the IOC(s). |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

[Table 6-42](#) describes the fields in the **show ib dm ioc** command output.

Table 6-42: show ib dm ioc Command Field Descriptions

| Field | Description |
|---------------------|--|
| guid | GUID of the controller |
| description | User-assigned description. |
| vendor-id | Organization Unique Identifier (OUI) of the vendor. |
| ioc-device-id | Vendor-assigned device identifier. |
| device-version | Vendor-assigned device version. |
| subsystem-vendor-id | Vendor-assigned subsystem vendor identifier |
| subsystem-id | Vendor-assigned subsystem identifier. |
| io-class | I/O class that the IOC supports. |
| io-subclass | Subclass of the I/O class protocol of the IOC. |
| protocol | Standard protocol definition that the IOC supports. |
| protocol-version | Protocol version that the IOC supports. |
| send-msg-q-depth | Maximum number of messages that the send message queue supports. |
| rdma-read-q-depth | Maximum depth of the per-channel RDMA Read Queue. |
| send-msg-size | Maximum size, in bytes, of send messages. |
| rdma-transfer-size | Maximum size, in bytes, of outbound RDMA transfers that the IOC initiates. |

Table 6-42: show ib dm ioc Command Field Descriptions (Continued)

| Field | Description |
|-------------------|--|
| controller-op-cap | Integer value (from 8 cumulative bits) between 1 and 255 that represents the operation type(s) that the IOC supports. <ul style="list-style-type: none"> • bit 0: ST; Send Messages To IOCs • bit 1: SF; Send Messages From IOCs • bit 2: RT; RDMA Read Requests To IOCs • bit 3: RF; RDMA Read Requests From IOCs • bit 4: WT; RDMA Write Requests To IOCs • bit 5: WF; RDMA Write Requests From IOCs • bit 6: AT; Atomic Operations To IOCs • bit 7: AF; Atomic Operations From IOCs |
| service-entries | Number of services that the IOC provides. |

[Table 6-43](#) describes the fields in the services keyword output.

Table 6-43: services Keyword Display Output

| Field | Description |
|--------------|--|
| ioc-guid | GUID of the node that provides the service. |
| service-name | ASCII identifier of the service. |
| service-id | Numeric identifier that nodes use to call the service. |

Examples:

The following example displays the configuration of all IOCs on the fabric.

```
Topspin-360> show ib dm ioc
```

```
=====
                        IB Device Manager I/O Controller
=====
                        guid: 00:05:ad:00:00:00:14:fe
                        description:
                        vendor-id: 0x5ad
                        ioc-device-id: 0x5ad
                        device-version: 1
                        subsystem-vendor-id: 0x5ad
                        subsystem-id: 0x5ad
                        io-class: 256
                        io-subclass: 24734
                        protocol: 264
                        protocol-version: 1
                        send-msg-q-depth: 65535
                        rdma-read-q-depth: 65535
                        send-msg-size: -1
                        rdma-transfer-size: -1
                        controller-op-cap: 255
                        service-entries: 14
```

The following example displays all of the services on all of the IOCs in the fabric (output abridged).

```
Topspin-360> show ib dm ioc services
```

```
=====
                        IB Device Manager Services
=====
                        ioc-guid: 00:05:ad:00:00:00:14:fe
                        service-name: SRP.T10:2200000C5002CA21
                        service-id: 00:00:00:00:00:00:00:66

                        ioc-guid: 00:05:ad:00:00:00:14:fe
                        service-name: SRP.T10:2200000C50056281
                        service-id: 00:00:00:00:00:00:00:66
```

Defaults:

No default behavior or values.

Related Commands:

[“show ib dm iou” on page 184](#)

show ib dm iou

Synopsis:

To display the Device Manager input/output unit (IOU) configuration, enter the **show ib dm iou** command in User Exec mode or Privileged Exec mode.

Syntax:

show ib dm iou

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

[Table 6-44](#) describes the fields in the **show ib dm** command output.

Table 6-44: show ib dm Command Output Fields

| Field | Description |
|-----------------|--|
| change-id | Cumulative number of changes to the controller list since the device last booted. |
| max-controllers | Maximum number of controllers that your device can support. |
| diag-device-id | Displays 1 if diagnostics can provide IOC details, otherwise displays 0 . |
| option-rom | Indicates the presence or absence of Option ROM. |
| controllers | Lists each slot on your Server Switch that can potentially contain a controller and identifies whether or not a controller resides in that slot. |

Examples:

The following example displays the DM I/O details for the Server Switch.

```
Topspin-360> show ib dm iou
```

```
=====
                        IB Device Manager I/O Unit
=====
                        change-id: 2352
                        max-controllers: 1
                        diag-device-id: 0
                        option-rom: absent
                        controllers: slot-1 IOC present
```

Defaults:

No default behavior or values.

Related Commands:

[“show ib dm ioc” on page 181](#)

show ib sm configuration

Synopsis:

To display information about the subnet managers on your InfiniBand fabric, enter the **show ib sm configuration** command in User Exec mode or Privileged Exec mode.

Syntax:

show ib sm configuration {**subnet-prefix** *prefix* | **all**} [**summary**]

Table 6-45: show ib sm configuration Command Syntax Description

| Syntax | Description |
|----------------------|--|
| subnet-prefix | Specifies the subnet prefix of the subnet manager that you want to view. |
| <i>prefix</i> | Subnet prefix of the subnet manager that you want to view. |
| all | Displays the attributes of all the subnet managers that are currently configured and running on the InfiniBand fabric. |
| summary | Displays an abridged form of the command output. The abridged information includes the subnet prefix, GUID, priority, and SM key of the subnet managers. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

[Table 6-46](#) describes the fields in the **show ib sm configuration** command output.

Table 6-46: show ib sm configuration Command Field Descriptions


| Field | Description |
|---------------|---|
| subnet-prefix | 64-bit value used that identifies the InfiniBand subnet. This is a unique subnet identifier and joins with the GUID to form the global identifier (GID) of the port. All GIDs within a subnet have the same subnet prefix. |
| guid | GUID of this subnet manager. |
| priority | User-assigned priority for this subnet manager. You must enter an integer between 0 and 15. The value defaults to 10.  NOTE: When the chassis boots, the SM priority defaults to 10. When you add the SM manually, the priority defaults to 0. |
| sm-key | 64-bit subnet management key assigned to the subnet manager. The sm-key defaults to 00:00:00:00:00:00:00:00. The SM key serves as the prefix of all GIDs and “brands” nodes as members of this subnet. |

Table 6-46: show ib sm configuration Command Field Descriptions (Continued)

| Field | Description |
|----------------------|---|
| admin-status | Administrative status of the subnet manager. The value appears as enable or disable . Disabling a subnet manager places it in an inactive state but leaves it intact in the configuration. The Server Switch enables subnet managers by default. |
| oper-status | Operational status of the subnet manager. Self-detection determines this status. The value appears as notActive , discovering , standby , or master . If notActive appears, the subnet manager has not been enabled or has been disabled. The discovering output appears when the subnet manager sweeps the fabric. If standby appears, the SM serves as a slave subnet manager. If only one subnet manager runs on the fabric, it serves as the master . |
| act-count | Activity counter that increments each time the subnet manager issues an subnet management packet (SMP) or performs other management activities. |
| status | Status of the subnet manager. It appears as active or inactive . If active , it is actively managing subnets. If inactive , it is not managing subnets. |
| master-poll-interval | Interval at which the slave SM polls the master to see if the master is still alive. |
| master-poll-retries | Number of unanswered polls that cause the slave to identify the master as dead. |
| max-active-sms | Maximum number of standby SMs that the master supports. |
| LID-mask-control | Number of path bits present in the base LID to each channel adapter port. Increasing the LMC value increases the number of LIDs assigned to each port to increase the number of potential paths to reach each port. |

Examples:

The following example shows the detailed configuration of a subnet manager.

```
Topspin-360# show ib sm configuration subnet-prefix fe:80:00:00:00:00:00:00
```

```
=====
                        Subnet Manager Information
=====
subnet-prefix : fe:80:00:00:00:00:00:00
  guid       : 00:05:ad:00:00:01:1e:82
  priority   : 10
  sm-key     : 00:00:00:00:00:00:00:00
  admin-status : enable
  oper-status : standby
  act-count   : 38692
  status      : active
  sweep-interval : 10
  response-timeout : 400
  master-poll-interval : 3
  master-poll-retries : 2
  max-active-sms : 0
  LID-mask-control : 0
```

The following example shows the summary configuration of a subnet manager.

```
Topspin-360# show ib sm configuration subnet-prefix fe:80:00:00:00:00:00:00 summary

=====
Subnet Manager Configuration Summary
=====
subnet-prefix          guid                priority sm-key
-----
fe:80:00:00:00:00:00:00 00:05:ad:00:00:01:1e:82 10          00:00:00:00:00:00:00:00
```

Defaults:

No default behavior or values.

Related Commands:

- [“ib sm” on page 108](#)
- [“ib-agent” on page 111](#)
- [“show ib-agent switch” on page 220](#)
- [“interface” on page 45](#)
- [“name” on page 56](#)

show ib sm db-sync

Synopsis:

To display subnet manager synchronization information, enter the **show ib sm db-sync** command in User Exec mode or Privileged Exec mode.

Syntax:

show ib sm db-sync subnet-prefix {*prefix* | **all**}

Table 6-47: show ib sm db-sync Command Arguments

| Argument | Description |
|----------------------|---|
| subnet-prefix | Specifies the subnet prefix of the subnet manager whose sync status you want to view. |
| <i>prefix</i> | Prefix of the subnet manager whose sync status you want to view. |
| all | Displays sync data for all SMs on the fabric. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Exec mode, Privileged Exec mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

Use this command to determine

- If the database of the master subnet manager synchronizes with one or more standby databases.
- The frequency with which the databases synchronize.

Table 6-48: show ib sm db-sync Command Field Descriptions

| Field | Description |
|-------------------|--|
| subnet-prefix | Subnet prefix of the subnet whose synchronization information you want to view. |
| enable | Displays true if an administrator has enabled synchronization, otherwise displays false . |
| max-backup-sms | The maximum number of backup subnet managers that the master subnet manager supports. |
| session-timeout | The interval, in seconds, during which a synchronization session status MAD packet must arrive at the master SM to maintain synchronization. |
| poll-interval | Interval at which the master SM polls an active slave SM to verify synchronization. |
| cold-sync-timeout | Maximum amount of time in which SMs can perform a cold sync. During the cold sync, the master SM copies all out-of-sync tables to the standby. |
| cold-sync-limit | Maximum number of cold syncs that may take place during the cold sync period. |
| cold-sync-period | Length of the interval during which cold syncs may occur. |

Table 6-48: show ib sm db-sync Command Field Descriptions

| Field | Description |
|-------------------|---|
| new-session-delay | Amount of time that the master SM waits before it attempts to initiate a synchronization session with a new SM. |
| resync-interval | Specifies the interval at which the master SM sends a re-synchronization request to all active sync sessions. |
| state | Specifies whether or not the Subnet Manager is in sync with the backup. |

Examples:

the following example displays subnet manager synchronization information.

```
Topspin-270# show ib sm db-sync subnet-prefix fe:80:00:00:00:00:00:00
```

```
=====
Subnet Manager Database Synchronization Information
=====

subnet-prefix : fe:80:00:00:00:00:00:00
enable        : false
max-backup-sms : 1
session-timeout : 10
poll-interval  : 3
cold-sync-timeout : 10
cold-sync-limit : 2
cold-sync-period : 900
new-session-delay : 120
resync-interval : 3600
state         : not in-sync
```

Defaults:

No default behavior or values.

Related Commands:

[“ib sm db-sync” on page 106](#)

show ib sm multicast

Synopsis:

To display attributes of the multicast groups on your Server Switch, enter the **show ib sm multicast** command in User Exec or Privileged Exec mode.

Syntax:

show ib sm multicast {**subnet-prefix** *prefix* [**mgid** *multicast-group-GID*] [**summary**] | **summary**}

Table 6-49: show ib sm multicast Command Arguments

| Argument | Description |
|----------------------------|--|
| subnet-prefix | Specifies the subnet prefix of the subnet manager that you want to view. |
| <i>prefix</i> | Subnet prefix of the subnet manager that you want to view. |
| mgid | Specifies the global identifier (GID) of the multicast group. |
| <i>multicast-group-GID</i> | Global identifier (GID) of the multicast group. |
| summary | Displays an abridged form of the data. The abridged information includes the subnet prefix, GUID, priority, and SM key of the subnet managers. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

Troubleshoot with this command when a host does not receive a broadcast packet. Use this command to verify that the multicast group includes the host. The subnet manager dynamically configures all multicast groups.

[Table 6-50](#) describes the fields in the **show ib sm configuration** command output.

Table 6-50: show ib sm multicast Command Field Descriptions

| Field | Description |
|-------------------|--|
| subnet-prefix | Subnet prefix of the subnet manager. |
| MGID | Multicast group identifier. |
| port-GID | GID of a port that belongs to the multicast group. |
| member-join-state | Type of membership that the member has in the multicast group. Members qualify as full members, non-members, or send-only members. |
| proxy-join-status | This field displays false except for trusted requests. For details, refer to <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1. |

Examples:

The following example displays a summary of the multicast groups on the Server Switch.

```
Topspin-360# show ib sm multicast summary
=====
                Summary of Multicast-Groups on Device
=====
subnet-prefix  : fe:80:00:00:00:00:00:00
                MGID : ff:12:40:1b:ff:f1:00:00:00:00:00:00:ff:ff:ff:ff

multicast-group-members :
    port-GID : fe:80:00:00:00:00:00:00:00:05:ad:00:00:00:12:bf
member-join-state : full-member
proxy-join-status : false
```

Defaults:

No default behavior or values.

Related Commands:

[“ib sm” on page 108](#)

show ib sm neighbor

Synopsis:

To display the InfiniBand devices that directly connect to your Server Switch, enter the **show ib sm neighbor** command in User Exec mode or Privileged Exec mode.

Syntax:

show ib sm neighbor

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

[Table 6-51](#) describes the fields in the **show ib sm neighbor** command output.

Table 6-51: show ib sm neighbor Command Field Descriptions

| Field | Description |
|-------------------|--|
| subnet-prefix | 64-bit value that identifies the InfiniBand subnet to which this neighbor node belongs. |
| local-node-guid | 64-bit GUID of the InfiniBand node. |
| local-port-id | Port ID of the InfiniBand node. You must enter an integer between 0 and 255. |
| local-node-type | Type of the InfiniBand node. The value appears as channel-adapter, switch, or router. |
| remote-node-guid | 64-bit GUID of the neighboring InfiniBand node to which the local node links. |
| remote-port-id | Port ID of the neighboring InfiniBand node to which the local node links. You must enter an integer between 0 and 255. |
| remote-node-type | Type of the neighboring InfiniBand node. The value appears as channel-adapter, switch, or router. |
| link-stat | State of the link between the local and neighboring nodes. The value appears as noStateChange, down, initialize, armed, or active. |
| link-width-active | Active link width. This parameter, with LinkSpeedActive, determines the link rate between the two connected nodes. The value appears as width1x, width4x, or width12x. |

Examples:

The following example displays the GUIDs that connect to your Server Switch and the GUIDs within your Server Switch.



NOTE: Truncated output appears here.

```
Topspin-360# show ib sm neighbor
```

```
=====
                        Subnet Management Neighbors
=====
    subnet-prefix   : fe:80:00:00:00:00:00:00
    local-node-guid  : 00:05:ad:00:00:00:11:97
    local-port-id    : 2
    local-node-type  : channel-adapter
    remote-node-guid  : 00:05:ad:00:00:00:13:da
    remote-port-id   : 1
    remote-node-type  : switch
    link-state       : active
    link-width-active : width4x
```

Defaults:

No default behavior or values.

Related Commands:

[“ib sm” on page 108](#)

show ib sm node

Synopsis:

To display the configuration and attributes of subnet management nodes in a subnet, enter the **show ib sm node** command in User Exec mode or Privileged Exec mode.

Syntax:

show ib sm node subnet-prefix *prefix* [**node-guid** *guid*] [**summary**]

Table 6-52: show ib sm node Command Arguments

| Argument | Description |
|----------------------|---|
| subnet-prefix | Specifies the subnet prefix of the nodes that you want to view. |
| <i>prefix</i> | Subnet prefix of the nodes that you want to view. |
| summary | Displays abridged command output. |
| node-guid | Specifies the GUID of an individual node that you want to view. |
| <i>guid</i> | GUID of an individual node that you want to view. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

All nodes that the subnet manager on your Server Switch actively manages qualify as subnet management nodes.

Use this command to display the configuration of all the nodes on a subnet, or to display the configuration of an individual node. The output may also be displayed in summary form. The summary comprises the subnet-manager prefix, the node GUID and type, and vendor identification.

[Table 6-53](#) describes the fields in the **show ib sm node** command output.

Table 6-53: show ib sm node Command Field Descriptions

| Field | Description |
|---------------|--|
| subnet-prefix | 64-bit value that identifies the InfiniBand subnet to which this node belongs. |
| node-guid | GUID of the node. |
| base-version | Supported base management datagram (MAD) version. Indicates that this channel adapter, switch, or router supports versions up to and including this version. See section 13.4.2, Management Datagram Format, in <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1, for more information. |
| class-version | Supported MAD class format version. Indicates that this channel adapter, switch, or router supports versions up to, and including, this version. |
| type | Type of node being managed. The value appears as channel adapter , switch , router , or error . An error entry indicates an unknown type. |
| num-ports | Number of physical ports on the node. |

Table 6-53: show ib sm node Command Field Descriptions (Continued)

| Field | Description |
|-------------------|--|
| port-guid | GUID of the port that connects the node to the Server Switch. A port within a node can return the node GUID as its PortGUID if the port serves as an integral part of the node and you cannot replace the port in the field (not swappable). |
| partition-cap | Capacity of entries in the partition table for channel adapter, router, and the switch management port. The value appears the same for all ports on the node. This defaults to at least 1 for all nodes including switches. You cannot configure this value. |
| device-id | Manufacturer-assigned device identification. |
| revision | Manufacturer-assigned device revision. |
| local-portnum | The link port number from which this subnet management packet (SMP) arrived. The value appears the same for all ports on the node. |
| vendor-id | Device vendor ID. The value appears the same for all ports on the node. |
| system-image-guid | GUID of an associated supervisory node. No supervisory node exists if the command output displays 00:00:00:00:00:00:00:00 . |

Examples:

The following example (output abridged) displays the configuration of all the nodes on all the subnets on the InfiniBand fabric.

```
Topspin-360# show ib sm node subnet-prefix fe:80:00:00:00:00:00:00
```

```
=====
                        Subnet Management Nodes
=====
subnet-prefix : fe:80:00:00:00:00:00:00
node-guid    : 00:00:2c:90:01:1b:ba:80
description  : swfc5 HCA-1 (Topspin HCA)
base-version : 1
class-version : 1
              type : channel adapter
num-ports    : 2
port-guid    : 00:00:2c:90:01:1b:ba:81
partition-cap : 64
device-id    : 0
revision     : 0
local-portnum : 1
vendor-id    : 00:2c:90
system-image-guid : 00:00:00:00:00:00:00:00

subnet-prefix : fe:80:00:00:00:00:00:00
node-guid    : 00:05:ad:00:00:00:13:da
description  : Topspin Switch - U1
base-version : 1
class-version : 1
              type : switch
num-ports    : 8
port-guid    : 00:05:ad:00:00:00:13:da
partition-cap : 32
device-id    : 0
revision     : 0
local-portnum : 6
vendor-id    : 00:05:ad
system-image-guid : 00:00:00:00:00:00:00:00
```

The following example displays a node configuration in summary form.

```
Topspin-90# show ib sm node subnet-prefix fe:80:00:00:00:00:00:00 node-guid
00:05:ad:00:00:00:13:80 summary
=====
                        Subnet Manager Node Summary
=====
subnet-prefix      node-guid      node-type      vendor-id
-----
fe:80:00:00:00:00:00:00 00:05:ad:00:00:00:13:80 channel adapter 00:05:ad
Topspin-90#
```

Defaults:

No default behavior or values.

Related Commands:

[“ib sm” on page 108](#)

show ib sm partition

Synopsis:

To display the partitions that the subnet manager on your Server Switch manages, enter the **show ib sm partition** command in User Exec mode or Privileged Exec mode.

Syntax:

show ib sm partition

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

In the output, **7f:ff** refers to the default partition, which cannot be altered. Members of partitions are identified by their Node GUID and port-number, as displayed below.

A single partition can have members that have full-membership, as well as members that have limited membership.

Refer to *HP 24-Port 4x Fabric Copper Switch User Guide* for more detailed partition information.

[Table 6-54](#) lists and describes the fields in the show ib sm partition command output.

Table 6-54: show ib sm partition Command Field Descriptions

| Field | Description |
|---------------|--|
| subnet-prefix | Subnet prefix of the subnet whose partitions you want to view. |
| p_key | Partition key of the partition whose members the display prints below. |
| node-guid | GUID of the node in the partition. |
| port-number | Port on the node that belongs to the partition. |
| member-type | Type of membership that an administrator assigned to the node, either full or limited. |

Examples:

The following example displays the configuration of all nodes on all subnets on the InfiniBand fabric.

```
Topspin-360# show ib sm partition
=====
                Partitions Managed By The Subnet Managers
=====
subnet-prefix  : fe:80:00:00:00:00:00:00
p_key         : 7f:ff

partition-members :
node-guid      : 00:05:ad:00:00:00:02:40
port-number    : 0
member-type    : full-member

node-guid      : 00:05:ad:00:00:00:02:42
port-number    : 0
member-type    : full-member
```

Defaults:

No default behavior or values.

Related Commands:

[“ib sm” on page 108](#)

show ib sm port

Synopsis:

To display all InfiniBand ports on the fabric, the nodes to which the ports belong, the capabilities of the ports, and the link statistics of the ports, enter the **show ib sm port** command in User Exec mode or Privileged Exec mode.

Syntax:

show ib sm port subnet-prefix *prefix* [**node-guid** *guid*] [**summary**]

Table 6-55: show ib sm port Command Arguments

| Argument | Description |
|----------------------|---|
| subnet-prefix | Specifies the subnet prefix of the subnet manager that manages the ports that you want to view. |
| <i>prefix</i> | Subnet prefix of the subnet manager that manages the ports that you want to view. |
| summary | Displays abridged command output. |
| node-guid | Specifies the GUID of an individual node whose ports you want to view. |
| <i>guid</i> | GUID of an individual node whose ports you want to view. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

Use this command to verify that all of the ports in your fabric came up when the SM initialized them. Port information may be reported for all the ports on a specific subnet or all the ports comprising a specific node. The output may also be displayed in summary form.

[Table 6-56](#) describes the fields in the **show ib sm port** command output.

Table 6-56: show ib sm port Command Field Descriptions

| Field | Description |
|---------------|--|
| subnet-prefix | 64-bit value that identifies the InfiniBand subnet to which this port belongs. |
| node-guid | 64-bit GUID of the node to which this port belongs. |
| if-index | Port number (integer) on the node (host). |
| mkey | 64-bit management key for this port. See section 14.2.4, Management Key and 3.5.3, Keys, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| gid-prefix | 64-bit GID prefix for this port. The subnet manager assigns this prefix based upon the port router and the rules for local identifiers. See section 4.1.3, Local Identifiers, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| lid | 16-bit base-LID of this port. |

Table 6-56: show ib sm port Command Field Descriptions (Continued)

| Field | Description |
|----------------------|---|
| master-sm-lid | 16-bit base LID of the master subnet manager managing this port. |
| cap-mask | The capability mask identifies the functions that the host supports. 32-bit bitmask that specifies the supported capabilities of the port. A bit value of 1 (one) indicates a supported capability. The bits are: 0, 11-15, 18, 21-31 (Reserved and always 0.), 1 IsSM, 2 IsNoticeSupported, 3 IsTrapSupported, 4 IsResetSupported, 5 IsAutomaticMigrationSupported, 6 IsSLMappingSupported, 7 IsMKeyNVRAM (supports M_Key in NVRAM), 8 IsPKeyNVRAM (supports P_Key in NVRAM), 9 Is LED Info Supported, 10 IsSMdisabled, 16 IsConnectionManagementSupported, 17 IsSNMPTunnelingSupported, 19 IsDeviceManagementSupported, 20 IsVendorClassSupported. Values are expressed in hexadecimal. |
| diag-code | 16-bit diagnostic code. See section 14.2.5.6.1 Interpretation of Diagcode, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. This field does not currently apply to your Server Switch. |
| mkey-lease-period | Initial value of the lease-period timer in seconds. The lease period is the length of time that the M_Key protection bits are to remain non-zero after a SubnSet (PortInfo) fails an M_Key check. After the lease period expires, clearing the M_Key protection bits allows any subnet manager to read (and then set) the M_Key. Set this field to 0 to indicate that the lease period never expires. Refer to <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, section 14.2.4, “Management Key.” |
| link-width-enabled | Enabled link width (bandwidth). The value (an integer) indicates the enabled link-width sets for this port. The value may be <ul style="list-style-type: none"> • 0 (no state change), • 1 (1x), • 2 (4x), • 3 (1x or 4x), • 8 (12x), • 9 (1x or 12x), • 10 (4x or 12x), • 11 (1x, 4x or 12x), • 255 (set this parameter to the link-width-supported value). |
| link-width-supported | Supported link width. The value appears as 1 (1x), 3 (1x or 4x), or 11 (1x, 4x, or 12x). |
| link-width-active | Active link width. Used in conjunction with LinkSpeedActive to determine the link rate between two nodes. The value appears as 1 (1x), 2 (4x), or 8 (12x). |
| link-speed-supported | Supported link speed. The value appears as 1 (2.5 Gbps). |
| state | A higher form of addressing than PhyState, state determines that the nodes can actually communicate and indicates the state transition that has occurred. A transition identifies a port change from down to initialize, initialize to down, armed to down, or active to down as a result of link state machine logic. Changes to the port state resulting from SubnSet have no affect on this parameter value. The value appears as noStateChange, down, initialize, armed, or active. |

Table 6-56: show ib sm port Command Field Descriptions (Continued)

| Field | Description |
|---------------------|--|
| phy-state | Indicates the physical state of the port. This determines that electricity flows between nodes and they can perform a handshake. The value appears as noStateChange, sleeping, polling, disabled, portConfigurationTraining, linkup, or linkErrorRecovery. The state, upon power-up, defaults to polling . |
| link-down-def-state | Default LinkDown state to return to. The value appears as noStateChange, sleeping, or polling. See section 5.5.2, Status Outputs (MAD GET), <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1, for more information. |
| mkey-prot-bits | Management key protection bits for the port. The bits are 0, 1, 2, and 3. See section 14.2.4.1, Levels of Protection, <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1, for more information. |
| lmc | Local-identifier mask control (LMC) for multipath support. A LMC resides on each channel adapter and router port on the subnet. It provides multiple virtual ports within a single physical port. The value of the LMC specifies the number of path bits in the LID. A value of 0 (zero) indicates one LID can apply to this port. See sections 3.5.10, Addressing, and 4.1.3, Local Identifiers, <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1, for more information. |
| link-speed-active | Speed of an active link. The value appears as 1 (2.5 Gbps). |
| link-speed-enabled | Maximum speed that the link can handle. The value appears as 0 (No state change), 1 (2.5 Gbps), or 3 (value derived from link-speed-supported). |
| neighbor-mtu | Active maximum transmission unit enabled on this port for transmit. Check the mtu-cap value at both ends of every link and use the lesser speed. The value appears as mtu256, mtu512, mtu1024, mtu2048, or mtu4096. |
| master-sm-SL | Administrative service level required for this port to send a non-SMP message to the subnet manager. |
| VL-cap | Maximum range of data virtual lanes supported by this port. The value appears as vl0, vl0ToVl1, vl0ToVl3, vl0ToVl7, or vl0ToVl14. See also oper-VL. Each port can support up to fifteen virtual lanes (VLs 0 - 15). The VL-cap field displays the range of those lanes (e.g. lanes 0 - 7) that the port currently supports. |
| VL-high-limit | Maximum high-priority limit on the number of bytes allowed for transmitting high-priority packets when both ends of a link operate with multiple data virtual-lanes. Used with the virtual-lane arbitration table. The maximum high-limit matches the vl-arb-high-cap on the other side of the link and then negotiating downward. |
| VL-arb-high-cap | Highest arbitration value allowed by the arbiter in determining the next packet in a set of packets to send across the link. Used with the virtual-lane arbitration table and specified as a VL/Weight pair. See section 14.2.5.9, VL Arbitration Table, <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1, for more information. |
| VL-arb-low-cap | Lowest arbitration value allowed by the arbiter in determining the next packet in a set of packets to send across the link. Used with the virtual-lane arbitration table and specified as a VL/Weight pair. See section 14.2.5.9, VL Arbitration Table, <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1, for more information. |

Table 6-56: show ib sm port Command Field Descriptions (Continued)

| Field | Description |
|----------------------------|--|
| mtu-cap | Used in conjunction with neighbor-mtu to determine the maximum transmission size supported on this port. The lesser of mtu-cap and neighbor-mtu determines the actual MTU used. The value appears as 256, 512, 1024, 2048, or 4096 |
| VL-stall-count | Number of sequentially dropped packets at which the port enters a VLStalled state. The virtual lane exits the VLStalled state (8 * HLL) units after entering it. See section 18.2.5.4, Transmitter Queuing, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for a description of HLL. |
| HOQ-life | Maximum duration allowed to packets at the head of a virtual-lane queue. Used with VL-stall-count to determine the outgoing packets to discard. |
| oper-VL | Administrative limit for the number of virtual lanes allowed to the link. Do not set this above the VL-cap value. The value appears as vl0, vl0-Vl1, vl0-Vl3, vl0-Vl7, or vl0-Vl14. |
| in-part-enforce | Boolean value that indicates whether or not to support optional partition enforcement for the packets received by this port. No default value applies. |
| out-part-enforce | Boolean value that indicates whether or not to support optional partition enforcement for the packets transmitted by this port. No default value applies. |
| in-filter-raw-pkt-enforce | Boolean value that indicates whether or not to support optional raw packet enforcement for the raw packets received by this port. No default value applies. |
| out-filter-raw-pkt-enforce | Boolean value that indicates whether or not to support optional raw packet enforcement for the raw packets transmitted by this port. No default value applies. |
| mkey-violation | Number of subnet management packets (SMPs) that have been received on this port with invalid M_Keys since initial power up or the last reset. See section 14.2.4, Management Key, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| pkey-violation | Number of subnet management packets that have been received on this port with invalid P_Keys since initial power up or the last reset. See section 9.2.7, partition key (P_KEY), <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| qkey-violation | Number of subnet management packets that have been received on this port with invalid Q_Keys since initial power up or the last reset. See section 10.2.4, Q Keys, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| guid-cap | Number of GUID entries allowed for this port in the port table. Any entries that exceed this value are ignored on write and read back as zero. See section 14.2.5.5, GUIDCap, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| subnet-timeout | Maximum propagation delay allowed for this port to reach any other port in the subnet. This value also affects the maximum rate at which traps can be sent from this port. Switch configuration affects delay. Requestors may use this parameter to determine the interval to wait for a response to a request. Duration matches (4.096 ms * 2^SubnetTimeout). |

Table 6-56: show ib sm port Command Field Descriptions (Continued)

| Field | Description |
|----------------------|---|
| resp-time | Maximum time allowed between the port reception of a subnet management packet and the transmission of the associated response. See section 13.4.6.2, Timers and Timeouts, <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1, for more information. |
| local-phy-error | Threshold at which ICRC, VCRC, FCCRC, and all physical errors result in an entry into the BAD PACKET or BAD PACKET DISCARD states of the local packet receiver. See section 7.12.2, Error Recovery Procedures, <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1, for more information. |
| local-overflow-error | Threshold at which the count of buffer overruns, across consecutive flow-control update periods, result in an overflow error. A possible cause of such errors is when an earlier packet has physical errors and the buffers are not immediately reclaimed. |

Examples:

The following example displays the details of the ports that the specified subnet manager manages.

```
Topspin-90> show ib sm port subnet-prefix fe:80:00:00:00:00:00
```

```
=====
                        Subnet Management Ports
=====
subnet-prefix : fe:80:00:00:00:00:00
node-guid    : 00:02:c9:01:07:e4:41:d0
if-index     : 1
mkey         : 00:00:00:00:00:00:00:00
gid-prefix   : fe:80:00:00:00:00:00:00
lid          : 2
master-sm-lid : 1
cap-mask     : 00:10:02:48
diag-code    : 10:26
mkey-lease-period : 15
link-width-enabled : 3
link-width-supported : 3
link-width-active : 2
link-speed-supported : 1
state        : active
phy-state    : no state change
link-down-def-state : polling
mkey-prot-bits : 0
lmc          : 0
link-speed-active : 1
link-speed-enabled : 1
neighbor-mtu   : 2048
master-sm-SL   : 0
VL-cap        : vl0-vl7
VL-high-limit  : 0
VL-arb-high-cap : 8
VL-arb-low-cap : 8
mtu-cap       : 2048
VL-stall-count : 16
HOQ-life      : 7
oper-VL       : vl0-vl7
in-part-enforce : false
out-part-enforce : false
in-filter-raw-pkt-enf : false
out-filter-raw-pkt-enf : false
mkey-violation : 0
pkey-violation : 0
qkey-violation : 0
guid-cap      : 32
subnet-timeout : 8
resp-time     : 8
local-phy-error : 0
local-overflow-error : 0
```

The following example displays a summary of the ports that the specified subnet manager manages.

```
Topspin-90> show ib sm port subnet-prefix fe:80:00:00:00:00:00:00 summary
```

```
=====
Subnet Manager Port Summary
=====
```

| subnet-prefix | node-guid | if-index | lid | state |
|-------------------------|-------------------------|----------|-----|--------|
| fe:80:00:00:00:00:00:00 | 00:02:c9:01:07:e4:41:d0 | 1 | 2 | active |
| fe:80:00:00:00:00:00:00 | 00:02:c9:01:07:e4:41:d0 | 2 | 3 | active |
| fe:80:00:00:00:00:00:00 | 00:02:c9:01:07:e4:57:b0 | 1 | 6 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:60 | 0 | 1 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:60 | 1 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:60 | 2 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:60 | 3 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:60 | 4 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:60 | 5 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:60 | 6 | 0 | down |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:60 | 7 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:60 | 8 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:62 | 0 | 4 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:62 | 1 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:62 | 2 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:62 | 3 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:62 | 4 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:62 | 5 | 0 | down |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:62 | 6 | 0 | down |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:62 | 7 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:62 | 8 | 0 | down |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:64 | 0 | 5 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:64 | 1 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:64 | 2 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:64 | 3 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:64 | 4 | 0 | active |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:64 | 5 | 0 | down |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:64 | 6 | 0 | down |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:64 | 7 | 0 | down |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:1c:64 | 8 | 0 | down |
| fe:80:00:00:00:00:00:00 | 00:05:ad:00:00:01:29:8f | 1 | 7 | active |

```
Topspin-90>
```

Defaults:

No default behavior or values.

Related Commands:

[“ib sm” on page 108](#)

[“show ib sm configuration” on page 185](#)

[“show ib sm multicast” on page 190](#)

[“show ib sm neighbor” on page 192](#)

[“show ib sm partition” on page 197](#)

[“show ib sm port” on page 199](#)

show ib sm service

Synopsis:

To display services on your subnet, enter the **show ib sm service** command in User Exec mode or Privileged Exec mode.

Syntax:

show ib sm service [**subnet-prefix** {*prefix* | **all**} [**p_key** *pkey* | **service-gid** *GID* | **service-id** *ID*]]
[**summary**]

Table 6-57: show ib sm service Command Arguments

| Argument | Description |
|----------------------|---|
| subnet-prefix | Specifies the subnet prefix of the subnet managers that you want to display. |
| <i>prefix</i> | Subnet prefix of the subnet managers that you want to display. |
| all | Specifies all subnet prefixes on your IB network. |
| p_key | Specifies a partition whose nodes run services that you want to view. |
| <i>pkey</i> | Partition that contains nodes that run services that you want to view. |
| service-gid | Specifies the GID of the service (the GID of the node that provides the service). |
| <i>GID</i> | GID of the service (node). |
| service-id | Specifies the ID of the service to display. |
| <i>ID</i> | ID of the service to display. |
| summary | Displays a summarized version of the command output. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

Services represent actions or functions that a node can perform across the network at the request of another node. Nodes register their services with the subnet manager so other nodes can discover and use these services. The GID of a service matches the GID of the host that provides the service.

Switch information may be reported for all the switches on a specific subnet or for a specific switch. The output may also be displayed in summary form.

[Table 6-58](#) lists and describes the fields in the **show ib sm service** command output.

Table 6-58: show ib sm service Command Field Descriptions

| Field | Description |
|---------------|-------------------------------|
| subnet-prefix | Subnet prefix of the service. |
| service-id | Service ID of the service. |
| GID | GID of the service. |
| p_key | Partition key of the service. |

Table 6-58: show ib sm service Command Field Descriptions (Continued)

| Field | Description |
|--------------|---|
| lease | |
| service-key | |
| service-name | Name of the service. |
| service-data | Header of the data types: 8, 16,. 32, and 64. |
| data-8 | |
| data-16 | |
| data-32 | |
| data-64 | |

Examples:

The following example displays the services on the Server Switch.

```
Topspin-120# show ib sm service subnet-prefix fe:80:00:00:00:00:00
```

```
=====
                        Summary of Services on Device
=====
subnet-prefix : fe:80:00:00:00:00:00:00
service-id    : 10:00:0c:e1:00:41:54:53
      GID     : fe:80:00:00:00:00:00:00:02:c9:02:00:00:24:41
p_key        : ff:ff
lease        : indefinite
service-key   : 00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
service-name  : DAPL Address Translation Service
service-data  :
      data-8   : 00:00:00:00:00:00:00:00:00:00:00:c0:a8:01:02
      data-16  : 0000:0000:0000:0000:0000:0000:0000:0000
      data-32  : 00000000:00000000:00000000:00000000
      data-64  : 0000000000000000:0000000000000000

subnet-prefix : fe:80:00:00:00:00:00:00
service-id    : 10:00:0c:e1:00:41:54:53
      GID     : fe:80:00:00:00:00:00:00:02:c9:02:00:00:24:7d
p_key        : ff:ff
lease        : indefinite
service-key   : 00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
service-name  : DAPL Address Translation Service
service-data  :
      data-8   : 00:00:00:00:00:00:00:00:00:00:00:c0:a8:01:01
      data-16  : 0000:0000:0000:0000:0000:0000:0000:0000
      data-32  : 00000000:00000000:00000000:00000000
      data-64  : 0000000000000000:0000000000000000
```

The following example displays a summary of the services on the Server Switch.

```
Topspin-120# show ib sm service subnet-prefix fe:80:00:00:00:00:00 summary

=====
                        Summary of Services on Device
=====
subnet-prefix : fe:80:00:00:00:00:00:00
service-id    : 10:00:0c:e1:00:41:54:53
               GID : fe:80:00:00:00:00:00:00:00:02:c9:02:00:00:24:41
service-data  :
data-8        : 00:00:00:00:00:00:00:00:00:00:00:00:00:c0:a8:01:02
data-16       : 0000:0000:0000:0000:0000:0000:0000:0000:0000
data-32       : 00000000:00000000:00000000:00000000
data-64       : 0000000000000000:0000000000000000

subnet-prefix : fe:80:00:00:00:00:00:00
service-id    : 10:00:0c:e1:00:41:54:53
               GID : fe:80:00:00:00:00:00:00:00:02:c9:02:00:00:24:7d
service-data  :
data-8        : 00:00:00:00:00:00:00:00:00:00:00:00:00:c0:a8:01:01
data-16       : 0000:0000:0000:0000:0000:0000:0000:0000:0000
data-32       : 00000000:00000000:00000000:00000000
data-64       : 0000000000000000:0000000000000000
```

Defaults:

No default behavior or values.

Related Commands:

- [“ib sm” on page 108](#)
- [“show ib sm configuration” on page 185](#)
- [“show ib sm multicast” on page 190](#)
- [“show ib sm neighbor” on page 192](#)
- [“show ib sm partition” on page 197](#)
- [“show ib sm port” on page 199](#)

show ib sm switch

Synopsis:

To display the attributes of all IB switches in your fabric (for debug purposes), enter the **show ib sm switch** command in User Exec mode or Privileged Exec mode.

Syntax:

show ib sm switch {**subnet-prefix** *prefix* | **all**} [**node-guid** *guid*][**summary**]

Table 6-59: show ib sm switch Command Arguments

| Argument | Description |
|----------------------|--|
| subnet-prefix | Specifies the subnet prefix of the subnet managers that you want to view. |
| <i>prefix</i> | Subnet prefix of the subnet managers that you want to view. |
| all | Displays the attributes of all subnet managers that run on your IB fabric. |
| node-guid | Specifies the GUID of the switch that you want to view. |
| <i>guid</i> | GUID of the switch that you want to view. |
| summary | Displays a summarized version of the command output. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

Switch information may be reported for all the switches on a specific subnet or all the switches comprising a specific node. The output may also be displayed in summary form.

[Table 6-60](#) lists and describes the fields in the **show ib sm switch** command output.

Table 6-60: show ib sm switch Command Field Descriptions

| Field | Description |
|----------------|--|
| subnet-prefix | 64-bit value that identifies the InfiniBand subnet to which this node belongs. |
| node-guid | 64-bit GUID of the node. |
| linear-fdb-cap | Maximum number of entries allowed in the linear unicast forwarding table. 0 (zero) indicates the absence of a linear forwarding database. |
| random-fdb-cap | Maximum number of entries allowed in the random unicast forwarding table. 0 (zero) indicates an absence of a random forwarding database. |
| mcast-fdb-cap | Maximum number of entries allowed in the multicast forwarding table. |
| linear-fdb-top | Specifies the top of the linear forwarding table. Packets received with unicast LIDs greater than this value are discarded by the switch. This parameter applies only to switches that implement linear forwarding tables. Switches that implement random forwarding tables ignore this parameter. |

Table 6-60: show ib sm switch Command Field Descriptions (Continued)

| Field | Description |
|------------------------|--|
| default-port | Specifies the default port to which to forward all the unicast packets from other ports whose destination location ID (DLID) does not exist in the random forwarding table. |
| default-pri-mcast-port | Specifies the default port to which to forward all the multicast packets from other ports whose DLID does not exist in the multicast forwarding table. |
| def-non-pri-mcast-port | Specifies the port to which to forward all the multicast packets from default-pri-mcast-port whose DLID does not exist in the multicast forwarding table. |
| life-time-value | Specifies the duration a packet can live in the switch. Time units are in milliseconds. See section 18.2.5.4, Transmitter Queueing, <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1, for more information. |
| port-state-change | Indicates a change in port state. The value changes from NotInTransition to PortInTransition anytime the State parameter of a port changes from down to initialize, initialize to down, armed to down, or active to down, as a result of link state machine logic. |
| lid-per-port | Number of LID/LMC combinations that may be assigned to a given external port for switches that support the random forwarding table. This value is always 0. 0 indicates one LID per port. |
| partition-enf-cap | Number of entries in this partition enforcement table per physical port. 0 (zero) indicates that the Server Switch does not support partition enforcement. |
| in-enf-cap | Indicates if the switch can enforce partitions on received packets. The value appears as true or false. |
| out-enf-cap | Indicates if the Server Switch can enforce partitions on transmitted packets. The value appears as true or false. |
| in-filter-raw-pkt-cap | Indicates if the Server Switch can enforce raw packets on received packets. The value appears as true or false. |
| out-filter-raw-pkt-cap | Indicates if the switch enforces raw packets on transmitted packets. The value appears as true or false. |

Examples:

The following example displays attributes of the IB switch with a guid of 00:05:ad:00:00:00:13:81.

```
Topspin-90# show ib sm switch subnet-prefix fe:80:00:00:00:00:00:00 node-guid
00:05:ad:00:00:00:13:81
=====
Subnet Management Switches
=====
subnet-prefix : fe:80:00:00:00:00:00:00
node-guid : 00:05:ad:00:00:00:13:81
linear-fdb-cap : 49152
random-fdb-cap : 0
mcast-fdb-cap : 1024
linear-fdb-top : 1024
default-port : 255
def-pri-mcast-port : 255
def-non-pri-mcast-port : 255
life-time-value : 11
port-state-change : port in transition
lid-per-port : 0
partition-enf-cap : 64
in-enf-cap : false
out-enf-cap : false
in-filter-raw-pkt-cap : true
out-filter-raw-pkt-cap : true
Topspin-90#
```

The following example displays the switches of a subnet in summary form.

```
Topspin-90# show ib sm switch subnet-prefix fe:80:00:00:00:00:00:00 summary
=====
Subnet Manager Switch Summary
=====
subnet-prefix      node-guid
-----
fe:80:00:00:00:00:00:00 00:05:ad:00:00:00:13:7f
fe:80:00:00:00:00:00:00 00:05:ad:00:00:00:13:81
fe:80:00:00:00:00:00:00 00:05:ad:00:00:00:13:83
fe:80:00:00:00:00:00:00 00:05:ad:00:00:00:13:85
fe:80:00:00:00:00:00:00 00:05:ad:00:00:00:13:87
fe:80:00:00:00:00:00:00 00:05:ad:00:00:00:13:89
Topspin-90#
```

Defaults:

No default behavior or values.

Related Commands:

- [“ib sm” on page 108](#)
- [“show ib sm configuration” on page 185](#)
- [“show ib sm multicast” on page 190](#)
- [“show ib sm neighbor” on page 192](#)
- [“show ib sm partition” on page 197](#)
- [“show ib sm port” on page 199](#)

show ib sm switch-elem-route

Synopsis:

To display the SM route switch element table, enter the **show ib sm switch-elem-route** command in User Exec mode or Privileged Exec mode.

Syntax:

show ib sm switch-elem-route subnet-prefix {*prefix* [**src-lid** *srclid* **dst-lid** *dstlid*] | **all**}
[**summary**]

Table 6-61: show ib sm switch-route Command Arguments

| Argument | Description |
|----------------------|---|
| subnet-prefix | Specifies the subnet prefix of the route. |
| <i>prefix</i> | Subnet prefix of the route. |
| src-lid | Specifies the source LID of the route. |
| <i>srclid</i> | Source LID of the route. |
| dst-lid | Specifies the destination LID of the route. |
| <i>dstlid</i> | Destination LID of the route. |
| all | Specifies all routes in the subnet. |
| summary | Displays fewer output fields. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

This command displays the internal ports through which traffic enters and exits the Server Switch as it travels from the source LID to the destination LID.

[Table 6-62](#) lists and describes the field of this command output.

Table 6-62: show ib sm switch-elem-route Command Output Field Descriptions

| Field | Description |
|---------------|-------------------------------|
| chassis-GUID | Chassis that runs the route. |
| input-port | Input port of the route. |
| output-port | Output port of the route. |
| subnet-prefix | Subnet prefix of the route. |
| src-lid | Source LID of the route. |
| dst-lid | Destination LID of the route. |
| last-change | Last change to the route. |

Examples:

The following example displays the SM route switch element table for one source and destination.

```
Topspin-360# show ib sm switch-elem-route subnet-prefix fe:80:00:00:00:00:00:00 src-lid
858 dst-lid 857
```

```
=====
SM Route Switch Element Table by Subnet w/ Src and Dest LID
=====
subnet-prefix : fe:80:00:00:00:00:00:00
src-lid       : 858
dst-lid       : 857
chassis-GUID  : 00:05:ad:00:00:00:03:00
input-port    : 0/7
output-port   : 0/8

last-change   : Sun Jul 13 20:32:00 1930
```

The following example displays a summary of the SM route switch element table for one source and destination.

```
Topspin-360# show ib sm switch-elem-route subnet-prefix fe:80:00:00:00:00:00:00 src-lid
889 dst-lid 9 summary
```

```
=====
Summary of SM Route Switch Element Table by Subnet w/ Src and Dest LID
=====
subnet-prefix : fe:80:00:00:00:00:00:00
src-lid       : 1
dst-lid       : 1
last-change   : Tue Jan 27 22:51:56 2004
```

Defaults:

No default behavior or values.

Related Commands:

[“ib sm” on page 108](#)

show ib sm switch-route

Synopsis:

The complete path that traffic takes through the IB fabric from the source LID to the destination LID, enter the **show ib sm switch-route** command in User Exec mode or Privileged Exec mode.

Syntax:

show ib sm switch-route subnet-prefix {*prefix* [**src-lid** *srclid* **dst-lid** *dstlid*] | **all**} [**summary**]

Table 6-63: show ib sm switch-route Command Arguments

| Argument | Description |
|----------------------|---|
| subnet-prefix | Specifies the subnet prefix of the route. |
| <i>prefix</i> | Subnet prefix of the route. |
| src-lid | Specifies the source LID of the route. |
| <i>srclid</i> | Source LID of the route. |
| dst-lid | Specifies the destination LID of the route. |
| <i>dstlid</i> | Destination LID of the route. |
| all | Specifies all routes in the subnet. |
| summary | Displays fewer output fields. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

This command displays the ports within Server Switches through which traffic travels from a source LID to a destination LID.

[Table 6-64](#) lists and describes the fields in the command output.

Table 6-64: show ib sm switch-route Command Output Field Descriptions

| Field | Description |
|---------------|-------------------------------|
| node-GUID | Node that runs the route. |
| input-port | Input port of the route. |
| output-port | Output port of the route. |
| subnet-prefix | Subnet prefix of the route. |
| src-lid | Source LID of the route. |
| dst-lid | Destination LID of the route. |
| last-change | Last change to the route. |

Examples:

The following example displays the switch route for one source/destination LID pair.

```
Topspin-360# show ib sm switch-route subnet-prefix fe:80:00:00:00:00:00 src-lid 858
dst-lid 857
```

```
=====
SM Route Switch Table by Subnet with Source LID and Dest LID
=====
subnet-prefix : fe:80:00:00:00:00:00
src-lid       : 858
dst-lid       : 857
node-GUID     : 00:05:ad:00:00:00:03:00
input-port    : 7
output-port   : 8

last-change   : Sun Jul 13 20:36:39 1930
```

Defaults:

No default behavior or values.

Related Commands:

[“ib sm” on page 108](#)

show ib-agent channel-adapter

Synopsis:

To view the attributes of IB agents for channel adapters on your Server Switch, enter the **show ib-agent channel-adapter** command in Privileged Exec mode or User Exec mode.

Syntax:

show ib-agent channel-adapter {**node-guid** *guid* | **all**} **node-info**

Table 6-65: show ib-agent channel-adapter Command Arguments

| Argument | Description |
|------------------|--|
| node-guid | Specifies the GUID of a specific gateway or controller on your switch. |
| <i>guid</i> | GUID of a specific gateway or controller on your switch. |
| all | Displays the attributes of all channel adapters on your Server Switch. |
| node-info | Displays IB information for the channel adapter (CA). |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

Each Topspin system channel adapter runs its own subnet-management agent.

[Table 6-66](#) lists and describes the fields in the **show ib-agent channel-adapter** command output.

Table 6-66: show ib-agent channel-adapter Command Field Descriptions

| Field | Description |
|----------------|--|
| guid | Globally unique identifier of the CA as an 8-byte string. |
| type | Type of device this SMA supports. The field always displays adapter . |
| lid | LID of the channel-adapter port. |
| base-version | Supported base management datagram version supported. |
| class-version | Supported subnet-management class. |
| port-guid | Globally unique identifier of the node port. |
| partition-cap | Number of entries in the partition table for channelAdapter, router, and switch management ports. This displays, at a minimum, 1 for all nodes including switches. |
| device-id | Device ID information, as assigned by the device manufacturer. |
| revision | Device revision, as assigned by the device manufacturer. |
| local-port-num | Number of the link port which received this request, otherwise the field displays 0. |
| vendor-id | Device vendor, per the IEEE standard. |
| trap-buffer | Special purpose string buffer for InfiniBand trap data. |
| num-ports | Number of physical ports on this node. |

Table 6-66: show ib-agent channel-adapter Command Field Descriptions (Continued)

| Field | Description |
|--------|--|
| string | Node description string. Unicode characters are 16 bits. |

Examples:

The following example displays the attributes of the IB host with a GUID of 00:05:ad:00:00:00:13:17.

```

Topspin-360# show ib-agent channel-adapter 00:05:ad:00:00:00:13:17 node-info
=====
                        SMA Node Information
=====
        guid : 00:05:ad:00:00:00:13:17
        type  : adapter
        lid   : 14
    base-version : 1
    class-version : 1
        port-guid : 00:05:ad:00:00:00:13:18
    partition-cap : 64
        device-id : 5a:44
        revision  : 00:00:00:a0
    local-port-num : 1
        vendor-id : 00:05:ad
    trap-buffer :
        num-ports : 2
        string    : slot 7: /dev/ts_ua0

        guid : 00:05:ad:00:00:00:13:17
        type  : adapter
        lid   : 0
    base-version : 1
    class-version : 1
        port-guid : 00:05:ad:00:00:00:13:18
    partition-cap : 64
        device-id : 5a:44
        revision  : 00:00:00:a0
    local-port-num : 1
        vendor-id : 00:05:ad
    trap-buffer :
        num-ports : 2
        string    : slot 7: /dev/ts_ua0

```

Defaults:

No default behavior or values.

Related Commands:

[“ib-agent” on page 111](#)

show ib-agent summary

Synopsis:

To view the attributes of all IB agents on your Server Switch, enter the **show ib-agent summary** command in Privileged Exec mode or User Exec mode.

Syntax:

show ib-agent summary

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

Subnet-management agent information may be displayed in a summary form. This summary helps you assign IP addresses to Ethernet interface gateways because the summary supplies much of the important information you need to configure gateways, such as GUID and LID values.

[Table 6-66](#) lists and describes the fields in the **show ib-agent summary** command output.

Table 6-67: show ib-agent summary Command Field Descriptions

| Field | Description |
|--------|---|
| slot | Chassis slot to which the HCA or switch connects. |
| type | Type of node being managed. The value appears as adapter, switch, router, or error. The error value indicates an unknown type. |
| state | Logical state of the port. The value appears as down or active . |
| port | SMA-node port-number. |
| guid | Globally unique identifier of the SMA node. |
| string | Node description string. The string identifies the chassis slot and OS device used by the agent. |
| lid | LID, in decimal format, of this port. |

Examples:

The following example displays a summary of all the SMA nodes.

```
Topspin-90# show ib-agent summary
=====
SMA Node Information Summary
=====
slot  type      state  port  guid                                string                                lid
-----
7      adapter     active 1     00:05:ad:00:00:00:13:17  slot 7: /dev/ts_ua0 14
7      adapter     down  2     00:05:ad:00:00:00:13:17  slot 7: /dev/ts_ua0  0
16     switch      active 0     00:05:ad:00:00:00:13:7f  slot 16: /dev/ts_ua0  2
16     switch      active 0     00:05:ad:00:00:00:13:81  slot 16: /dev/ts_ua1  4
16     switch      active 0     00:05:ad:00:00:00:13:83  slot 16: /dev/ts_ua2  6
16     switch      active 0     00:05:ad:00:00:00:13:85  slot 16: /dev/ts_ua3  8
16     switch      active 0     00:05:ad:00:00:00:13:87  slot 16: /dev/ts_ua4 10
16     switch      active 0     00:05:ad:00:00:00:13:89  slot 16: /dev/ts_ua5 12
1      adapter     down  1     00:05:ad:00:00:00:13:f3  slot 1: /dev/ts_ua0  0
1      adapter     active 2     00:05:ad:00:00:00:13:f3  slot 1: /dev/ts_ua0  1
4      adapter     active 1     00:05:ad:00:00:00:14:14  slot 4: /dev/ts_ua0 15
4      adapter     down  2     00:05:ad:00:00:00:14:14  slot 4: /dev/ts_ua0  0
Topspin-90#
```

Defaults:

No default behavior or values.

Related Commands:

- [“ib sm” on page 108](#)
- [“ib-agent” on page 111](#)
- [“show ib sm configuration” on page 185](#)
- [“show ib sm multicast” on page 190](#)
- [“show ib sm neighbor” on page 192](#)
- [“show ib sm partition” on page 197](#)
- [“show ib sm port” on page 199](#)

show ib-agent switch

Synopsis:

To view the attributes of IB agents for switches on your Server Switch, enter the **show ib-agent switch** command in Privileged Exec mode or User Exec mode.

Syntax:

show ib-agent switch {*guid* | **all**} {**linear-frd-info** **lid** {*lids* | **all**} | **mcast-info** **lid** {*lids* | **all**} | **node-info** | **pkey-info** | **port-info** | **sl-vl-map** | **switch-info**}

Table 6-68: show ib-agent switch Command Arguments

| Argument | Description |
|------------------------|--|
| <i>guid</i> | GUID of the switch that you want to view. |
| all | <ul style="list-style-type: none"> When the all keyword follows the show b-agent switch command, it displays statistics for all switches in the IB fabric. When the all keyword follows the lid keyword, it displays the attributes of all applicable ports. |
| linear-frd-info | Displays the linear forwarding tables of specified switches. |
| lid | Specifies the LID(s) of the port(s) that you want to view. |
| <i>lids</i> | LID, list of LIDs, or range of LIDs that you want to view. |
| mcast-info | Displays the multicast forwarding tables of specified switches. |
| node-info | Displays attributes of nodes that connect to the switch. |
| pkey-info | Displays the partition key table index. |
| port-info | Displays the port attributes of switches. |
| sl-vl-map | Displays service level (SL) to virtual lane (VL) mapping table for nodes on the IB fabric. |
| switch-info | Displays IB information for switches, but not channel adapters (CAs). |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

- linear-frd-info

[Table 6-69](#) lists and describes the fields in the **linear-frd-info** keyword output.

Table 6-69: linear-frd-info Keyword Output Field Descriptions

| Field | Description |
|-------------|--|
| switch-guid | GUID of the switch. |
| lid | LID of the port. |
| 0 - 7 | Represents ports 0 - 7 on an IB switch card. |

- mcast-info

[Table 6-70](#) lists and describes the fields in the **mcast-info** keyword output.

Table 6-70: mcast-info Keyword Output Field Descriptions

| Field | Description |
|-----------|---|
| node-guid | GUID of the switch whose LIDs immediately follow. |
| lid | LIDs of the ports on the switch. |

- node-info

[Table 6-71](#) lists and describes the fields in the **node-info** keyword output.

Table 6-71: node-info Keyword Output Field Descriptions

| Field | Description |
|----------------|--|
| guid | GUID of the node. |
| type | Type of SMA node. This value always appears as switch. |
| lid | LID of the port that connects to the node. |
| base-version | Base management datagram version that the switch supports. |
| class-version | Subnet management class that the switch supports. |
| port-guid | GUID of the port that connects to the node. |
| partition-cap | Number of partitions that the node supports. |
| device-id | Manufacturer-assigned device ID. |
| revision | Manufacturer-assigned device revision. |
| local-port-num | Number of the link port that received this show request. |
| vendor-id | Device vendor ID, as per the IEEE standard. |
| trap-buffer | Number of traps that the node supports. |
| num-ports | Number of physical ports on the SMA node. |
| string | SMA node description string. |

- pkey-info

[Table 6-72](#) lists and describes the fields in the **pkey-info** keyword output.

Table 6-72: pkey-info Keyword Output Field Descriptions

| Field | Description |
|-------------|-------------|
| NEED OUTPUT | |

- port-info

[Table 6-73](#) lists and describes the fields in the **port-info** keyword output.

Table 6-73: port-info Keyword Output Field Descriptions

| Field | Description |
|-----------|--|
| node-guid | 64-bit GUID of the SMA node to which this port belongs. |
| port | Number of the port on the SMA node. |
| mkey | 64-bit management key for the port. For more information, refer to sections 14.2.4, “Management Key” and 3.5.3, “Keys” in <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1. |

Table 6-73: port-info Keyword Output Field Descriptions (Continued)

| Field | Description |
|-------------------|---|
| gid-prefix | 64-bit GID prefix for this port. The subnet manager assigns this prefix. For more information, refer to section 4.1.3, “Local Identifiers” in <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1. |
| lid | 16-bit base LID of the port. |
| master-SML-id | 16-bit base LID of the master subnet manager that manages this port. |
| capability-mask | <p>32-bit bitmask that specifies the supported capabilities of the port. A bit value of 1 (one) indicates a supported capability. The bits are:</p> <ul style="list-style-type: none"> • 0, 11-15, 18, 21-31 (Reserved and always 0.), • 1 IsSM, • 2 IsNoticeSupported, • 3 IsTrapSupported, • 4 IsResetSupported, • 5 IsAutomaticMigrationSupported, • 6 IsSLMappingSupported, • 7 IsMKeyNVRAM (supports M_Key in NVRAM), • 8 IsPKeyNVRAM (supports P_Key in NVRAM), • 9 IsLEDInfoSupported, • 10 IsSMdisabled, • 16 IsConnectionManagementSupported, • 17 IsSNMPTunnelingSupported, • 19 IsDeviceManagementSupported, • 20 IsVendorClassSupported. <p>Values are expressed in hexadecimal.</p> |
| diag-code | 16-bit diagnostic code. For more information, refer to section 14.2.5.6.1, “Interpretation of Diagcode” in <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1. |
| mkey-lease-period | Initial value of the lease-period timer, in seconds. The lease period indicates the length of time that the M_Key protection bits remain non-zero after a SubnSet (Portinfo) fails an M_Key check. After the lease period expires, clearing the M_Key protection bits allows any subnet manager to read (and then set) the M_Key. Set this field to 0 to indicate that the lease period never expires. For more information, refer to section 14.2.4, Management Key in <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1. |
| local-port-num | Number of the link port that received this SNMP request. |

Table 6-73: port-info Keyword Output Field Descriptions (Continued)

| Field | Description |
|----------------------|--|
| link-width-enabled | Integer value that indicates the enabled link-width sets for this port. The value may be any of the following: <ul style="list-style-type: none"> • 0 (no state change) • 1 (1x) • 2 (4x) • 3 (1x or 4x) • 8 (12x) • 9 (1x or 12x) • 10 (4x or 12x) • 11 (1x, 4x, or 12x) • 255 (sets this parameter to the LinkWidthSupported value) |
| link-width-supported | Supported link width. Value may be any of the following: <ul style="list-style-type: none"> • 1x • 1x or 4x • 1x, 4x, or 12x |
| link-width active | Active width of the link. Value may be 1x, 4x, or 12x. |
| link-speed-supported | Supported link speed. This value always appears as 2.5 Gbps |
| state | A form of addressing, higher than port-phys, that determines if the nodes can actually communicate and indicates the state transition that has occurred. A transition indicates a port state change from down to initialize, initialize to down, armed to down, or active to down as a result of link stat machine logic. Changes to the port state that result from SubnSet have no effect on this parameter value. the value appears as noStateChange, down, initialize, armed, or active. |
| port-phys | Indicates the actual state of the port. Determines that electricity flows between nodes so they can hand-shake. The value appears as noStateChange, sleeping, polling, disabled, portConfigurationTrainig, linkup, or linkErrorRecovery. |
| link-down-def | LinkDown state to return to. The value appears as noStateChange, sleeping, or polling. For more information, refer to section 5.5.2, “Status Outputs” in <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1. |
| mkey-protect-bits | Management key protection bits for the port. The bits are 0, 1, 2, and 3. For more information, refer to section 14.2.4.1, “Levels of Protection” of <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1. |
| lmc | Local-identifier mask control (LMC) for multipath support. A LMC resides on each channel adapter and router port on the subnet. It provides multiple virtual ports within a single physical port. The value of the LMC specifies the number of path bits in the LID. A value of 0 allows one LID on the port. For more information, refer to sections 3.5.10, “Addressing” and 4.1.3, “Local Identifiers” in <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1. |
| ls-active | Speed of an active link. The field displays 2.5 Gbps. |
| ls-active-enabled | Maximum speed that the link can handle. The value can be 0 (no state change), 1 (2.5 Gbps), or 3 (value derived from LinkSpeedSupported). |

Table 6-73: port-info Keyword Output Field Descriptions (Continued)

| Field | Description |
|-------------------------|--|
| neighbor-MTU | Active maximum transmission unit (MTU) enabled on this port for transmission. Check the MTUCap value at both ends of every link use the lesser speed. The value appears as 256, 512, 1024, 2048, or 4096. |
| master-SMSL | Administrative service level required for this port to send a non-SMP message to the subnet manager. |
| VL-cap | Maximum range of data virtual lanes (VLs) supported by this port. |
| VL-high-limit | Maximum high-priority limit on the number of bytes allowed for transmitting high-priority packets when both ends of a link operate with multiple data virtual lanes. Used with the virtual-lane arbitration table. The maximum high-limit is determined by checking the vl-arbitration-high-cap on the other side of the link and then negotiating downward. |
| VL-arbitration-high-cap | Highest arbitration value allowed by the arbiter in determining the next packet in a set of packets to transmit across the link. Used with the virtual-lane arbitration table and specified as a VL/Weight pair. For more information, refer to section 14.2.5.9, “VL Arbitration Table” of <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1. |
| VL-arbitration-low-cap | Lowest arbitration value allowed by the arbiter in determining the next packet in a set of packets to transmit across the link. Used with the virtual-lane arbitration table and specified as a VL/Weight pair. For more information, refer to section 14.2.5.9, “VL Arbitration Table” of <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1. |
| MTU-cap | Determines, with neighbor-mtu, the maximum transmission size supported on this port. The lesser of MTUCap and NeighborMTU determines the actual MTU used. The value appears as 256, 512, 1024, 2048, or 4096. |
| VL-stall-count | Number of sequentially dropped packets at which the port enters a VLStalled state. For more information, refer to section 18.2.5.4, “Transmitter Queuing” in <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1. |
| HOQ-life | Maximum duration allowed to packets at the head of a virtual-lane queue. Used with VLStallCount to determine the outgoing packets to discard. |
| op-VLs | Administrative limit for the number of virtual lanes allowed to the link. Do not set this above the VLCap value. |
| pkey-enf-in | Boolean value that indicated whether or not to support optional partition enforcement for the packets received by this port. |
| pkey-enf-out | Boolean value that indicates whether or not to support optional partition enforcement for the packets transmitted by this port. |
| filter-raw-pkt-in | Boolean value that indicates whether or not so support optional raw packet enforcement for the raw packets received by this port. |
| filter-raw-pkt-out | Boolean value that indicates whether or not so support optional raw packet enforcement for the raw packets transmitted by this port. |
| mkey-violations | Number of subnet management packets (SMPs) that have been received on this port with invalid M_Keys since initial power-up or last reset. For more information refer to section 14.2.4, “Management Key” in <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1. |

Table 6-73: port-info Keyword Output Field Descriptions (Continued)

| Field | Description |
|-----------------|--|
| pkey-violations | Number of subnet management packets that have been received on this port with invalid P_Keys since initial power-up or the last reset. For more information, refer to section 9.2.7, “Partition Key” in <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1. |
| qkey-violations | Number of subnet management packets that have been received on this port with invalid Q_Keys since initial power up or the last reset. For more information, refer to <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1, section 10.2.4, “Q Keys.” |
| guid-cap | Number of GUID entries allowed for this port in the port table. For more information, refer to <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1, section 14.2.5.5, “GUIDCap.” |
| subnet-timeout | Maximum propagation delay allowed for this port to reach any other port in the subnet. This value also affects the maximum rate at which traps can be sent from this port. |
| resp-time-value | Maximum time allowed between the port reception of a subnet management packet and the transmission of the associated response. For more information, refer to <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1, section 13.4.6.2, “Timers and Timeouts.” |
| local-phys-err | Threshold at which ICRC, VCRC, FCCRC, and all physical errors result in an entry into the BAD PACKET or BAD PACKET DISCARD states of the local packet receiver. For more information, refer to <i>InfiniBand Architecture®</i> , Vol. 1, Release 1.1, section 7.12.2, “Error Recovery Procedures.” |
| overrun-err | Threshold at which the count of buffer overruns across consecutive flow-control update periods results in an overrun error. |

- sl-vl-map

[Table 6-74](#) lists and describes the fields in the **sl-vl-map** keyword output.

Table 6-74: sl-vl-map Keyword Output Field Descriptions

| Field | Description |
|------------------|-----------------------|
| node-guid | GUID of the SMA node. |
| in-ib-port | |
| out-ib-port | |
| SL to VL mapping | |

- switch-info

[Table 6-75](#) lists and describes the fields in the **switch-info** keyword output.

Table 6-75: switch info Keyword Output Field Descriptions

| Field | Description |
|---------|-----------------------|
| guid | GUID of the SMA node. |
| lft-cap | |
| rft-cap | |
| mft-cap | |
| lft-top | |

Table 6-75: switch info Keyword Output Field Descriptions (Continued)

| Field | Description |
|------------------------|-------------|
| default-port | |
| def-mcast-pri-port | |
| def-mcast-NP-port | |
| life-time-value | |
| port-state-change | |
| lids-per-port | |
| partition-enf-cap | |
| inbound-enf-cap | |
| outbound-enf-cap | |
| filter-raw-pkt-in-cap | |
| filter-raw-pkt-out-cap | |

Examples:

The following example displays the linear forwarding details of the IB switch.

```

Topspin-360# show ib-agent switch 00:05:ad:00:00:00:13:7f linear-frd-info lid 2
=====
                        Linear Forwarding Information
=====
switch-guid : 00:05:ad:00:00:00:13:7f
lid         0         1         2         3         4         5         6         7
---         -
0
Topspin-360#

```

The following example displays the multicast information of the IB switch.

```

Topspin-90# show ib-agent switch 00:05:ad:00:00:00:13:7f mcast-info lid all
=====
                        Multicast Information
=====
node-guid   : 00:05:ad:00:00:00:13:7f
block-index : 0
lid         port-mask
49152      00:00
49153      00:00
49154      00:00
49155      00:00
49156      00:00
49157      00:00
49158      00:00
49159      00:00
49160      00:00
49161      00:00
49162      00:00
49163      00:00
49164      00:00
...

```

The following example displays attributes of the IB nodes that connect to the switch.

```

Topspin-90# show ib-agent switch all node-info
=====
SMA Node Information
=====
      guid : 00:05:ad:00:00:00:13:7f
      type : switch
      lid  : 2
base-version : 1
class-version : 1
      port-guid : 00:05:ad:00:00:00:13:7f
partition-cap : 1
      device-id : a8:7c
      revision  : 00:00:00:a0
local-port-num : 255
      vendor-id : 00:05:ad
trap-buffer :
      num-ports : 9
      string    : slot 16: /dev/ts_ua0
...

```

The following example displays the port attributes of the switch.

```

Topspin-360# show ib-agent switch 00:05:ad:00:00:00:13:7f port-info
=====
                        Port Information
=====
node-guid  : 00:05:ad:00:00:00:13:7f
port       : 0
mkey       : 00:00:00:00:00:00:00:00
gid-prefix : 00:00:00:00:00:00:00:00
lid        : 2
master-SML-id : 1
capability-mask : 00:00:02:08
diag-code   : 00:00
mkey-lease-period : 00:00
local-port-num : 255
link-width-enabled : 1x, 4x
link-width-supported : 1x, 4x
link-width-active : 1x
link-speed-supported : 2.5 Gbps
state       : active
port-phys   : nop
link-down-def : polling
mkey-protect-bits : 0
LMC         : 0
ls-active   : 2.5 Gbps
ls-active-enabled : 2.5 Gbps
neighbor-MTU : 256
master-SMSL : 0
VL-cap      : VL0 - VL7
VL-high-limit : 0
VL-arbitration-high-cap : 8
VL-arbitration-low-cap : 8
MTU-cap     : 1024
VL-stall-count : 0
HOQ-life    : 7
op-VLs      : VL0 - VL7
pkey-enf-in : 0
pkey-enf-out : 0
filter-raw-pkt-in : 0
filter-raw-pkt-out : 0
mkey-violations : 0
pkey-violations : 0
qkey-violations : 0
guid-cap    : 1
subnet-timeout : 31
resp-time-value : 8
local-phys-err : 4
overrun-err  : 0

```

The following example displays the service level to virtual lane mapping table on the switch.

```
Topspin-90# show ib-agent switch 00:05:ad:00:00:00:13:7f sl-vl-map
=====
                        SLVL-Map Table
=====
node-guid : 00:05:ad:00:00:00:13:7f
in-ib-port : 0
out-ib-port : 0
sl0toVl : 0
sl1toVl : 0
sl2toVl : 0
sl3toVl : 0
sl4toVl : 0
sl5toVl : 0
sl6toVl : 0
sl7toVl : 0
sl8toVl : 0
sl9toVl : 0
sl10toVl : 0
sl11toVl : 0
sl12toVl : 0
sl13toVl : 0
sl14toVl : 0
sl15toVl : 0
...
```

The following example displays SMA switch information.

```
Topspin-360# show ib-agent switch all switch-info
=====
                        SMA Switch Information
=====
guid : 00:05:ad:00:00:00:02:40
lft-cap : 49152
rft-cap : 0
mft-cap : 1024
lft-top : 1024
default-port : 255
def-mcast-pri-port : 255
def-mcast-NP-port : 255
life-time-value : 11
port-state-change : 0
lids-per-port : 0
partition-enf-cap : 64
inbound-enf-cap : 1
outbound-enf-cap : 1
filter-raw-pkt-in-cap : 1
filter-raw-pkt-out-cap : 1
```

Defaults:

No default behavior or values.

Related Commands:

[“ib sm” on page 108](#)

[“show ib sm configuration” on page 185](#)

[“show ib sm neighbor” on page 192](#)

“show ib sm partition” on page 197

“show ib sm port” on page 199

show interface ethernet

Synopsis:

To display the attributes of Ethernet ports, enter the **show interface ethernet** command in User Exec mode or Privileged Exec mode.

Syntax:

show interface ethernet {*port-selection* | **all**} [**ip** {*ip-address* | **all**} **ip-info** | **ip-backup** {*backup-address* | **all**} | **statistics**]

Table 6-76: show interface ethernet Command Arguments

| Argument | Description |
|-----------------------|---|
| <i>port-selection</i> | Port, list of port, or range of ports that you want to view. |
| all | <ul style="list-style-type: none"> Displays the attributes of all the Ethernet ports on your Server Switch when you enter it after the show interface ethernet command. Displays details on all IP addresses when you enter it after the ip keyword. Displays details on all backup IP addresses when you enter it after the ip-backup keyword. |
| ip | Displays IP address table of the port(s) that you specify. |
| <i>ip-address</i> | IP address whose details you want to view. |
| ip-info | Displays statistical data of the transmissions that occur on IP addresses. |
| ip-backup | Displays statistical data of the transmissions that occur on the backup IP addresses. |
| <i>backup-address</i> | Backup IP address whose details you want to view. |
| statistics | Displays Ethernet interface statistics for diagnostic purposes. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Ethernet read-only user.

Usage Guidelines:

Use this command to help diagnose Ethernet connectivity problems.

[Table 6-77](#) lists and describes the fields in the **show interface ethernet** command output.

Table 6-77: show interface ethernet Command Field Descriptions

| Field | Description |
|-------------|--|
| port | Port number, in slot#/port# format. |
| name | Administratively-configured port name. |
| type | Type of port. |
| desc | Name that you assign with the name command. |
| last-change | Time of the most recent configuration change that a user made to the port. |
| mac-address | MAC address of the port. |

Table 6-77: show interface ethernet Command Field Descriptions (Continued)

| Field | Description |
|--------------------------|---|
| mtu | Maximum transmission unit (MTU) of the port, in bytes. |
| auto-negotiate-supported | Displays yes if the port supports auto-negotiation. |
| auto-negotiate | Displays enabled if you have configured auto-negotiation to run on the port. |
| admin-status | Administrative status of the port. |
| oper-status | Operational status of the port. |
| admin-speed | Administrative speed that you configured on the port. |
| oper-speed | Operational (actual) speed at which the port runs. Actual speed differs from admin speed if the port on the other end of the connection cannot support the speed that you configured. |
| admin-duplex | Administrative duplex type (half or full) that you configured to run on the port. |
| oper-duplex | Operational (actual) duplex type at which the port runs. Actual duplex type differs from admin duplex type if the port on the other end of the connection cannot support the type that you specified. |
| link-trap | Displays enabled if you configured the port to send link traps with the link-trap command. |
| action | Action (such as flushing the ARP table) that you had the interface perform. |
| result | Status of the action that you had the interface perform. |

Table 6-78 lists and describes the fields in the **ip** keyword output.

Table 6-78: ip Keyword Output Field Descriptions

| Field | Description |
|-------------------|--|
| port | Port number, in card#port# format. A port# of 0 represents the gateway port of the interface card. |
| address | IP address that you assigned to the port. |
| mask | Subnet mask that you assigned to the port. |
| bcast-addr format | IP broadcast address format that the port uses. |
| reasm max-size | Size of the largest IP datagram which this port can receive and reassemble from incoming fragmented IP datagrams. |
| type | Displays primary or backup to indicate that the interface card acts as the primary or backup interface for the IP address that appears in the address field. |
| status | Displays active or inactive to indicate that the card actively services IP packets addressed to the IP address in the address field or does not service packets to the specified address. |

Table 6-79 lists and describes the fields in the **ip-info** keyword output.

Table 6-79: ip-info Keyword Output Field Descriptions

| Field | Description |
|-------------|---|
| port | Port number, in slot#/port# format. |
| default-ttl | Default time-to-live value, in seconds. |

Table 6-79: ip-info Keyword Output Field Descriptions (Continued)

| Field | Description |
|-------------------|---|
| in-receives | Cumulative number of input datagrams (including errors) that interfaces received for the IP address that you specified with the ip keyword. |
| in-hdr-errors | Cumulative number of datagrams that interfaces discarded. Reasons to discard a datagram include the following: <ul style="list-style-type: none"> • bad checksums • version number mismatches • format errors • exceeded time-to-live values • IP option processing errors |
| in-addr-errors | Cumulative number of input datagrams that ports discarded because the IP address in the destination field of the header of the datagram was not a valid address to be received by the port. |
| forw-datagrams | Cumulative number of datagrams that arrived at the port en-route to a final destination. For non-IP-gateway ports, this value includes only packets that the port Source-Routed successfully. |
| in-unknown-protos | Cumulative number of datagrams that the port successfully received but discarded due to an unknown or unsupported protocol. |
| in-discards | Cumulative number of datagrams that the port discarded for a reason other than a problem with the datagram (e.g., lack of buffer space). |
| in-delivers | Cumulative number of input datagrams that the port successfully delivered to IP user-protocols, including Internet Control-Message Protocol (ICMP). |
| out-requests | Cumulative number of IP datagrams that local IP user-protocols (including ICMP) supplied to IP in-requests. This counter does not include any datagrams counted as forw-datagrams. |
| out-discards | Cumulative number of output IP datagrams that the port discarded for a reason other than a problem with the datagram (e.g., lack of buffer space). |
| out-no-routes | Cumulative number of IP datagrams that the port discarded because a route could not be found to transmit them to their destination. This counter includes any packets counted in forw-datagrams that still qualify. This counter also includes any datagrams that a server switch cannot route because all of the gateways on the server switch are down. |
| frag-OKs | Cumulative number of IP datagrams that the port has successfully fragmented. |
| frag-fails | Cumulative number of IP datagrams that the port discarded because the port could not fragment them. (For instance, this occurs when the Don't Fragment flag of the datagram is set.) |
| frag-creates | Cumulative number of IP datagram fragments that the port has generated. |

Table 6-80 lists and describes the fields in the **ip-backup** keyword output.

Table 6-80: ip-backup Keyword Output Field Descriptions

| Field | Description |
|-------------|---|
| if-index | Port number. |
| backup-addr | Backup address of the port. |
| priority | Priority of the backup address that you applied with the ip command. |

Table 6-80 lists and describes the fields in the **statistics** keyword output.

Table 6-81: statistics Keyword Output Field Descriptions

| Field | Description |
|--------------------|---|
| port | Port identifier, in slot#/port# format. |
| name | Administrative port name that you configured with the name command. The parenthetical identifier represents the SNMP identifier. |
| in-octets | Cumulative number of octets that arrived at the port, including framing characters. |
| in-ucast-pkts | Cumulative number of incoming packets destined for a single port. |
| in-multicast-pkts | Cumulative number of incoming packets destined for the ports of a multicast group. |
| in-broadcast-pkts | Cumulative number of incoming packets destined for all ports on the fabric. |
| in-discards | Cumulative number of inbound packets that the port discarded for a reason other than a packet error (e.g. lack of buffer space). |
| in-errors | Number of inbound packets with errors that the port discarded. |
| in-unknown-protos | For packet-oriented interfaces, the number of packets received via the interface which were discarded because of an unknown or unsupported protocol. For character-oriented or fixed-length interfaces that support protocol multiplexing, the number of transmission units received via the interface which were discarded because of an unknown or unsupported protocol. For any interface that does not support protocol multiplexing, this counter is always 0. |
| out-octets | Total number of octets transmitted out of the interface, including framing characters. |
| out-ucast-pkts | Total number of packets that higher-level protocols requested be transmitted, and which were not addressed to a multicast or broadcast address at this sub-layer, including those that were discarded or not sent. |
| out-multicast-pkts | Total number of packets that higher-level protocols requested be transmitted, and which were addressed to a multicast address at this sub-layer, including those that were discarded or not sent. For a MAC layer protocol, this includes both Group and Functional addresses. |
| out-broadcast-pkts | Total number of packets that higher-level protocols requested to be transmitted, and which were addressed to a broadcast address at this sub-layer, including those that were discarded or not sent. |
| out-discards | Number of outbound packets which were chosen to be discarded even though no errors had been detected to prevent their being transmitted. One possible reason for discarding such a packet could be to free-up buffer space. |
| out-errors | For packet-oriented interfaces, the number of outbound packets that could not be transmitted because of errors. For character-oriented or fixed-length interfaces, the number of outbound transmission units that could not be transmitted because of errors. |

Table 6-81: statistics Keyword Output Field Descriptions (Continued)

| Field | Description |
|---------------------------|---|
| alignment-errors | A count of frames received on a particular interface that are not an integral number of octets in length and do not pass the FCS check. The count represented by an instance of this object is incremented when the alignmentError status is returned by the MAC service to the LLC (or other MAC user). Received frames for which multiple error conditions obtain are counted exclusively according to the error status presented to the LLC. This counter does not increment for 8-bit wide group encoding schemes. |
| fcs-errors | A count of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS check. This count does not include frames received with frame-too-long or frame-too-short error. The count represented by an instance of this object is incremented when the frameCheckError status is returned by the MAC service to the LLC (or other MAC user). Received frames for which multiple error conditions obtain are counted exclusively according to the error status presented to the LLC. Coding errors detected by the physical layer for speeds above 10 Mbps will cause the frame to fail the FCS check. |
| single-collision-frames | A count of successfully transmitted frames on a particular interface for which transmission is inhibited by exactly one collision. A frame that is counted by an instance of this object is also counted by the corresponding instance of the out-ucast-pkts, out-multicast-pkts, or out-broadcast-pkts, and is not counted by the corresponding instance of the multiple-collision-frames object. This counter does not increment when the interface is operating in full-duplex mode. |
| multiple-collision-frames | A count of successfully transmitted frames on a particular interface for which transmission is inhibited by more than one collision. A frame that is counted by an instance of this object is also counted by the corresponding instance of the out-ucast-pkts, out-multicast-pkts, or out-broadcast-pkts, and is not counted by the corresponding instance of the single-collision-frames object. This counter does not increment when the interface is operating in full-duplex mode. |
| sqe-test-errors | A count of times that the SQE TEST ERROR message is generated by the PLS sublayer for a particular interface. The SQE TEST ERROR is set in accordance with the rules for verification of the SQE detection mechanism in the PLS Carrier Sense Function, as described in IEEE Std. 802.3, 1998 Edition, section 7.2.4.6. This counter does not increment on interfaces operating at speeds greater than 10 Mbps, or on interfaces operating in full-duplex mode. |
| deferred-transmissions | A count of frames for which the first transmission attempt on a particular interface is delayed because the medium is busy. The count represented by an instance of this object does not include frames involved in collisions. This counter does not increment when the interface is operating in full-duplex mode. |
| late-collisions | The number of times that a collision is detected on a particular interface later than one Ethernet slot-time unit into the transmission of a packet. A late collision included in a count represented by an instance of this object is also considered as a generic collision for purposes of other collision-related statistics. This counter does not increment when the interface is operating in full-duplex mode. |

Table 6-81: statistics Keyword Output Field Descriptions (Continued)

| Field | Description |
|------------------------------|--|
| excessive-collisions | A count of frames for which transmission on a particular interface fails due to excessive collisions. This counter does not increment when the interface is operating in full-duplex mode. |
| internal-mac-transmit-errors | A count of frames for which transmission on a particular interface fails due to an internal MAC sublayer transmit error. A frame is only counted by an instance of this object if it is not counted by the corresponding instance of the late-collisions object, the excessive-collisions object, or the carrier-sense-errors object. The precise meaning of the count represented by an instance of this object is implementation-specific. In particular, an instance of this object may represent a count of transmission errors on a particular interface that is not otherwise counted. |
| carrier-sense-errors | Number of times that the carrier sense condition was lost or never asserted when attempting to transmit a frame on a particular interface. The count represented by an instance of this object is incremented at most once per transmission attempt, even if the carrier sense condition fluctuates during a transmission attempt. This counter does not increment when the interface is operating in full-duplex mode. |
| frame-too-longs | A count of frames received on a particular interface that exceed the maximum permitted frame size. The count represented by an instance of this object is incremented when the frame-too-longs status is returned by the MAC service to the LLC (or other MAC user). Received frames for which multiple error conditions obtain are counted exclusively according to the error status presented to the LLC. |
| internal-mac-receive-errors | A count of frames for which reception on a particular interface fails due to an internal MAC sublayer receive error. A frame is only counted by an instance of this object if it is not counted by the corresponding instance of the frame-too-longs, alignment-errors, or fcs-errors object. The precise meaning of the count represented by an instance of this object is implementation-specific. In particular, an instance of this object may represent a count of receive errors on a particular interface that is not otherwise counted. |

Examples:

The following example shows the general information about a specific IP address on an Ethernet interface port.

```

Topspin-90# show inter ether 4/1 ip 10.3.22.4
=====
                        IP Address Table
=====
port  address          mask          bcast-addr  reasm      type        status
      address          mask          format      max-size
-----
4/1   10.3.22.4        255.255.255.0  1           0          primary    active
Topspin-90#

```

The following examples displays statistical data regarding the IP transactions of all the IP addresses on an interface port. Statistical data is comprised of transmission errors, requests, discards, packet fragments, etc.

```
Topspin-90# show inter ether 4/1 ip all ip-info
=====
                        IP Information
=====
                        port : 4/1
                        default-ttl : 0
                        in-receives : 0
                        in-hdr-errors : 0
                        in-addr-errors : 0
                        forw-datagrams : 0
                        in-unknown-protos : 0
                        in-discards : 0
                        in-delivers : 0
                        out-requests : 0
                        out-discards : 0
                        out-no-routes : 0
                        frag-OKs : 0
                        frag-fails : 0
                        frag-creates : 0
Topspin-90#
```

The following example displays traffic statistics for port 4/1.

```
Topspin-360# show interface ethernet 4/1 statistics
=====
                        Ethernet Interface Statistics
=====
                        port : 4/1
                        name : 4/1 (257)
                        in-octets : 0
                        in-ucast-pkts : 0
                        in-multicast-pkts : 0
                        in-broadcast-pkts : 0
                        in-discards : 0
                        in-errors : 0
                        in-unknown-protos : 0
                        out-octets : 0
                        out-ucast-pkts : 0
                        out-multicast-pkts : 0
                        out-broadcast-pkts : 0
                        out-discards : 0
                        out-errors : 0

                        alignment-errors : 0
                        fcs-errors : 0
                        single-collision-frames : 0
                        multiple-collision-frames : 0
                        sqe-test-errors : 0
                        deferred-transmissions : 0
                        late-collisions : 0
                        excessive-collisions : 0
                        internal-mac-transmit-errors : 0
                        carrier-sense-errors : 0
                        frame-too-longs : 0
                        internal-mac-receive-errors : 0
Topspin-360#
```

Defaults:

No default behavior or values.

Related Commands:

[“half-duplex” on page 119](#)

[“ip” on page 120](#)

[“trunk-group” on page 124](#)

show interface fc

Synopsis:

To display the attributes of Fibre Channel ports, enter the **show interface fc** command in User Exec mode or Privileged Exec mode.

Syntax:

show interface fc {*port-selection* | **all**} [**statistics** | **targets** | **virtual-ports**]

Table 6-82: show interface fc Command Arguments

| Argument | Description |
|-----------------------|--|
| <i>port-selection</i> | Port, list of ports, or range of ports to display. |
| all | Displays all Fibre Channel ports on your Server Switch. |
| statistics | Displays traffic statistics for the port(s) that you specify. |
| targets | Displays the targets that the ports(s) that you specify can access. |
| virtual-ports | Displays the virtual ports that the FC gateway mapped to the port(s) that you specify. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Fibre Channel read-only user.

Usage Guidelines:

The administrative (admin) status, speed, and connection-type reflect the values you had assigned. The operational (oper) status, speed, and connection-type reflect the values derived from the physical hardware and its connections. This allows you to verify your configuration settings against the actual hardware. The admin/oper pairs do not have to match for you to use the card. However, if there is a mismatch, the oper value is used.

[Table 6-83](#) lists and describes the fields in the **show interface fc** command output.

Table 6-83: show interface fc Command Field Descriptions

| Field | Description |
|-------------|---|
| port | Fibre Channel gateway port number, in slot#/port# format. |
| name | Administrative port name that you configure with the name command. |
| type | Identifies the type of the port. All type identifiers begin with fc for Fibre Channel ports. |
| desc | Text description of the interface port. The default is the port identifier in the form slot#/port#. The parenthetical number to the right of the description is the SNMP identifier. The SNMP identifier is useful if you are running your own SNMP software. |
| last-change | Time of the most recent configuration change that a user made to the port. |
| fc-address | Fibre Channel Protocol address of the port. |

Table 6-83: show interface fc Command Field Descriptions (Continued)

| Field | Description |
|--------------------------|--|
| wwnn | World-wide node name of the port. The WWNN defaults to 00:00:00:00:00:00:00:00. |
| wwpn | World-wide port name of the port. The WWPN defaults to 00:00:00:00:00:00:00:00. |
| mtu | Maximum Transmission Unit (MTU) of the port. The MTU value defaults to 2080 bytes. |
| auto-negotiate-supported | Displays yes if the port supports auto-negotiation or no if the port does not support auto-negotiation. |
| auto-negotiate | Indicates if the Fibre Channel port on the interface card is configured to automatically negotiate connection parameters when it connects with a Fibre Channel device. If auto-negotiation is enabled, the connection speed and mode (duplex, half-duplex) are determined at the time of connection. If the device does not support auto-negotiation, this field still displays a value, but the value does not apply. The value is enabled or disabled . The default is disabled. This field is set by the auto-negotiate command. |
| admin-status | Indicates if you have enabled the port for configuration and use. The value of this field may be up or down . The default is down . The field is set by the shutdown command. |
| oper-status | Indicates if the port is physically ready for configuration and use. The value of this field may be up or down . If this field is down but the admin-status is up, check that the Fibre Channel interface card is securely seated in the slot and a cable is attached between the port and the target FC device. |
| admin-speed | Indicates the speed administratively assigned to the Fibre Channel port. The value of this field may be 2 Gbps or 1 Gbps. Speed defaults to 2 Gbps. You can configure this setting with the speed command. |
| oper-speed | Indicates the maximum speed of the Fibre Channel port, based upon the attached Fibre Channel cable and polling the connected Fibre Channel device. |
| admin-connection-type | Indicates the type of connection administratively assigned to the interface port. The value may be forceNLPort, forceBPort, or none. The default is forceNLPort. This field is set by the type command. |
| oper-connection-type | Indicates the type of connection dynamically discovered for the interface port. |
| link-trap | Indicates if connection link errors are to be captured and sent to trap recipients. The value may be either enabled or disabled. This field is set by the link-trap command. |

Table 6-84 lists and describes the fields in the **statistics** keyword output.

Table 6-84: statistics Keyword Output Field Descriptions

| Field | Description |
|-------|---|
| port | Fibre Channel gateway port number, in slot#/port# format. |

Table 6-84: statistics Keyword Output Field Descriptions (Continued)

| Field | Description |
|--------------------|--|
| name | Administratively assigned or default name of the port. The default name is the port name in the form slot#/port#. Configure this field with the name command. The number in parentheses to the right of the name is the SNMP identifier. The SNMP identifier is useful if you are running your own SNMP software. |
| in-octets | Cumulative number of octets received on the interface, including framing characters. |
| in-ucast-pkts | Cumulative number of packets, delivered by this sub-layer to a higher layer, which were not addressed to a multicast or broadcast address at this sub-layer. |
| in-multicast-pkts | Cumulative number of packets, delivered by this sub-layer to a higher layer, that were addressed to a multicast address at this sub-layer. For a MAC layer protocol, this includes both Group and Functional addresses. |
| in-broadcast-pkts | Cumulative number of packets, delivered by this sub-layer to a higher layer, that were addressed to a broadcast address at this sub-layer. |
| in-discards | Cumulative number of inbound packets that were discarded even though no errors had been detected to prevent their being delivered to a higher-layer protocol. One possible reason for discarding such a packet can be to free-up buffer space. |
| in-errors | For packet-oriented interfaces, the cumulative number of inbound packets that contained errors that prevented them from being delivered to a higher-layer protocol. For character-oriented or fixed-length interfaces, the number of inbound transmission units that contained errors preventing them from being delivered to a higher-layer protocol. |
| in-unknown-protos | For packet-oriented interfaces, the cumulative number of packets received via the interface which were discarded because of an unknown or unsupported protocol. For character-oriented or fixed-length interfaces that support protocol multiplexing, the number of transmission units received via the interface which were discarded because of an unknown or unsupported protocol. For any interface that does not support protocol multiplexing, this counter is always 0. |
| out-octets | Cumulative number of octets transmitted out of the interface, including framing characters. |
| out-ucast-pkts | Cumulative number of packets that higher-level protocols requested be transmitted, and which were not addressed to a multicast or broadcast address at this sub-layer, including those that were discarded or not sent. |
| out-multicast-pkts | Cumulative number of packets that higher-level protocols requested be transmitted, and which were addressed to a multicast address at this sub-layer, including those that were discarded or not sent. For a MAC layer protocol, this includes both Group and Functional addresses. |
| out-broadcast-pkts | Cumulative number of packets that higher-level protocols requested to be transmitted, and which were addressed to a broadcast address at this sub-layer, including those that were discarded or not sent. |
| out-discards | Cumulative number of outbound packets which were chosen to be discarded even though no errors had been detected to prevent their being transmitted. One possible reason for discarding such a packet could be to free-up buffer space. |

Table 6-84: statistics Keyword Output Field Descriptions (Continued)

| Field | Description |
|---------------------|--|
| out-errors | For packet-oriented interfaces, the cumulative number of outbound packets that could not be transmitted because of errors. For character-oriented or fixed-length interfaces, the number of outbound transmission units that could not be transmitted because of errors. |
| link-events | Cumulative number of link events processed by the Fibre Channel interface port. |
| fcpcmds-outstanding | Cumulative number of FCP commands outstanding on the Fibre Channel interface port. |
| fcpcmds-completed | Cumulative number of FCP commands completed on the Fibre Channel interface port. |
| fcpc-errors | Cumulative number of FCP errors encountered on the Fibre Channel interface port. |
| fc-initiator-IO | Cumulative number of transactions between the Fibre Channel initiator and this port. |

[Table 6-85](#) lists and describes the fields in the **targets** keyword output.

Table 6-85: targets Keyword Output Field Descriptions

| Field | Description |
|-----------------|--|
| wwpn | World-wide port name (WWPN) of the target. |
| wwnn | World-wide node name (WWNN) of the target. |
| description | Dynamically-assigned or administratively-assigned description of the target. Enter the fc srp target command with the description keyword to configure this field. |
| ioc-guid | I/O controller (IOC) GUID of the FC gateway that accesses the target. |
| service-name | Name of the service that the target runs. |
| protocol-ids | Lists the protocols that the target supports. |
| fc-address | Fibre Channel protocol address of the target. |
| mtu | Maximum transmission unit (MTU) of the target, in bytes. |
| connection-type | For this release, all targets connect to NL_Ports. |
| physical-access | Port, in slot#/port# format, on your Server Switch to which the target connects. |

[Table 6-86](#) lists and describes the fields in the **virtual-ports** keyword output.

Table 6-86: virtual-ports Keyword Output Field Descriptions

| Field | Description |
|-----------------------|---|
| guid | GUID of the physical initiator. |
| extension | GUID extension of the physical initiator. |
| initiator-description | Administratively-assigned description of the initiator. |
| wwnn | World-wide node name (WWNN) of the initiator. |
| port | Physical port on your Server Switch to which the virtual port maps. |
| wwpn | World-wide port name (WWPN) of the virtual port. |
| fc-address | Fibre Channel protocol address of the virtual port. |

Examples:

The following example shows the output of the **show interface fc** command without the **statistics** keyword.

```
Topspin-360# show interface fc 5/1
=====
Fibre Channel Interface Info
=====
      port : 5/1
      name : 5/1
      type : fc2GFX
      desc : 5/1 (321)
last-change : none
fc-address : 00:00:00
      wwnn : 00:00:00:00:00:00:00:00
      wwpn : 00:00:00:00:00:00:00:00
      mtu : 2080
auto-negotiate-supported : yes
auto-negotiate : enabled
admin-status : up
oper-status : down
admin-speed : 2gbps
oper-speed : unknown
oper-duplex : unknown
admin-connection-type : force-NL
oper-connection-type : down
link-trap : enabled
```

The following example displays all FC targets that the FC interfaces see.

```
Topspin-360# show interface fc all targets
=====
Fc Targets
=====
      wwpn: 50:06:01:60:10:20:4e:31
      wwnn: 50:06:01:60:90:20:4e:31
description: SRP.T10:5006016010204E31
      ioc-guid: 00:05:ad:00:00:01:38:80
service-name: SRP.T10:5006016010204E31
protocol-ids: 04:00:00:00:00:00:00:00:00
      fc-address: 61:07:13
      mtu: 0
connection-type: nl-port
physical-access: 9/2

      wwpn: 50:06:01:68:10:20:4e:31
      wwnn: 50:06:01:60:90:20:4e:31
description: SRP.T10:5006016810204E31
      ioc-guid: 00:05:ad:00:00:01:38:80
service-name: SRP.T10:5006016810204E31
protocol-ids: 04:00:00:00:00:00:00:00:00
<output truncated>
```

The following example displays all virtual ports on the interface.

```
Topspin-360# show interface fc all virtual-ports
=====
                        Fc Virtual Ports
=====
        guid: 00:05:ad:00:00:12:34:56
      extension: 00:00:00:00:00:00:00:00
initiator-description: kauai
        wwnn: 20:01:00:05:ad:01:5a:5c
        port: 9/1
        wwpn: 20:01:00:05:ad:91:5a:5c
      fc-address: 61:0a:02

        guid: 00:05:ad:00:00:12:34:56
      extension: 00:00:00:00:00:00:00:00
initiator-description: kauai
        wwnn: 20:01:00:05:ad:01:5a:5c
        port: 9/2
        wwpn: 20:01:00:05:ad:95:5a:5c
      fc-address: 61:05:02
```

Defaults:

No default behavior or values.

Related Commands:

[“fc srp-global gateway-portmask-policy restricted” on page 99](#)

[“fc srp-global itl” on page 100](#)

[“fc srp it” on page 91](#)

[“fc srp target” on page 98](#)

[“interface” on page 45](#)

[“show fc srp initiator” on page 158](#)

[“show interface fc” on page 239](#)

[“type” on page 77](#)

show interface gateway

Synopsis:

To display attributes of the internal IB gateway ports of Fibre Channel and Ethernet expansion modules, enter the **show interface gateway** command in User Exec mode or Privileged Exec mode.

Syntax:

show interface gateway *slot-selection* [**fc srp initiator-target** *guid extension* | **{ip | ip-backup}** *{ip-address | all}* | **sma {node-info | port-info [details]}** | **statistics**]

Table 6-87: show interface gateway Command Arguments

| Argument | Description |
|--------------------------------|--|
| <i>slot-selection</i> | Internal gateway port that you want to view. |
| fc srp initiator-target | Displays FC targets that an initiator can access. |
| <i>guid</i> | GUID of the initiator. |
| <i>extension</i> | GUID extension of the initiator. |
| ip | Displays attributes of IP addresses on the card. |
| ip-backup | Displays attributes of backup IP addresses on the card. |
| <i>ip-address</i> | Individual IP address whose attributes you want to view. |
| all | Displays attributes of all addresses. |
| sma | Displays SMA information. |
| node-info | Displays SMA node information |
| port-info | Displays SMA port information. |
| details | Displays detailed SMA port information. |
| statistics | Displays gateway statistics of the card. |

Platform Availability:

Topspin 360, Topspin 90

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Fibre Channel read-only user.

Usage Guidelines

Use this command to troubleshoot connectivity issues. Verify that the show output matches the configuration file.

[Table 6-88](#) lists and describes the fields in the **show interface gateway** command output.

Table 6-88: show interface gateway Command Field Descriptions

| Field | Description |
|---------|--|
| gateway | Number of the slot in which the gateway resides. |
| name | Administrative name that you configure with the name command. |
| type | Type of interface card, either Ethernet or Fibre Channel. |

Table 6-88: show interface gateway Command Field Descriptions (Continued)

| Field | Description |
|--------------|--|
| desc | Description of the port, in slot#/port# format. The port identifier appears as zero (0) to indicate an internal port. The number in parentheses serves as the SNMP identifier. |
| last-change | Time of the most recent configuration change that a user made to the port. |
| mtu | Maximum transmission unit (MTU) of the internal gateway port. |
| admin-status | Administrative status of the gateway that you configure with the shutdown command. |
| oper-status | Actual status of the gateway. |

Table 6-89 lists and describes the fields that appear when you use the **fc srp initiator-target** argument with the **show interface gateway** command.

Table 6-89: fc srp initiator-target Keyword Output Field Descriptions

| Field | Description |
|-----------------|--|
| wwpn | World-wide port name (WWPN) of the target that the initiator can access. |
| wwnn | World-wide node name (WWNN) of the target that the initiator can access. |
| description | Description of the target. |
| ioc-guid | GUID of the IOC assigned to the target. |
| service-name | Service that the target runs. |
| protocol-ids | Lists the protocols that the target supports. |
| fc-address | Fibre Channel protocol address of the target. |
| mtu | Maximum transmission unit (MTU) of the target. |
| connection-type | Type of connection between the storage and the IB host. The field will always display nl-port , because all storage-to-IB host connections occur over a virtual port, or NL_Port. |
| physical-access | Port or ports through which the target connects to the initiator. |

Table 6-90 lists and describes the fields that appear when you use the **ip** keyword with the **show interface gateway** command.

Table 6-90: ip Keyword Output Field Descriptions

| Field | Description |
|-------------------|--|
| port | Port number, in card#port# format. A port# of 0 represents the gateway port of the interface card. |
| address | IP address that you assigned to the port. |
| mask | Subnet mask that you assigned to the port. |
| bcast-addr format | IP broadcast address format that the port uses. |
| reasmb max-size | Size of the largest IP datagram which this port can receive and reassemble from incoming fragmented IP datagrams. |
| type | Displays primary or backup to indicate that the interface card acts as the primary or backup interface for the IP address that appears in the address field. |
| status | Displays active or inactive to indicate that the card actively services IP packets addressed to the IP address in the address field or does not service packets to the specified address. |

[Table 6-91](#) lists and describes the fields that appear when you use the **ip-backup** keyword with the **show interface gateway** command.

Table 6-91: ip-backup Keyword Output Field Descriptions

| Field | Description |
|-------------|---|
| if-index | Numeric identifier, or “interface index,” of the port, in slot#/port# notation. |
| backup-addr | Lists backup IP addresses of the gateway. |
| priority | Displays the priority of each backup address. |

[Table 6-92](#) lists and describes the fields that appear when you use the **sma node-info** argument with the **show interface gateway** command.

Table 6-92: sma node-info Keyword Output Field Descriptions

| Field | Description |
|-------|-------------|
| ??? | |

[Table 6-93](#) lists and describes the fields that appear when you use the **sma port-info** argument with the **show interface gateway** command.

Table 6-93: sma port-info Keyword Output Field Descriptions

| Field | Description |
|-------|-------------|
| ??? | |

[Table 6-94](#) lists and describes the fields that appear when you use the **sma port-info details** argument with the **show interface gateway** command.

Table 6-94: sma port-info details Keyword Output Field Descriptions

| Field | Description |
|-------|-------------|
| ??? | |

[Table 6-95](#) lists and describes the fields that appear when you use the **statistics** keyword with the **show interface gateway** command.



NOTE: This keyword applies only to Fibre Channel cards.

Table 6-95: statistics Keyword Output Field Descriptions

| Field | Description |
|----------------------|--|
| slot-id | Chassis slot that contains the gateway that you want to display. |
| link-events | Cumulative number of link events that the gateway has processed. |
| srp-cmds-outstanding | Cumulative number of unresolved SRP commands on the gateway. |
| srp-cmds-completed | Cumulative number of SRP commands that the gateway executed. |
| srp-errors | Cumulative number of SRP errors that the gateway encountered. |
| srp-initiated-ios | Cumulative number of I/O transactions that initiators requested of FC devices through the gateway. |
| srp-bytes-read | Cumulative number of I/O bytes that the gateway has read. |
| srp-bytes-written | Cumulative number of I/O bytes that the gateway has written. |

Table 6-95: statistics Keyword Output Field Descriptions (Continued)

| Field | Description |
|---------------------|--|
| srp-connections | Cumulative number of I/O connections that the gateway has used. |
| fcpcmds-outstanding | Cumulative number of unresolved FCP commands on the gateway. |
| fcpcmds-completed | Cumulative number of FCP commands that the gateway executed. |
| fcpc-errors | Cumulative number of FCP errors that the gateway encountered. |
| fcpc-initiated-ios | Cumulative number of I/O replies that FC devices sent through the gateway in response to SRP requests from initiators. |
| fcpc-bytes-read | Cumulative number of Fibre Channel Protocol bytes that the card has read since it came up. |
| fcpc-bytes-written | Cumulative number of Fibre Channel Protocol bytes that the card has written since it came up. |

Examples:

The following example displays the attributes of the IP address of the gateway port.

```
Topspin-360# show interface gateway 5 ip all
=====
                        IP Address Table
=====
port  address          mask          bcast-addr reasm    type    status
      address          format      max-size
-----
4/0   10.3.22.0         255.255.255.0  1          0        primary active
Topspin-360#
```

The following example uses the **show interface gateway** command to display general gateway properties. The information fields displayed depend upon the interface type. The example below displays the properties of a Fibre Channel gateway port. To see the properties of an Ethernet port, refer to the description of [“show interface ethernet” on page 231](#).

```
Topspin-90# show interface gateway 4
=====
                        Gateway Information
=====
gateway : 4
name    : 4/0
type    : fc-gateway
desc    : 4/0 (320)
last-change : none
mtu     : 0
admin-status : up
oper-status : up
Topspin-90#
```

The following example displays traffic statistics for the internal gateway port.

```
Topspin-360# show inter gateway 2 stat
=====
                        Gateway Statistics
=====
                        slot-id: 2
                        link-events: 0
                        srp-cmds-outstanding: 0
                        srp-cmds-completed: 0
                        srp-errors: 0
                        srp-initiated-ios: 0
                        srp-bytes-read: 0
                        srp-bytes-written: 0
                        srp-connections: 0
                        fcp-cmds-outstanding: 0
                        fcp-cmds-completed: 0
                        fcp-errors: 0
                        fcp-initiated-ios: 0
                        fcp-bytes-read: 0
                        fcp-bytes-written: 0
Topspin-360#
```

Defaults:

No default behavior or values.

Related Commands:

[“fc srp initiator” on page 86](#)

[“fc srp it” on page 91](#)

[“interface” on page 45](#)

[“show ip” on page 263](#)

show interface ib

Synopsis:

To display attributes of InfiniBand ports, enter the **show interface ib** command in User Exec mode or Privileged Exec mode.

Syntax:

show interface ib *port-selection* [**sma** {**node-info** | **port-info** [**detail**]} | **statistics**]

Table 6-96: show interface ib Command Arguments

| Argument | Description |
|-----------------------|---|
| <i>port-selection</i> | Port, list of ports, or range of ports that you want to view. |
| sma | Displays subnet management agent (SMA) information. |
| node-info | Displays node-based SMA information. |
| port-info | Displays port-based SMA information |
| detail | Displays detailed, port-based SMA information. |
| statistics | Displays IB interface traffic statistics. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

InfiniBand read-only user.

Usage Guidelines:

Without the optional **sma** or **statistics** keywords, the **show interface ib** command displays general information about the InfiniBand interface port, such as its administrative status, its operational speed and status, and duplex mode.

[Table 6-97](#) lists and describes the fields in the **show interface ib** command output.

Table 6-97: show interface ib Command Field Descriptions

| Field | Description |
|-------------|---|
| port | Identifies the InfiniBand interface card and port. The format is slot#/port#. |
| name | User assigned name. If no name is assigned, the port name is displayed instead. This field is set by the name command. |
| type | Identifies the type of the InfiniBand card. Supported cards are ib1xTX, ib1xFX, ib4xTX, and ib4xFX. This field is set by the type command. |
| desc | Description of the port, in slot#/port# format. The number in parentheses serves as the SNMP identifier. |
| last-change | Time at which the InfiniBand port configuration was last changed. |

Table 6-97: show interface ib Command Field Descriptions (Continued)

| Field | Description |
|---|---|
| mtu | Maximum Transmission Unit for the InfiniBand port. Used to configure the MTU size of IP network traffic. |
| auto-negotiate supported (select Server Switches) | Displays yes if the port supports auto-negotiation or no if the port does not support auto-negotiation. |
| auto-negotiate (select Server Switches) | Indicates if the InfiniBand port on the interface card is configured to automatically negotiate connection parameters when it connects with an InfiniBand device. If auto-negotiation is enabled, the connection speed is determined at the time of connection. If the device does not support auto-negotiation, this field still displays a value, but the value does not apply. The value is enabled or disabled . The default is disabled. This field is set by the auto-negotiate command. |
| admin-status | Indicates if you have enabled the port for configuration and use. The value of this field may be up or down. The default is down. The field is set by the shutdown command. |
| oper-status | Indicates if the port is physically ready for configuration and use. The value of this field may be up or down. If this field is down but the admin-status is up, check that the InfiniBand interface card is securely seated in the slot and a cable is attached between the port and the target InfiniBand host. |
| admin-speed (select Server Switches) | Indicates the speed administratively assigned to the InfiniBand port. You can configure this setting with the speed command. |
| oper-speed (select Server Switches) | Indicates the maximum speed of the InfiniBand port, based upon the attached InfiniBand cable and polling the connected InfiniBand device. |
| link-trap | Indicates if connection link errors are to be captured and sent to trap recipients. The value may be either enabled or disabled. This field is set by the link-trap command. |

The administrative (admin) status, speed, and connection-type reflect the values you had assigned. The operational (oper) status, speed, and connection-type reflect the values derived from the physical hardware and its connections. This allows you to verify your configuration settings against the actual hardware. The admin/oper pairs do not have to match for you to use the card. However, if there is a mismatch, the oper value is used.

[Table 6-98](#) lists and describes the fields that appear when you use the **sma node-info** argument with the **show interface ib** command.

Table 6-98: sma node-info Keyword Output Field Descriptions

| Field | Description |
|-------|--|
| guid | GUID of the host. |
| type | Type of SMA node. This value always appears as switch. |

Table 6-98: sma node-info Keyword Output Field Descriptions (Continued)

| Field | Description |
|----------------|---|
| lid | Base logical ID (LID) of the port. |
| base-version | Base management datagram version that the switch supports. |
| class-version | Subnet management class that the switch supports. |
| port-guid | GUID of the port(s) that you specified with the <i>port-selection</i> variable. |
| partition-cap | Maximum number of partitions that the port supports. |
| device-id | Manufacturer-assigned device ID. |
| revision | Manufacturer-assigned device revision. |
| local-port-num | Number of the link port that received this show request. |
| vendor-id | Device vendor ID, as per the IEEE standard. |
| trap-buffer | Special purpose string buffer for InfiniBand Trap Data. |
| num-ports | Number of physical ports on the SMA node. |
| string | SMA node description string. |

[Table 6-99](#) lists and describes the fields that appear when you use the **sma port-info** argument with the **show interface ib** command.

Table 6-99: sma port-info Keyword Output Field Descriptions

| Field | Description |
|-----------------|--|
| node-guid | GUID of the IB host that connects to the port. |
| port | Host port that connects to your Server Switch. |
| mkey | 64-bit management key for this port. See section 14.2.4, Management Key and 3.5.3, Keys, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| gid-prefix | 64-bit GID prefix for this port. This prefix is assigned by the subnet manager, based upon the port router and the rules for local identifiers. See section 4.1.3, Local Identifiers, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| lid | 16-bit base-LID of this port. |
| capability-mask | 32-bit bitmask that specifies the supported capabilities of the port. A bit value of 1 (one) indicates a supported capability. The bits are: 0, 11-15, 18, 21-31 (Reserved and always 0.), 1 IsSM, 2 IsNoticeSupported, 3 IsTrapSupported, 4 IsResetSupported, 5 IsAutomaticMigrationSupported, 6 IsSLMappingSupported, 7 IsMKeyNVRAM (supports M_Key in NVRAM), 8 IsPKeyNVRAM (supports P_Key in NVRAM), 9 Is LED Info Supported, 10 IsSMdisabled, 16 IsConnectionManagementSupported, 17 IsSNMPTunnelingSupported, 19 IsDeviceManagementSupported, 20 IsVendorClassSupported. Values are expressed in hexadecimal. |
| state | A higher form of addressing than PhyState, state determines that the nodes can actually communicate and indicates the state transition that has occurred. A transition is a port change from down to initialize, initialize to down, armed to down, or active to down as a result of link state machine logic. Changes to the port state resulting from SubnSet have no affect on this parameter value. The value is noStateChange, down, initialize, armed, or active. |

Table 6-100 lists and describes the fields that appear when you use the **sma port-info details** argument with the **show interface ib** command.

Table 6-100: sma port-info details Keyword Output Field Descriptions

| Field | Description |
|-------------------|--|
| node-guid | GUID of the IB host that connects to the port. |
| port | Host port that connects to your Server Switch. |
| mkey | 64-bit management key for this port. See section 14.2.4, Management Key and 3.5.3, Keys, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| gid-prefix | 64-bit GID prefix for this port. This prefix is assigned by the subnet manager, based upon the port router and the rules for local identifiers. See section 4.1.3, Local Identifiers, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| lid | 16-bit base-LID of this port. |
| master-sm-lid | 16-bit base LID of the master subnet manager managing this port. |
| capability-mask | 32-bit bitmask that specifies the supported capabilities of the port. A bit value of 1 (one) indicates a supported capability. The bits are: 0, 11-15, 18, 21-31 (Reserved and always 0.), 1 IsSM, 2 IsNoticeSupported, 3 IsTrapSupported, 4 IsResetSupported, 5 IsAutomaticMigrationSupported, 6 IsSLMappingSupported, 7 IsMKeyNVRAM (supports M_Key in NVRAM), 8 IsPKeyNVRAM (supports P_Key in NVRAM), 9 Is LED Info Supported, 10 IsSMdisabled, 16 IsConnectionManagementSupported, 17 IsSNMPTunnelingSupported, 19 IsDeviceManagementSupported, 20 IsVendorClassSupported. Values are expressed in hexadecimal. |
| diag-code | 16-bit diagnostic code. For more information, refer to <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, section 14.2.5.6.1, “Interpretation of Diagcode.” |
| mkey-lease-period | Initial value of the lease-period timer in seconds. The lease period is the length of time that the M_Key protection bits are to remain non-zero after a SubnSet (PortInfo) fails an M_Key check. After the lease period expires, clearing the M_Key protection bits allows any subnet manager to read (and then set) the M_Key. Set this field to 0 to indicate that the lease period is never to expire. Refer to <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, section 14.2.4, “Management Key.” |
| local-port-num | Number of the link port which received this request, otherwise the value is 0. |

Table 6-100: sma port-info details Keyword Output Field Descriptions (Continued)

| Field | Description |
|----------------------|---|
| link-width-enabled | Enabled link width (speed). The value is an integer that indicates the enabled link-width sets for this port. The value may be <ul style="list-style-type: none"> • 0 (no state change), • 1 (1x), • 2 (4x), • 3 (1x or 4x), • 8 (12x), • 9 (1x or 12x), • 10 (4x or 12x), • 11 (1x, 4x or 12x), • 255 (set this parameter to the link-width-supported value). |
| link-width-supported | Supported link width. The value is 1 (1x), 3 (1x or 4x), or 11 (1x, 4x, or 12x). |
| link-width-active | Active link width. This parameter is used with LinkSpeedActive to determine the link rate between the two connected nodes. The value is width1x, width4x, or width12x. |
| link-speed-supported | Speed that the link between the host and your device supports. |
| state | A higher form of addressing than PhyState, state determines that the nodes can actually communicate and indicates the state transition that has occurred. A transition is a port change from down to initialize, initialize to down, armed to down, or active to down as a result of link state machine logic. Changes to the port state resulting from SubnSet have no affect on this parameter value. The value is noStateChange, down, initialize, armed, or active. |
| port-phys | Indicates the actual state of the port. Determines that electricity flows between nodes so they can hand-shake. The value is noStateChange, sleeping, polling, disabled, portConfigurationTrainig, linkup, or linkErrorRecovery. |
| link-down-def | Default LinkDown state to return to. The value is noStateChange, sleeping, or polling. See section 5.5.2, Status Outputs (MAD GET), <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| mkey-protect-bits | Management key protection bits for the port. The bits are 0, 1, 2, and 3. See section 14.2.4.1, Levels of Protection, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| lmc | Local-identifier mask control (LMC) for multipath support. A LMC is assigned to each channel adapter and router port on the subnet. It provides multiple virtual ports within a single physical port. The value of the LMC specifies the number of path bits in the LID. A value of 0 (zero) indicates one LID is allowed on this port. See sections 3.5.10, Addressing, and 4.1.3, Local Identifiers, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| ls-active | Speed of an active link. The value is 1 (2.5 Gbps). |
| ls-active-enabled | Maximum speed the link is capable of handling. The value is 0 (No state change), 1 (2.5 Gbps), or 3 (value derived from link-speed-supported). |

Table 6-100: sma port-info details Keyword Output Field Descriptions (Continued)

| Field | Description |
|-------------------------|--|
| neighbor-mtu | Active maximum transmission unit enabled on this port for transmit. Check the mtu-cap value at both ends of every link and use the lesser speed. The value is mtu256, mtu512, mtu1024, mtu2048, or mtu4096. |
| master-sm-sl | Administrative service level required for this port to send a non-SMP message to the subnet manager. |
| vl-cap | Maximum range of data virtual lanes supported by this port. The value is vl0, vl0ToVl1, vl0ToVl3, vl0ToVl7, or vl0ToVl14. See also oper-VL. |
| vl-high-limit | Maximum high-priority limit on the number of bytes allowed for transmitting high-priority packets when both ends of a link operate with multiple data virtual-lanes. Used with the virtual-lane arbitration table. The maximum high-limit is determined by checking the vl-arb-high-cap on the other side of the link and then negotiating downward. |
| vl-arbitration-high-cap | Highest arbitration value allowed by the arbiter in determining the next packet in a set of packets to send across the link. Used with the virtual-lane arbitration table and specified as a VL/Weight pair. See section 14.2.5.9, VL Arbitration Table, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| vl-arbitration-low-cap | Lowest arbitration value allowed by the arbiter in determining the next packet in a set of packets to send across the link. Used with the virtual-lane arbitration table and specified as a VL/Weight pair. See section 14.2.5.9, VL Arbitration Table, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for more information. |
| mtu-cap | Used in conjunction with neighbor-mtu to determine the maximum transmission size supported on this port. The lesser of mtu-cap and neighbor-mtu determines the actual MTU used. The value is 256, 512, 1024, 2048, or 4096 |
| vl-stall-count | Number of sequentially dropped packets at which the port enters a VLStalled state. The virtual lane exits the VLStalled state (8 * HLL) units after entering it. See section 18.2.5.4, Transmitter Queuing, <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, for a description of HLL. |
| hoq-life | Maximum duration allowed to packets at the head of a virtual-lane queue. Used with VL-stall-count to determine the outgoing packets to discard. |
| op-vls | Administrative limit for the number of virtual lanes allowed to the link. Do not set this above the VL-cap value. The value is vl0, vl0-Vl1, vl0-Vl3, vl0-Vl7, or vl0-Vl14. |
| pkey-enf-in | Boolean value that indicated whether or not to support optional partition enforcement for the packets received by this port. |
| pkey-enf-out | Boolean value that indicates whether or not to support optional partition enforcement for the packets transmitted by this port. |
| filter-raw-pkt-in | Boolean value that indicates whether or not so support optional raw packet enforcement for the raw packets received by this port. |
| filter-raw-pkt-out | Boolean value that indicates whether or not so support optional raw packet enforcement for the raw packets transmitted by this port. |
| mkey-violations | Number of subnet management packets (SMPs) that have been received on this port with invalid M_Keys since initial power-up or last reset. For more information refer to section 14.2.4, “Management Key” in <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1. |

Table 6-100: sma port-info details Keyword Output Field Descriptions (Continued)

| Field | Description |
|-----------------|--|
| pkey-violations | Number of subnet management packets that have been received on this port with invalid P_Keys since initial power-up or the last reset. For more information, refer to section 9.2.7, “Partition Key” in <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1. |
| qkey-violations | Number of subnet management packets that have been received on this port with invalid Q_Keys since initial power up or the last reset. For more information, refer to <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, section 10.2.4, “Q Keys.” |
| guid-cap | Number of GUID entries allowed for this port in the port table. For more information, refer to <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, section 14.2.5.5, “GUIDCap.” |
| subnet-timeout | Maximum propagation delay allowed for this port to reach any other port in the subnet. This value also affects the maximum rate at which traps can be sent from this port. |
| resp-timeout | Maximum time allowed between the port reception of a subnet management packet and the transmission of the associated response. For more information, refer to <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, section 13.4.6.2, “Timers and Timeouts.” |
| local-phys-err | Threshold at which ICRC, VCRC, FCCRC, and all physical errors result in an entry into the BAD PACKET or BAD PACKET DISCARD states of the local packet receiver. For more information, refer to <i>InfiniBand Architecture</i> ®, Vol. 1, Release 1.1, section 7.12.2, “Error Recovery Procedures.” |
| overrun-err | Threshold at which the count of buffer overruns across consecutive flow-control update periods results in an overrun error. |

[Table 6-101](#) lists and describes the fields that appear when you use the **statistics** keyword with the **show interface ib** command.

Table 6-101: statistics Keyword Output Field Descriptions

| Field | Description |
|-------------------|--|
| port | Port identifier, in slot#/port# format. |
| name | Administrative port name that you configured with the name command. |
| in-octets | Cumulative number of octets that arrived at the port, including framing characters. |
| in-ucast-pkts | Cumulative number of incoming packets destined for a single port. |
| in-multicast-pkts | Cumulative number of incoming packets destined for the ports of a multicast group. |
| in-broadcast-pkts | Cumulative number of incoming packets destined for all ports on the fabric. |
| in-discards | Cumulative number of inbound packets that the port discarded for a reason other than a packet error (e.g. lack of buffer space). |
| in-errors | Number of inbound packets with errors that the port discarded. |

Table 6-101: statistics Keyword Output Field Descriptions (Continued)

| Field | Description |
|--------------------|---|
| in-unknown-protos | For packet-oriented interfaces, the number of packets received via the interface which were discarded because of an unknown or unsupported protocol. For character-oriented or fixed-length interfaces that support protocol multiplexing, the number of transmission units received via the interface which were discarded because of an unknown or unsupported protocol. For any interface that does not support protocol multiplexing, this counter is always 0. |
| out-octets | Total number of octets transmitted out of the interface, including framing characters. |
| out-ucast-pkts | Total number of packets that higher-level protocols requested be transmitted, and which were not addressed to a multicast or broadcast address at this sub-layer, including those that were discarded or not sent. |
| out-multicast-pkts | Total number of packets that higher-level protocols requested be transmitted, and which were addressed to a multicast address at this sub-layer, including those that were discarded or not sent. |
| out-broadcast-pkts | Total number of packets that higher-level protocols requested to be transmitted, and which were addressed to a broadcast address at this sub-layer, including those that were discarded or not sent. |
| out-discards | Number of outbound packets which were chosen to be discarded even though no errors had been detected to prevent their being transmitted. One possible reason for discarding such a packet could be to free-up buffer space. |
| out-errors | For packet-oriented interfaces, the number of outbound packets that could not be transmitted because of errors. For character-oriented or fixed-length interfaces, the number of outbound transmission units that could not be transmitted because of errors. |

Examples:

The following example shows the output of the **show interface ib** command without the **sma** or **statistics** keywords.

```

Topspin-270# show interface ib 4/7

=====
                InfiniBand Interface Information
=====
                port : 4/7
                name  : 4/7
                type   : ib4xFX
                desc   : 4/7 (263)
    last-change : none
                mtu    : 0
auto-negotiate-supported : yes
    auto-negotiate : enabled
    admin-status   : up
    oper-status    : down
    admin-speed     : 10gbps
    oper-speed      : unknown
    link-trap       : enabled

```

The following example shows the output of the **show interface ib** command with the **statistics** keyword.

```
Topspin-270# show interface ib 4/7 statistics
```

```

                        InfiniBand Interface Statistics
=====
                        port : 4/7
                        name : 4/7
                        in-octets : 0
                        in-ucast-pkts : 0
in-multicast-pkts : 0
in-broadcast-pkts : 0
                        in-discards : 0
                        in-errors : 0
in-unknown-protos : 0
                        out-octets : 0
                        out-ucast-pkts : 0
out-multicast-pkts : 0
out-broadcast-pkts : 0
                        out-discards : 0
                        out-errors : 0
```

Defaults:

No default behavior or values.

Related Commands:

[“interface” on page 45](#)

[“ib-agent” on page 111](#)

[“name” on page 56](#)

show interface mgmt-ethernet

Synopsis:

To show the configuration of the Ethernet Management port on the controller card of your Server Switch, enter the **show interface mgmt-ethernet** command in User Exec mode or Privileged Exec mode.

Syntax:

show interface mgmt-ethernet

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

The Ethernet Management port is an Out-of-Band Management (OBM) port that provides network access to the Topspin system chassis in order to run remote CLI and Element Manager sessions. The port must be configured before it can be used.

This command displays the administrative status of the interface port, its assigned IP address and subnet mask, plus the IP address of the gateway port used to connect to the Ethernet Management port. If the Ethernet host is directly connected to the Ethernet Management port, without having to go through Ethernet switches, the default gateway-addr value is 0.0.0.0.

On the Topspin 360, you may only access the Ethernet Management port on the currently active controller card. The CLI always defaults to port 2 on the active controller card.

[Table 6-102](#) lists and describes the fields that appear in the **show interface mgmt-ethernet** command output.

Table 6-102: show interface mgmt-ethernet Command Output Fields

| Field | Description |
|----------------|--|
| port | Ethernet management port number, in slot#/port# format. |
| mac-address | MAC address of the Ethernet management port. |
| auto-negotiate | Displays enabled if the port automatically negotiates link speed. |
| admin-status | Displays up if you enabled the port and down if you disabled the port. |
| ip-addr | IP address of the port. |
| mask | Subnet mask of the port. |
| gateway-addr | Gateway configured for the port. |
| addr-option | Address option of the port (see addr-option command on page 15). |

Examples:

The following example displays the configuration of the Ethernet Management port on the active controller.

```
Topspin-270# show interface mgmt-ethernet
```

```
=====
                        Mgmt-Ethernet Information
=====

      port : 15/1
  mac-address : 00:05:ad:00:19:16
auto-negotiate : enabled
  admin-status : up
    ip-addr : 10.3.108.43
      mask : 255.255.0.0
gateway-addr : 10.3.0.1
  addr-option : static
```

Defaults:

The gateway address value defaults to 0.0.0.0.

Related Commands:

[“gateway” on page 39](#)

[“interface” on page 45](#)

show interface mgmt-ib

Synopsis:

To display the status and address information for the virtual InfiniBand Management port, enter the **show interface mgmt-ib** command in User Exec mode or Privileged Exec mode.

Syntax:

show interface mgmt-ib

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

Use this command to verify that you have configured your InfiniBand Management port successfully. Compare this output to the configuration file and check for discrepancies. You must configure the InfiniBand Management port successfully to run telnet, SSH, and Element Manager.

Examples:

The following example displays the status and address information of the IB Management port.

```
Topspin-90# show interface mgmt-ib
=====
                        Mgmt-InfiniBand Information
=====
      descr : Inband Management Port
  admin-status : up
    ip-addr  : 192.168.2.200
      mask   : 255.255.255.0
 gateway-addr : 0.0.0.0
Topspin-90#
```

Defaults:

No default behavior or values.

Related Commands:

[“gateway” on page 39](#)

[“interface” on page 45](#)

[“telnet” on page 72](#)

show interface mgmt-serial

Synopsis:

To display the configuration of the Serial Console port on the controller card of your Server Switch, enter the **show interface mgmt-serial** command in User Exec mode or Privileged Exec mode.

Syntax:

show interface mgmt-serial

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

This command displays the default configuration. This configuration cannot be changed.

The Serial Console port is the initial connection point with the Topspin system chassis and is used to configure the Ethernet Management and Infiniband Management ports. This port must be configured and a management station attached before any interaction with the Topspin system chassis is possible.

For the Topspin 360, you may only access the Serial Console port on the currently active controller card.

Examples:

```
Topspin-90# show interface mgmt-serial
=====
                        Mgmt-Serial Information
=====
      baud-rate : 9600
      data-bits  : 8
      stop-bits  : 1
      parity     : off
Topspin-90#
```

Defaults:

No default behavior or values.

Related Commands:

[“show interface mgmt-ethernet” on page 259](#)

[“show interface mgmt-ib” on page 261](#)

[“shutdown” on page 64](#)

show ip

Synopsis:

To display IP configuration data, enter the **show ip** command in User Exec mode or Privileged Exec mode.

Syntax:

show ip [**address-table** | **route** | **http** [**server secure**]]

Table 6-103: show ip Command Syntax Description

| Syntax | Description |
|----------------------|---|
| address-table | This keyword displays the address information of Ethernet interface ports, Ethernet interface cards, and InfiniBand interface cards. It lists the IP addresses, netmasks, broadcast formats, reassembly sizes, and whether or not the IP address is a primary or backup. |
| route | This keyword displays the Classless Inter-Domain Routing (CIDR) forwarding records or routes (both static and dynamic) of all IP routes to Topspin system ports. Included in this information are the route destination, route type, route protocol, next hop, and port used. |
| http | Displays current HTTP settings. |
| server secure | Displays current secure HTTP server settings. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Ethernet read-only user.

Usage Guidelines:

Use this command to view the results of the **ip** command.

Examples:

The example below shows the output of the **show ip address-table** command. Note that port 0 always indicates the gateway port of the interface card.

```
Topspin-360# show ip address-table
=====
                        IP Address Table
=====
port  address          mask                bcast-addr  reasm    type    status
      address          mask                format      max-size
-----
 4/0  192.168.2.1        255.255.255.0      1           0        primary active
 4/1  192.168.1.1        255.255.255.0      1           0        primary active
 4/2  192.168.3.1        255.255.255.0      1           0        primary active
Topspin-360#
```

The example below shows the local Ethernet routes for the Topspin system chassis. Local routes are automatically generated whenever you assign an IP address to a Topspin system card or port. The codes

shown in the **proto** column are explained in the output header. A next-hop value of 0.0.0.0 always indicates a local route.

```
Topspin-90# show ip route
```

```
=====
                                IP Routes
=====
Protocol Codes: OT - other      L - local      NM - netmgmt    IC - icmp
E - egp      G - ggp      H - hello      R - rip      IS - ISIS      ES - ES_IS,
CI - ciscoIgrp  BS - bbnSpfIgp  O - OSPF      B - BGP      ID - IDPR

dest          mask          next-hop      port  type  proto metric
-----
10.10.0.3     255.255.255.0    192.168.1.0  4/1   remote NM      0
192.168.1.0   255.255.255.0    0.0.0.0      4/1   local  L       0
192.168.2.0   255.255.255.0    0.0.0.0      4/0   local  L       0
192.168.3.0   255.255.255.0    0.0.0.0      4/2   local  L       0
Topspin-90#
```

Defaults:

No default behavior or values.

Related Commands:

[“interface” on page 45](#)

[“ip” on page 120](#)

show ip http

Synopsis:
 To view the configuration of the HTTP server on your Server Switch, enter the **show ip http** command in User Exec mode or Privileged Exec mode.

Syntax:
show ip http

Platform Availability:
 HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:
 User Execute mode, Privileged Execute mode.

Privilege Level:
 Ethernet read-only user.

Usage Guidelines:
 Use this command to determine if your HTTP server actively runs on your Server Switch, and to determine the HTTP port number that it uses.
[Table 6-104](#) lists and describes the fields in the command output.

Table 6-104: show ip http Command Output Field Descriptions

| Field | Description |
|---------|---|
| server | Displays enabled if you have activated the server with the ip http server command. Displays disabled if you have deactivated the server with the no ip http server command. |
| port | Displays the HTTP port number that the HTTP server uses. |
| polling | Displays enabled or disabled to indicate polling status. |

Examples:
 The following example displays the configuration of the HTTP server on the Server Switch.

```

Topspin-270# show ip http

=====
                                IP HTTP Info
=====

server : enabled
  port : 80
polling : enabled
  
```

Defaults:
 No default behavior or values.

Related Commands:
[“ip http” on page 47](#)

show ip http server secure

Synopsis:
To view the HTTPS configuration on your Server Switch, enter the **show ip http secure server** command in User Exec mode or Privileged Exec mode.

Syntax:
show ip http secure server

Platform Availability:
HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:
User Execute mode, Privileged Execute mode.

Privilege Level:
Ethernet read-only user.

Usage Guidelines:
Use this command to determine if HTTPS actively runs on your Server Switch, and to determine the HTTPS port number that it uses.
[Table 6-105](#) lists and describes the fields in the command output.

Table 6-105: show ip http Command Output Field Descriptions

| Field | Description |
|-------------------------|---|
| secure-server | Displays enabled if you have activated the server with the ip http server command. Displays disabled if you have deactivated the server with the no ip http server command. |
| secure-port | Displays the HTTP port number that the HTTP server uses. |
| secure-cert-common-name | Certificate name of the secure server. |

Examples:
The following example displays the HTTPS configuration on the Server Switch.

```
Topspin-270# show ip http server secure

=====

                        IP HTTP Secure Info
=====

secure-server : enabled
secure-port   : 443
secure-cert-common-name : useMgmtEnetIpAddress
```

Defaults:
No default behavior or values.

Related Commands:
[“ip http” on page 47](#)

show location

Synopsis:

To display the location data on your Server Switch, enter the **show location** command in User Exec mode or Privileged Exec mode.

Syntax:

show location

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

The **show location** command displays some contact information to the user, however, it may be configured to display any desired text string.

Examples:

The following example displays the location information that you configured with the **location** command.

```
Topspin-90# show location
515 Ellis Street, Mountain View, CA 94043
Topspin-90#
```

Defaults:

No default behavior or values.

Related Commands:

[“location” on page 50](#)

[“snmp-server” on page 67](#)

[“show version” on page 288](#)

show logging

Synopsis:

To display the active system log file, enter the **show logging** command in User Exec mode or Privileged Exec mode.

Syntax:

show logging [**end**]

Table 6-106: show logging Syntax Description

| Syntax | Description |
|------------|---|
| end | Displays approximately the last 10 entries in the system log and then continues to display log entries as they occur. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

Use this command to view any of the following:

- warnings
- errors
- notifications
- alerts

You may want to set the number of lines displayed per screen using the **terminal length** command. You can also use the **more** command on ts_log instead of the **show logging** command.

The **show logging end** command is the equivalent of using the UNIX **tail -f** command. The CLI continues to display log entries as they occur until you enter **Ctrl-c**. No other CLI commands may be entered until **Ctrl-c** is used to stop the log display.

It is recommended you set the terminal page length to 0 when using the end argument. Otherwise, you will have to keep pressing the space bar to continue each time the maximum display length is reached. Once you set the page length, do not change the terminal window size. Changing window size restores the terminal length to that of the window and restarts paging.

The system log file on the chassis controller is /var/log/topspin.

Examples:

The following example displays the last 10 log entries.

```
Topspin-90# show logging end
Jan  3 11:09:58 igr-cc ib_sm.x[597]: [INFO]: Successfully add pgid
fe80000000000000000000005ad00000001199 to mgid ff18a01b0000000000000005ad00000002
Jan  3 17:02:56 igr-cc port_mgr.x[535]: [INFO]: port down - port=16/7, type=ib4xFX
Jan  3 17:02:58 igr-cc port_mgr.x[535]: [INFO]: port up - port=16/7, type=ib4xFX
Jan  3 18:21:46 igr-cc port_mgr.x[535]: [INFO]: port down - port=16/2, type=ib4xFX
Jan  3 18:21:48 igr-cc port_mgr.x[535]: [INFO]: port up - port=16/2, type=ib4xFX
Jan  3 19:35:55 igr-cc chassis_mgr.x[523]: [CONF]: [super]: config snmp trap-receiver
10.10.253.47
Jan  3 19:35:55 igr-cc chassis_mgr.x[523]: [CONF]: [super]: config snmp trap-receiver
10.10.253.47 version v2c
Jan  3 19:35:55 igr-cc chassis_mgr.x[523]: [CONF]: [super]: config snmp trap-receiver
10.10.253.47 community public
Jan  3 19:35:55 igr-cc chassis_mgr.x[523]: [CONF]: [super]: config snmp trap-receiver
10.10.253.47 community public
```

Defaults:

No default behavior or values.

Related Commands:

[“copy” on page 26](#)

[“logging” on page 51](#)

[“show config” on page 155](#)

[“telnet” on page 72](#)

[“terminal” on page 73](#)

show ntp

Synopsis:

To display

- the current date and time of your Server Switch,
 - the Network Time Protocol (NTP) servers that your Server Switch uses to set the system clock,
- enter the **show ntp** command in User Exec mode or Privileged Exec mode.

Syntax:

show ntp

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

Use the **clock set** command to set the time and date. Use the **ntp** command to set the NTP servers that are to maintain the system clock.

Examples:

The following example displays the current date and time, as well as NTP server details.

```
Topspin-360> show ntp
=====
                        NTP Information
=====
                        Date : 04/16/03
                        Time : 16:02:43
                        Server One : 10.3.120.55
                        Server Two : 10.3.120.56
                        Server Three : 10.3.120.57
Topspin-360>
```

Defaults:

No default behavior or values.

Related Commands:

[“ntp” on page 57](#)

[“clock set” on page 22](#)

show power-supply

Synopsis:

To display the status of the power supplies on your Server Switch, enter the **show power-supply** command in User Exec mode or Privileged Exec mode.

Syntax:

show power-supply

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

Use this command to monitor the power supply. This command primarily serves to help management tools continuously monitor power supply status. Errors in the ts_log file may prompt you to check power supply status.

Table 6-107: show power-supply Command Field Descriptions

| Field | Description |
|-----------------------|--|
| type | Indicates AC power. |
| oper-status | Displays up or down to indicate the status of the power supply. |
| utilization | Displays percentage of power utilization when multiple power supplies provide power. Displays n/a when one power supply runs. |
| voltage | Voltage of the power supply. |
| product serial-number | Factory-assigned product serial number. |
| pca serial-number | Printed circuit assembly (PCA) serial number. |
| pca number | Printed Circuit Assembly (PCA) assembly number. |
| fru number | Field replaceable unit (FRU) number for the actual switch (select chassis) or chassis (select chassis). |

Examples:

The following example displays power supply details.

```
Topspin-270> show power-supply
```

```
=====
Power-supply Information
=====
ps      type      oper-status  utilization  voltage
-----
1       AC        up           n/a          48
2       AC        down        n/a          48

=====
Power-supply Seeprom
=====
ps      product      pca          pca          fru
serial-number serial-number number        number
-----
1       -            -            -            -
2
```

Defaults:

No default behavior or values.

Related Commands:

[“show backplane” on page 129](#)

[“show fan” on page 156](#)

[“show sensor” on page 277](#)

show redundancy-group

Synopsis:

To display redundancy group information, enter the **show redundancy-group** command in User Exec mode or Privileged Exec mode.

Syntax:

show redundancy-group [*rlb-id*]

Table 6-108: show redundancy-group Command Arguments

| Argument | Description |
|---------------|---|
| <i>rlb-id</i> | Number of the redundancy group that you want to view. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Ethernet read-only user.

Usage Guidelines:

Use this command to view redundancy groups and attributes of redundancy groups. [Table 6-109](#) lists and describes the fields in the command output.

Table 6-109: show redundancy-group Command Field Descriptions

| Field | Description |
|-----------------|--|
| rlb-id | Redundancy group ID. |
| name | Redundancy group name. |
| fail-over-order | Failover order of the group. |
| load-balancing | Displays enabled if load balancing runs, otherwise displays disabled . |
| num-members | Number of members in the redundancy group. |

Examples:

The following example displays the redundancy groups on the chassis.

```
Topspin-360# show redundancy-group

=====
                        Redundancy Groups
=====
      rlb-id : 11
        name :
fail-over-order : auto
load-balancing : disabled
    num-members : 2
```

Defaults:

This command displays all redundancy groups by default.

Related Commands:

[“redundancy-group” on page 123](#)

show running-status

Synopsis:

To execute a thorough range of show commands for a particular technology, enter the **show running-status** command in User Exec mode or Privileged Exec mode.

Syntax:

show running-status {**all** | **ethernet** | **fc** | **ib**} [**to-file**]

Table 6-110: show running-status Command Arguments

| Argument | Description |
|-----------------|--|
| all | Runs show commands for Ethernet, Fibre Channel, and InfiniBand technologies. |
| ethernet | Runs show commands for Ethernet only. |
| fc | Runs show commands for Fibre Channel only. |
| ib | Runs show command for InfiniBand only. |
| to-file | Saves the output of the show commands to a file in the syslog directory on your Server Switch and displays the name of the file. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

This command can generate a large amount of data. Data is displayed per **terminal length** command settings. When executed, this command first prompts you to verify your desire to generate the data. Enter **y** to continue or **n** to cancel.

The default output file is **syslog:igr_interface_runningstatus**, where *interface* may be ether, fc, ib, or all. If the file already exists, it will be overwritten. This text file may be uploaded to another system using the **copy** command or viewed using the **more** command.

Examples:

The following example runs all Ethernet show commands.

```

Topspin-90> show running-status ethernet
Are you sure you want to continue? [yes/no] y
Gathering system-wide information, please wait.....
Topspin-90> show arp ethernet
=====
                        ARP Information
=====
port      physical-address      net-address      type
-----
Topspin-90> show arp ib
=====
                        ARP Information
=====
port physical-address                        net-address      type
-----

Topspin-90> show backplane
=====
                        Backplane Seeprom
=====
base-mac-addr      chassis-id
-----
1a:0:a:3a:0:a      0x6000000000
...
...

```

Defaults:

No default behavior or values.

Related Commands:

See most of the other “show” commands.

[“show interface ethernet” on page 231](#)

[“show interface fc” on page 239](#)

show sensor

Synopsis:

To display the temperature at several key locations in your Server Switch, enter the **show sensor** command in User Exec mode or Privileged Exec mode.

Syntax:

show sensor

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

The **show sensor** command identifies the temperature sensors in the Topspin system chassis. It also reports their location in the chassis and the current temperature at that location. Chassis temperature should be monitored to verify the cooling efficiency of the blowers and your data center air-conditioning.

Temperatures are in degrees Celsius and vary depending upon their location.

Normal temperature levels for the Topspin 90 remain 10 to 20 degrees Celsius above the ambient temperature.

75 C would be an alarm temp. and the system will reset itself at 85 C

Table 6-111: show sensor Command Field Descriptions

| Field | Descriptions |
|--|--|
| sensor | Number of the temperature sensor. |
| oper-status | Operational status of the sensor (up or down). |
| oper-code (select Server Switches) | Operational code of the sensor. |
| temperature | Temperature that the sensor reads, in degrees Celsius. |
| alarm-temp (select Server Switches) | Temperature at which the sensor sounds an alarm. |
| shutdown-temp (select Server Switches) | Temperature at which the sensor shuts down the Server Switch. |

Examples:

The following example displays the temperature sensor information on the Server Switch.

```
Topspin-270# show sensor

=====

                        Sensor Information
=====

sensor oper-status oper-code  temperature(c)  alarm-temp(c)  shutdown-temp(c)
-----
10/1   up           normal      35             75             85
11/1   up           normal      31             75             85
12/1   up           normal      29             75             85
13/1   up           normal      31             75             85
15/1   up           normal      38             70             80
16/1   up           normal      37             70             80
```

Defaults:

No default behavior or values.

Related Commands:

[“show fan” on page 156](#)

[“show power-supply” on page 271](#)

show snmp

Synopsis:

To display the SNMP receivers for link traps on your Server Switch, enter the **show snmp** command in User Exec mode or Privileged Exec mode.

Syntax:

show snmp[user {all | user-name}]

Table 6-112: show snmp Command Arguments

| Argument | Description |
|------------------|---|
| user | Displays SNMP information for all users or for one particular user if you specify that user with the <i>user-name</i> variable. |
| <i>user-name</i> | User whose SNMP information you want to display. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

Use this command to verify the SNMP servers that you configure with the **snmp-server** command.

Examples:

The following example displays the SNMP trap receivers configured on the Server Switch.

```
Topspin-270# show snmp
```

```
=====
                        SNMP Information
=====
      contact : support@topspin.com
      location : 515 Ellis Street, Mountain View, CA 94043
=====

                        Trap Receivers
=====
ipaddr      version      community      recv-events
-----
```

The following example displays the SNMP trap receivers for all users.

```
Topspin-270# show snmp user
```

```
=====
                        SNMPv3 User Information
=====
engine-id : 80:00:18:3b:05:05:00:30:30:30:30:30:31:39:37:64

    username : admin
    auth-type : sha
    auth-password : C568FC22657A9EF602C0B81EEC159554B89DD75A
    priv-type : des56
    priv-password : C568FC22657A9EF602C0B81EEC159554
    permission-level : ib-rw, ip-ethernet-rw, fc-rw
    enable : disabled

    username : guest
    auth-type : none
    priv-type : none
    permission-level : ib-ro, ip-ethernet-ro, fc-ro
    enable : disabled

    username : super
    auth-type : md5
    auth-password : C447A2DCD5FE2AD2167DF19401881AE0
    priv-type : des56
    priv-password : C447A2DCD5FE2AD2167DF19401881AE0
    permission-level : unrestricted-rw
    enable : disabled
```

Defaults:

No default behavior or values.

Related Commands:

[“link-trap” on page 49](#)

[“location” on page 50](#)

[“logging” on page 51](#)

[“snmp-server” on page 67](#)

show system-services

Synopsis:

To display system services such as FTP and telnet, enter the **show system-services** command in User Exec mode or Privileged Exec mode.

Syntax:

show system-services

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

Use this command to discover what system services (e.g. telnet, ftp, and syslog) run on your Server Switch. You can configure any or all of these services to manage your Server Switch.

Examples:

The following example displays the system services that run on the Server Switch.

```
Topspin-360# show system-services
=====
                        System Services
=====
      ftp service : disabled
    telnet service : enabled
    syslog server  : 0.0.0.0
=====
                        NTP Information
=====
      date  : 09/30/03
      time  : 09:57:19
server-one : 0.0.0.0
server-two : 0.0.0.0
server-three : 0.0.0.0
=====
                        Host Information
=====
name-server-one : 0.0.0.0
name-server-two : 0.0.0.0
domain-name    :
```

Defaults:

No default behavior or values.

Related Commands:

[“ftp-server enable” on page 38](#)

[“history” on page 41](#)

[“radius-server” on page 59](#)

[“snmp-server” on page 67](#)

[“ntp” on page 57](#)

[“hostname” on page 42](#)

[“ip” on page 120](#)

[“telnet” on page 72](#)

[“terminal” on page 73](#)

show terminal

Synopsis:

To display terminal parameters, enter the **show terminal** command in User Exec mode or Privileged Exec mode.

Syntax:

show terminal

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

Use this command to view information about your CLI session. The command provides useful information such as timeout parameters, output-screen length, and history-buffer size.

Examples:

```
Topspin-90# show terminal
Console is enabled
Connection host address is 10.10.253.128
Length: 25 lines, Width: 80 columns
Timeouts: enabled, Value: 15 minutes
Session limit is set to 3
History is enabled, history size is 30
Maximum command length is 512 characters
Maximum login attempts is 5
```

Defaults:

No default behavior or values.

Related Commands:

[“telnet” on page 72](#)

[“terminal” on page 73](#)

show trace

Synopsis:

To display the system program modules that your Server Switch calls, enter the **show trace** command in User Exec mode or Privileged Exec mode.

Syntax:

show trace app *application-number* [**module** *module-number*] [**card** *card-number*]

Table 6-113: show trace Command Arguments

| Argument | Description |
|---------------------------|---|
| app | Specifies the application to trace. |
| <i>application-number</i> | Number of the application to trace. Use the online help (?) to view a list of applications and application numbers. |
| module | Specifies the module to trace. |
| <i>module-number</i> | Number of the module to trace. Use the online help (?) to view a list of modules and module numbers. |
| card | Specifies the card to trace. |
| <i>card-number</i> | Number of the card to trace. Use the online help (?) to view a list of cards and card numbers. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

This command is intended primarily for program debug under the direction of Support personnel. Recommend hiding this command from customers.

Examples:

The following example traces application 9, module 1, card 2.

```
Topspin-360> show trace app 9 mod 1 card 2
AMF          1      0x0          0x0
```

Defaults:

No default behavior or values.

Related Commands:

- [“show logging” on page 268](#)
- [“trace” on page 75](#)

show trunk

Synopsis:

To display the current configuration of trunk groups, enter the **show trunk** command in User Exec mode or Privileged Exec mode.

Syntax:

show trunk [*trunk id*]

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

Unrestricted read-write user.

Usage Guidelines:

Use this command to view the trunk groups that you have configured on your Server Switch. You can verify trunk-group related changes that you have made to the configuration file with the **show trunk** command.

Examples:

The following example displays the trunk groups on the Server Switch.

```
Topspin-90# show trunk
```

```
=====
                        Trunks Groups
=====

trunk-group-id : 1
trunk-group-name :
distribution-type : src-dst-mac
port-members :
    enable : false
    mtu : 0
mac-addr : 00:00:00:00:00:00
ifindex : 45057
```

Defaults:

No default behavior or values.

Related Commands:

[“distribution-type” on page 117](#)

[“interface” on page 45](#)

[“trunk-group” on page 124](#)

show user

Synopsis:

To display user information for yourself or one or more users on the Server Switch, enter the **show user** command in User Exec mode or Privileged Exec mode.

Syntax:

show user [*user* | **all**]

Table 6-114: show user Command Arguments

| Syntax | Description |
|-------------|--|
| <i>user</i> | User to display. |
| all | Displays all users in the user database. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only and unrestricted read-write user.

Usage Guidelines:

Enter the **show user** command with no arguments to display your current user information. The command lists user name, access level, status, and login statistics. All users may view their own user information, however, only an unrestricted read-write user may view the user information of others. The **show user** command tracks statistics that start from the last time the Server Switch booted.

[Table 6-115](#) lists and describes the fields in the **show user** command output.

Table 6-115: show user Command Field Descriptions

| Field | Description |
|-------------------------|--|
| username | Login name of the user. |
| password | Encrypted user password. |
| snmp-community | The SNMP community string that the user needs to run SNMP commands and the Element Manager GUI. |
| permission-level | Permission restrictions that define the commands in the CLI that the user can access. |
| admin-status | Displays enabled if the user account can log in and execute commands. Displays disabled if an unrestricted user has suspended the account so no one can use it. Enable or disable an account with the username command. |
| num-logins | Number of times the login logged in since the Server Switch booted. |
| num-unsuccessful-logins | Number of times the login failed to log in successfully since the Server Switch booted. |
| last-login | Most recent login with the username. |
| last-unsuccessful-login | Most recent failed login with the username. |

Examples:

The following example displays the admin user.

```
Topspin-360> show user admin
=====
User Information
=====
      username : admin
      password  : $1$IJ5..U6.$lSxb8uqVuUG7kOmiRsxHt1
      snmp-community : private
      permission-level : ib-rw, ip-ethernet-rw, fc-rw
      admin-status  : enabled
      num-logins    : 1
      num-unsuccessful-logins : 0
      last-login    : Thu Apr 10 22:06:48 2003
      last-unsuccessful-login :
Topspin-360>
```

The following example shows the login information of the current user.

```
Topspin-90> show user
=====
User Information
=====
      username : super
      password  : $1$IJ5..U6.$ES3pIhx/ccUaCKgM65vp6.
      snmp-community : secret
      permission-level : unrestricted-rw
      admin-status  : enabled
      num-logins    : 4
      num-unsuccessful-logins : 0
      last-login    : Thu Apr 10 22:06:59 2003
      last-unsuccessful-login :
Topspin-90>
```

Defaults:

The **show user** command without arguments displays the account information for the user who executes the command.

Related Commands:

[“username” on page 79](#)

show version

Synopsis:

To display a general, high-level description of your Server Switch, enter the **show version** command in User Exec mode or Privileged Exec mode.

Syntax:

show version

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

User Execute mode, Privileged Execute mode.

Privilege Level:

General read-only user.

Usage Guidelines:

This command provides the software version, contact information, system up-time, time of last configuration change, and the last action performed on the Server Switch.

Examples:

The following example displays the system version.

```
Topspin-270> show version

=====
                        System Version Information
=====
system-version : Topspin-270 TopspinOS 2.5.0-BETA spritle #623 05/24/2004
08:23:46
      contact : support@topspin.com
        name  : Topspin-270
    location  : 515 Ellis Street, Mountain View, CA 94043
      up-time  : 0 (d) :21 (h) :4 (m) :39 (s)
last-change  : none
last-config-save : none
      action  : none
      result  : none
```

Defaults:

No default behavior or values.

Related Commands:

[“hostname” on page 42](#)

[“location” on page 50](#)

[“snmp-server” on page 67](#)

[“show boot-config” on page 131](#)

Diagnostic Commands

Diagnostic commands configure diagnostics on both cards and interfaces. These commands are described in the following order:

- [diagnostic command](#) on page 291
- [data-pattern command](#) on page 293
- [data-size command](#) on page 294
- [iterations command](#) on page 295
- [source-wwpn command](#) on page 296
- [start command](#) on page 297
- [stop command](#) on page 298
- [target-wwpn command](#) on page 299
- [test command](#) on page 300
- [validate command](#) on page 302

Running Diagnostic Tests

To perform a diagnostic test, you must perform the following high-level steps:

1. Enter the appropriate configuration submode for the port or card that you want to test.
2. Configure the properties of the test:
 - data-pattern
 - data-size
 - iterations
 - source-wwpn (Fibre Channel only)
 - target-wwpn (Fibre Channel only)

3. Configure the type of test:

- internal-loopback
- external-loopback
- echo
- self-test



NOTE: Available test types vary by card type and interface type.

4. Start and stop tests as needed.

diagnostic

Synopsis:

To enter Diagnostic Configuration submode, enter the **diagnostic** command in Global Configuration mode.

Syntax:

diagnostic {**card** {*card-selection* | **all**} | **chassis** | **interface** {**fc** | **ib** | **ethernet**} {*interface-selection* | **all**} | **fan** {*fan-number* | **all**} | **power-supply** {*supply* | **all**} | **rack-locator** {*locator* | **all**}}

Table 7-1: diagnostic Command Arguments

| Argument | Description |
|----------------------------|--|
| card | Enters Card Diagnostic Configuration submode. |
| <i>card-selection</i> | Card, list of cards, or range of cards to diagnose. |
| chassis | Configures chassis-specific diagnostic tests. |
| fan | Configures fan-specific diagnostic tests. |
| interface | Enters Interface Diagnostic Configuration submode. |
| fc | Specifies Fibre Channel interfaces. |
| ib | Specifies InfiniBand interfaces. |
| ethernet | Specifies Ethernet interfaces. |
| <i>interface-selection</i> | Interface, list of interfaces, or range of interfaces to diagnose. |
| all | Specifies all interfaces of the technology type that you specified or all cards. |
| power-supply | Configures power supply-specific diagnostic tests. |
| rack-locator | Configures rack locator-specific diagnostic tests. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360



NOTE: The Topspin 90 and Topspin 360 can only run card and interface tests.

Command Modes:

Global Configuration (config) mode.

Privilege Level:

Read-write user for the appropriate technology.

Usage Guidelines:

Enter Diagnostic submode to run test on cards and interfaces. For more information, refer to “[test](#)” on [page 300](#).

For the Topspin 120, the following caveats apply:

- The **rack-locator** keyword supports only 12x, not 4x.
- All fan diagnostics occur in the power supply diagnostic tests, because the fans and power compose one FRU.

Examples:

The following example enters Diagnostic Configuration submode for Ethernet port 2/1.

```
Topspin-90 (config) # diagnostic interface ethernet 2/1  
Topspin-90 (config-diag-if-ether-2/1) #
```

Defaults:

No default behavior or values.

Related Commands

[“show card” on page 135](#)

[“start” on page 297](#)

[“stop” on page 298](#)

[“test” on page 300](#)

data-pattern

Synopsis:

To specify a data pattern when you run a diagnostic test on interfaces, enter the **data-pattern** command in Interface Diagnostic Configuration submenu. To clear the data pattern, use the **no** form of this command.

Syntax:

data-pattern *pattern*
no data-pattern *pattern*

Table 7-2: data pattern Command Arguments

| Argument | Description |
|----------------|---|
| <i>pattern</i> | Pattern of the artificial traffic to create for testing purposes. The repetitive data lets you identify the test traffic. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Interface Diagnostic Configuration (config-diag-if) mode.

Usage Guidelines:

Specify a data pattern to create easily-recognizable traffic output for your test.

Examples:

The following example configures the data pattern that runs during a diagnostic test.

```
Topspin-360(config-diag-if-fc-4/1)# data pattern 11:22:33:44
```

Defaults:

No default behavior or values.

Related Commands:

- [“test” on page 300](#)
- [“diagnostic” on page 291](#)
- [“start” on page 297](#)
- [“stop” on page 298](#)
- [“show interface ethernet” on page 231](#)
- [“show interface fc” on page 239](#)
- [“show interface ib” on page 250](#)

data-size

Synopsis:

To configure the payload size of an interface, enter the **data-size** command in Interface Diagnostic Configuration submenu. To clear the data size, use the **no** form of this command.

Syntax:

data-size *size*
no data-size *size*

Table 7-3: data-size Command Arguments

| Argument | Description |
|-------------|--|
| <i>size</i> | Integer value that represents the payload size, in octets. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Interface Diagnostic Configuration (config-diag-if) mode.

Usage Guidelines:

Configure the data size property of your test to customize the size of packets, frames, or IB packets that your Server Switch uses for your test.

Examples:

The following example configures the payload size for a diagnostic test.

```
Topspin-360(config-diag-if-fc-4/1)# data size 8
```

Defaults:

Data size defaults to 4 octets.

Related Commands:

- [“diagnostic” on page 291](#)
- [“show interface ethernet” on page 231](#)
- [“show interface fc” on page 239](#)
- [“show interface gateway” on page 245](#)
- [“start” on page 297](#)
- [“stop” on page 298](#)
- [“test” on page 300](#)

iterations

Synopsis:

To specify the number of times to run a diagnostic test on an interface, enter the **iterations** command in Interface Diagnostic Configuration submenu.

Syntax:

iterations *repetitions*

Table 7-4: iteration Command Arguments

| Argument | Description |
|-------------|--|
| repetitions | Integer value for the number of times that you want a test to run. |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Interface Diagnostic Configuration submenu.

Usage Guidelines:

If you did not specify a specific amount of times for a test to run, use the **stop** command.

Examples:

The following example configures diagnostic tests to run four times, then end.

```
Topspin-360(config-diag-if-fc-4/1)# iteration 4
```

Defaults:

The iterations value defaults to 0, which causes the test to run until you stop it.

Related Commands:

[“diagnostic” on page 291](#)

[“show interface ethernet” on page 231](#)

[“show interface fc” on page 239](#)

[“show interface gateway” on page 245](#)

[“start” on page 297](#)

[“stop” on page 298](#)

[“test” on page 300](#)

source-wwpn

Synopsis:

To configure an optional WWPn identifier for a Fibre Channel interface Echo test, enter the **source-wwpn** command in Fibre Channel Interface Diagnostic Configuration submode.

Syntax:

source-wwpn *wwpn*
no source-wwpn *wwpn*

Table 7-5: source-wwpn Command Arguments

| Argument | Description |
|-------------|--|
| <i>wwpn</i> | Optional 24-bit source identifier to use with the Fibre Channel interface Echo test. |

Platform Availability:

Topspin 90, Topspin 360

Command Modes:

Configuration Diag Interface Fibre Channel (config-diag-if-fc) submode.

Usage Guidelines:

This specification applies only to Fibre Channel tests.

Examples:

```
Topspin-360(config-diag-if-fc-4/1)# source-wwpn 20:01:00:05:ad:00:40:00
```

Defaults:

No default behavior or values.

Related Commands:

- [“diagnostic” on page 291](#)
- [“show interface ethernet” on page 231](#)
- [“show interface fc” on page 239](#)
- [“show interface gateway” on page 245](#)
- [“start” on page 297](#)
- [“stop” on page 298](#)
- [“test” on page 300](#)

start

Synopsis:

To begin a diagnostic test, enter the **start** command in the appropriate Interface Diagnostic Configuration submode.

Syntax:

start

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Fibre Channel Interface Diagnostic Configuration (config-diag-if-fc) submode, Ethernet Interface Diagnostic Configuration (config-diag-if-en) submode, or Card Interface Diagnostic Configuration (config-diag-if-card) submode.

Privilege Level:

Read-write user.

Usage Guidelines:

Configure the **iterations** command to automatically end a test. Otherwise, enter the **stop** command to manually end a test.

Examples:

The following example starts a LED diag test on a Fibre Channel interface.

```
Topspin-360(config-diag-if-fc-4/1)# test led
Topspin-360(config-diag-if-fc-4/1)# start
```

The following example starts a self-test diagnostic test on a card.

```
Topspin-90(config-diag-card-6)# test self-test
Topspin-360(config-diag-card-6)# start
```

Defaults:

No default behavior or values.

Related Commands:

[“diagnostic” on page 291](#)

[“show interface ethernet” on page 231](#)

[“show interface fc” on page 239](#)

[“show interface gateway” on page 245](#)

[“stop” on page 298](#)

[“test” on page 300](#)

stop

Synopsis:

To end a diagnostic test, enter the **stop** command in the appropriate Interface Diagnostic Configuration submode.

Syntax:

stop

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Fibre Channel Interface Diagnostic Configuration (config-diag-if-fc) submode, Ethernet Interface Diagnostic Configuration (config-diag-if-en) submode, or Card Interface Diagnostic Configuration (config-diag-if-card) submode.

Privilege Level:

Fibre Channel read-write user.

Usage Guidelines:

Use the **stop** command to end a test for which you did not specify a particular number of iterations.

Examples:

The following example stops the test on FC port 4/1.

```
Topspin-360(config-diag-if-fc-4/1)# stop
```

Defaults:

The default is no link-trap.

Related Commands:

[“diagnostic” on page 291](#)

[“show interface ethernet” on page 231](#)

[“show interface fc” on page 239](#)

[“show interface gateway” on page 245](#)

[“start” on page 297](#)

[“test” on page 300](#)

target-wwpn

Synopsis:
 To configure an optional WWPN identifier for a Fibre Channel interface Echo test, enter the **target-wwpn** command in Fibre Channel Interface Diagnostic Configuration submode.

Syntax:
source-wwpn *wwpn*
no source-wwpn *wwpn*

Table 7-6: source-wwpn Command Arguments

| Argument | Description |
|-------------|--|
| <i>wwpn</i> | Optional 24-bit source identifier to use with the Fibre Channel interface Echo test. |

Platform Availability:
 Topspin 90, Topspin 360

Command Modes:
 Configuration Diag Interface Fibre Channel (config-diag-if-fc) submode.

Usage Guidelines:
 This property applies only to Fibre Channel tests.

Examples:
 The following example configures a WWPN identifier for an Echo test on port 4/1.

```
Topspin-360(config-diag-if-fc-4/1)# target-wwpn 20:01:00:05:ad:00:40:00
```

Defaults:
 No default behavior or values.

- Related Commands:**
- [“diagnostic” on page 291](#)
 - [“show interface ethernet” on page 231](#)
 - [“show interface fc” on page 239](#)
 - [“show interface gateway” on page 245](#)
 - [“start” on page 297](#)
 - [“stop” on page 298](#)
 - [“test” on page 300](#)

test

Synopsis:

To specify a diagnostic test to run, enter the **test** command in the appropriate Diagnostic Configuration submode.

Syntax:

test {**echo** | **int-loopback** | **ext-loopback** | **led** | **self-test**}

Table 7-7: test Command Arguments

| Argument | Description |
|---------------------|---|
| echo | Executes an echo test (unsupported). |
| int-loopback | Executes an internal loopback test (unsupported). |
| ext-loopback | Executes an external loopback test (unsupported). |
| led | Executes a LED test. |
| self-test | Executes a self test. |
| ext-cable | Executes an external cable test (unsupported). |

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Fibre Channel Interface Diagnostic Configuration (config-diag-if-fc) submode, Ethernet Interface Diagnostic Configuration (config-diag-if-en) submode, InfiniBand Interface Diagnostic Configuration (config-diag-if-ib) submode.

Privilege Level:

Read-write user.

Usage Guidelines:

The Topspin 120 does not support external loopback tests for InfiniBand interfaces.

[Table 7-8](#) lists and describes the different tests that you can run and the interfaces or cards on which you can run them.

Examples:

Table 7-8: Diagnostic Test Descriptions

| Test | Descriptions |
|------|---|
| LED | LED tests cause LEDs to blink so that you can identify the appropriate component. |
| self | The self test causes a FRU to check its status. |

The following example specifies a LED test to run when the **start** command executes.

```
Topspin-270(config-diag-card-11)# test LED
```

Defaults:

No default behavior or values.

Related Commands:

[“diagnostic” on page 291](#)

[“show interface ethernet” on page 231](#)

[“show interface fc” on page 239](#)

[“show interface gateway” on page 245](#)

[“start” on page 297](#)

[“stop” on page 298](#)

validate

Synopsis:

To validate diagnostic tests, enter the **validate** command in the appropriate Diagnostic Configuration submode.

Syntax:

validate

no validate

Use the no keyword to disable validation

Platform Availability:

HP 24-Port Fabric Copper Switch, Topspin 90, Topspin 120, Topspin 270, Topspin 360

Command Modes:

Diagnostic Configuration (config-diag) submode.

Usage Guidelines:

Setting validation may slow the results of the test.

Examples:

The following example validates diagnostic tests on port 6/2.

```
Topspin-360 (config-diag-if-en-6/2) # validate
```

Defaults:

Your Server Switch validates tests by default.

Related Commands:

[“diagnostic” on page 291](#)

[“show interface ethernet” on page 231](#)

[“show interface fc” on page 239](#)

[“show interface gateway” on page 245](#)

[“start” on page 297](#)

[“stop” on page 298](#)

A

- action command 13
- addr-option command 15
- arp ethernet command 114
- authentication command 16
- auto-negotiate command 17

B

- boot-config command 19
- bridge-group command 115
- broadcast command 20

C

- card command 21
- clock set command 22
- command
 - show version 288
- commands
 - action 13
 - addr-option 15
 - arp ethernet 114
 - authentication 16
 - auto-negotiate 17
 - boot-config 19
 - bridge-group 115
 - broadcast 20
 - card 21
 - clock set 22
 - configure terminal 24
 - copy 26
 - data pattern 293
 - data size 294
 - delete 29
 - diagnostic 291
 - dir 31
 - disable 34
 - distribution-type 117
 - enable 35
 - exec 36
 - exit 37
 - fc srp initiator 86
 - fc srp initiator-wwpn 89
 - fc srp it 91
 - fc srp itl 93
 - fc srp lu 96
 - fc srp target 98
 - fc srp-global gateway-portmask-policy restricted 99
 - fc srp-global itl 100

- fc srp-global lun-policy restricted 103
- ftp-server enable 38
- gateway 39
- half-duplex 119
- help 40
- history 41
- hostname 42
- ib sm 108
- ib sm db-sync 106
- ib-agent 111
- install 43
- interface 45
- ip (internal gateway ports, ethernet ports) 120
- ip http 47
- iterations 295
- link-trap 49
- location 50
- logging 51
- login 52
- logout 53
- more 54
- name 56
- ntp 57
- ping 58
- radius-server 59
- redundancy-group 123
- reload 61
- save-log 63
- show arp ethernet 127
- show authentication 128
- show backplane 129
- show boot-config 131
- show bridge-group 133
- show card 135
- show card-inventory 140
- show clock 142
- show config 155
- show diagnostic card 143
- show diagnostic fan 145
- show diagnostic interface ethernet 147
- show diagnostic interface fc 149
- show diagnostic interface ib 151
- show diagnostic power-supply 153
- show fan 156
- show fc srp initiator 158
- show fc srp initiator-wwpn-view 161
- show fc srp it 163
- show fc srp itl 165
- show fc srp itl-statistics 168
- show fc srp lu 170
- show fc srp statistics 173

show fc srp target 175
show fc srp-global 177
show host 180
show ib dm ioc 181
show ib dm iou 184
show ib sm configuration 185
show ib sm db-sync 188
show ib sm multicast 190
show ib sm neighbor 192
show ib sm node 194
show ib sm partition 197
show ib sm port 199
show ib sm service 206
show ib sm switch 209
show ib sm switch-element-route 212
show ib sm switch-route 214
show ib-agent channel-adapter 216
show ib-agent summary 218
show ib-agent switch 220
show interface ethernet 231
show interface fc 239
show interface gateway 245
show interface ib 250
show interface mgmt-ethernet 259
show interface mgmt-ib 261
show interface mgmt-serial 262
show ip 263
show ip http 265
show ip http server secure 266
show location 267
show logging 268
show ntp 270
show power-supply 271
show redundancy-group 273
show running-status 275
show sensor 277
show snmp 279
show system-services 281
show terminal 283
show trace 284
show trunk 285
show user 286
shutdown 64
snmp-server 67
source-wwpn 296
speed (Fibre Channel) 70
start 297
stop 298
target-wwpn 299
telnet 72
terminal 73

trace 75
trunk-group 124
type 77
username 79
validate 302
who 83
write 84
configure terminal command 24
copy command 26

D

data pattern command 293
data size command 294
delete command 29
diagnostic command 291
dir command 31
disable command 34
distribution-type command 117

E

enable command 35
exec command 36
exit command 37

F

fc srp initiator command 86
fc srp initiator-wwpn command 89
fc srp it command 91
fc srp itl 94
fc srp itl command 93
fc srp lu command 96
fc srp target command 98
fc srp-global gateway-portmask-policy restricted command 99
fc srp-global itl command 100
fc srp-global lun-policy restricted command 103
ftp-server enable command 38

G

gateway command 39

H

half-duplex command 119
help command 40
history command 41
hostname command 42

I

- ib sm command 108
- ib sm db-sync command 106
- ib-agent command 111
- install command 43
- interface command 45
- ip command, internal gateway ports and ethernet ports 120
- ip http command 47
- iterations command 295

L

- link-trap command 49
- location command 50
- logging command 51
- login command 52
- logout command 53

M

- more command 54

N

- name 56
- name command 56
- ntp command 57

P

- partition
 - show sm 197
- partitions, creating and changing 108
- ping command 58

R

- radius-server command 59
- redundancy-group command 123
- reload command 61

S

- save-log command 63
- show arp ethernet command 127
- show authentication command 128
- show backplane command 129
- show boot-config command 131
- show bridge-group command 133
- show card command 135

- show card-inventory command 140
- show clock command 142
- show config 155
- show config command 155
- show diagnostic card command 143
- show diagnostic fan command 145
- show diagnostic interface ethernet command 147
- show diagnostic interface fc command 149
- show diagnostic interface ib command 151
- show diagnostic power-supply command 153
- show fan command 156
- show fc srp initiator command 158
- show fc srp initiator-wwpn-view command 161
- show fc srp it command 163
- show fc srp itl command 165
- show fc srp itl-statistics command 168
- show fc srp lu command 170
- show fc srp statistics command 173
- show fc srp target command 175
- show fc srp-global command 177
- show host command 180
- show ib dm ioc command 181
- show ib dm iou command 184
- show ib sm configuration command 185
- show ib sm db-sync command 188
- show ib sm multicast command 190
- show ib sm neighbor command 192
- show ib sm node command 194
- show ib sm partition command 197
- show ib sm port command 199
- show ib sm service command 206
- show ib sm switch command 209
- show ib sm switch-element-route command 212
- show ib sm switch-route command 214
- show ib-agent channel-adapter command 216
- show ib-agent summary command 218
- show ib-agent switch command 220
- show interface ethernet command 231
- show interface fc command 239
- show interface gateway command 245
- show interface ib command 250
- show interface mgmt-ethernet command 259
- show interface mgmt-ib command 261
- show interface mgmt-serial command 262
- show ip command 263
- show ip http command 265
- show ip http server secure command 266
- show location command 267
- show logging command 268
- show ntp command 270
- show power-supply command 271

- show redundancy-group command 273
- show running-status command 275
- show sensor command 277
- show snmp command 279
- show system-services command 281
- show terminal command 283
- show trace command 284
- show trunk command 285
- show user command 286
- show version command 288
- shutdown command 64
- SM GUID, viewing 185
- snmp-server command 67
- source-wwpn command 296
- speed command, Fibre Channel 70
- start command 297
- stop command 298
- subnet manager GUID, viewing 185

T

- target-wwpn command 299
- telnet command 72
- terminal command 73
- trace command 75
- trunk-group command 124
- type command 77

U

- username command 79

V

- validate command 302

W

- who command 83
- write command 84