



Fabric OS

Documentation Addendum


Supporting Fabric OS v5.2.X

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Document History

The following table lists all versions of the *Fabric OS v5.2.X Documentation Addendum*.

Document Title	Publication Number	Summary of Changes	Publication Date
<i>Fabric OS v5.2.X Documentation Addendum</i>	53-1000429-01	First version	January 2007

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About This Document

This document is a procedural guide to help SAN administrators configure and manage a storage area network (SAN) using the Brocade Fabric OS Command Line Interface (CLI).

How This Document Is Organized

The document contains updates to the following Fabric OS manuals:

- [“Fabric OS Administrator’s Guide” on page 1-1](#)
- [“Fabric OS Command Reference” on page 2-1](#)
- [“Fabric OS Message Reference” on page 3-1](#)
- [“Fabric OS MIB Reference” on page 4-1](#)
- [“Web Tools Administrator’s Guide” on page 5-1](#)
- [“iSCSI Administrator’s Guide” on page 6-1](#)
- [“Read Me First—SilkWorm 200E QuickStart Guide” on page 7-1](#)

Supported Hardware and Software

This document is specific to Fabric OS v5.2.1 running on the following Brocade SilkWorm product models:

- Brocade 5000
- Brocade SilkWorm 200E switch
- Brocade SilkWorm 3250 switch
- Brocade SilkWorm 3850 switch
- Brocade SilkWorm 3900 switch
- Brocade SilkWorm 4012 embedded switch
- Brocade SilkWorm 4016 embedded switch
- Brocade SilkWorm 4018 embedded switch
- Brocade SilkWorm 4020 embedded switch
- Brocade SilkWorm 4024 embedded switch
- Brocade SilkWorm 4100 switch
- Brocade SilkWorm 4900 switch

- Brocade SilkWorm 7500 switch
- Brocade SilkWorm 24000 director
- Brocade SilkWorm 48000 director

When procedures or parts of procedures documented here apply to some switches but not to others, this guide identifies which switches are supported and which are not.

This document sometimes mentions other Fabric OS releases to highlight the changes in the latest release or to point out interoperability issues with other SilkWorm models. It also specifies when procedures or steps of procedures apply only to specific SilkWorm models.

Although many different software and hardware configurations are tested and supported by Brocade Communications Systems, Inc. for this Brocade Fabric OS release, documenting all possible configurations and scenarios is beyond the scope of this document.

Document Conventions

This section describes text formatting conventions and important notices formats.

Text Formatting

The narrative-text formatting conventions that are used in this document are as follows:

bold text	Identifies command names Identifies the names of user-manipulated GUI elements Identifies keywords and operands Identifies text to enter at the GUI or CLI
<i>italic text</i>	Provides emphasis Identifies variables Identifies paths and Internet addresses Identifies document titles
code text	Identifies CLI output Identifies syntax examples

For readability, command names in the narrative portions of this guide are presented in mixed lettercase: for example, **switchShow**. In actual examples, command lettercase is often all lowercase. Otherwise, this manual specifically notes those cases in which a command is case sensitive. The **ficonCupSet** and **ficonCupShow** commands are an exception to this convention.

Notes, Cautions, and Warnings

The following notices appear in this document.



Note

A note provides a tip, emphasizes important information, or provides a reference to related information.



Caution

A caution alerts you to potential damage to hardware, firmware, software, or data.



Warning

A warning alerts you to potential danger to personnel.

Key Terms

For definitions specific to Brocade and Fibre Channel, see the *Brocade Glossary*.

For definitions of SAN-specific terms, visit the Storage Networking Industry Association online dictionary at:

<http://www.snia.org/education/dictionary>.

Additional Information

This section lists additional Brocade and industry-specific documentation that you might find helpful.

Brocade Resources

The following related documentation is provided on the Brocade Documentation CD-ROM and on the Brocade Web site, through Brocade Connect.



Note

Go to <http://www.brocade.com> and click **Brocade Connect** to register at no cost for a user ID and password.

Fabric OS

- *Fabric OS Administrator's Guide*
- *Fabric OS Command Reference*
- *Fabric OS MIB Reference*
- *Fabric OS Message Reference*
- *Fabric OS iSCSI Gateway Service Administrator's Guide*
- *Brocade Master Glossary*

Optional Applications

- *Fabric Watch Administrator's Guide*
- *Fabric Manager Administrator's Guide*
- *Secure Fabric OS Administrator's Guide*
- *Web Tools Administrator's Guide*

- *EZSwitchSetup Administrator's Guide*

Brocade 5000

- *Brocade 5000 Hardware Reference Manual*
- *Brocade 5000 QuickStart Guide*

SilkWorm 48000

- *SilkWorm 48000 Hardware Reference Manual*
- *SilkWorm 48000 QuickStart Guide*
- *FR4-18i Hardware Reference Manual*
- *FR4-18i QuickStart Guide*
- *FC4-16IP Hardware Reference Manual*
- *FC4-16IP QuickStart Guide*

SilkWorm 24000

- *SilkWorm 24000 Hardware Reference Manual*
- *SilkWorm 24000 QuickStart Guide*

SilkWorm 24000/48000

- *Port Blade and Filler Panel Replacement Procedure*
- *Control Processor Blade Replacement Procedure*
- *Blower Assembly Replacement Procedure*
- *Cable Management Tray and Guide Replacement Procedure*
- *Chassis Door Replacement Procedure*
- *WWN Bezel and Card Replacement Procedure*
- *Power Supply and Filler Panel Replacement Procedure*
- *14U Rack Mount Kit Installation Procedure*
- *Mid-Mount Rack Kit Installation Procedure*

SilkWorm 7500

- *SilkWorm 7500 Hardware Reference Manual*
- *SilkWorm 7500 QuickStart Guide*
- *SilkWorm 7500 Fan Assembly Replacement Procedure*
- *SilkWorm Mid Sized Power Supply Replacement Procedure*

SilkWorm 4900

- *SilkWorm 4900 Hardware Reference Manual*
- *SilkWorm 4900 QuickStart Guide*
- *SilkWorm 4900 Fan Assembly Replacement Procedure*
- *SilkWorm Mid Sized Power Supply Replacement Procedure*

SilkWorm 4100

- *SilkWorm 4100 Hardware Reference Manual*
- *SilkWorm 4100 QuickStart Guide*

SilkWorm 3900

- *SilkWorm 3900 Hardware Reference Manual* (for v4.x software)
- *SilkWorm 3900 QuickStart Guide* (for v4.x software)
- *SilkWorm 3900 Fan Assembly Replacement Procedure*
- *SilkWorm 3900 Motherboard Assembly Replacement Procedure*
- *SilkWorm 3900 Power Supply Replacement Procedure*

SilkWorm 3250/3850

- *SilkWorm 3250/3850 Hardware Reference Manual* (for v4.x software)
- *SilkWorm 3250/3850 QuickStart Guide* (for v4.x software)

SilkWorm 200E

- *SilkWorm 200E Hardware Reference Manual* (for v5.x software)

For practical discussions about SAN design, implementation, and maintenance, you can obtain *Building SANs with Brocade Fabric Switches* through:

<http://www.amazon.com>

For information about how to use Fabric OS features in a SAN solution, refer to the *Principles of SAN Design* (ISBN 0-7414-2824-5), available from the SAN Administrator's Bookshelf. You can order the book and view a sneak preview at:

http://www.brocade.com/products/sanadmin_bookshelf/index.jsp

For additional Brocade documentation, visit the Brocade SAN Info Center and click the Resource Library location:

<http://www.brocade.com>

Release Notes are available on the Brocade Connect Web site and are also bundled with the Fabric OS firmware.

Optional Brocade Features

Optional Brocade features include:

Advanced Performance Monitoring

Enables more effective end-to-end SAN performance analysis to enhance performance tuning, increase productivity, optimize resource utilization, and reduce costs.

Extended Fabrics

Supports the reliable, high-speed connectivity of SilkWorm switches over dark fiber or Dense Wave Division Multiplexing (DWDM) equipment at distances up to 500 kilometers to enhance business continuance operations.

Fabric Watch	Continuously monitors SAN fabrics for potential faults based on thresholds set for a variety of SAN fabric elements and events—automatically alerting administrators to potential problems before they become costly failures.
ISL Trunking	Optimizes the performance and availability of SAN fabrics while simplifying ISL management. Two 4 Gbit/sec SilkWorm switches can automatically group up to eight ISLs into a single logical “trunk” with a total throughput of up to 32 Gbit/sec.
Advanced Zoning	Automatically groups SAN fabric-connected devices into logical zones that restrict access to “member” devices in the zone. Advanced Zoning uses hardware enforcement at both the port and WWN level to provide more robust data protection.
Secure Fabric OS	Provides a comprehensive security solutions to help protect mission-critical data. Key features include centralized policy-based security management, encryption of management data, and authentication to create a fabric-wide trusted environment with control over all levels of fabric access and communication.
FICON CUP	Enables IBM host-based management programs to manage FICON fabric switches in-band by sending commands to the Fabric OS emulated control device.

Other Industry Resources

For additional resource information, visit the Technical Committee T11 Web site. This Web site provides interface standards for high-performance and mass storage applications for Fibre Channel, storage management, as well as other applications:

<http://www.t11.org>

For information about the Fibre Channel industry, visit the Fibre Channel Industry Association Web site:

<http://www.fibrechannel.org>

Getting Technical Help

Contact your switch support supplier for hardware, firmware, and software support, including product repairs and part ordering. To expedite your call, have the following information available:

1. General Information

- Technical Support contract number, if applicable
- Switch model
- Switch operating system version
- Error numbers and messages received
- **supportSave** command output
- Detailed description of the problem and specific questions
- Description of any troubleshooting steps already performed and results
- Serial console and telnet session logs
- syslog message logs

2. Switch Serial Number

The switch serial number and corresponding bar code are provided on the serial number label, as illustrated below.



The serial number label is located as follows:

- *SilkWorm 3014*—On the top of the chassis, under the insertion arm
- *SilkWorm 3016 and 4012*—On the bottom of the switch module
- *SilkWorm 4018*—On the top of the blade
- *SilkWorm 200E, 3200, 3250 and 3850*—On the bottom of the chassis
- *SilkWorm 3800 and 3900*— Nonport side of the chassis
- *Brocade 5000, SilkWorm 4100, 4900, and 7500*—On the switch ID pull-out tab located inside the chassis on the port side on the left
- *SilkWorm 4016*—Top of the switch module
- *SilkWorm 4024*—Bottom of the switch module
- *SilkWorm 12000, 24000, and 48000*—Inside the chassis next to the power supply bays
- *SilkWorm Multiprotocol Router Model AP7420*—On the bottom of the chassis and on the back of the chassis.

3. World Wide Name (WWN)

- *Brocade 5000, SilkWorm 200E, 3014, 3016, 3250, 3800, 3850, 3900, 4012, 4016, 4018, 4020, 4024, 4100, 4900, 7500 switches and SilkWorm 24000, and 48000 directors:* Provide the license ID. Use the **licenseIdShow** command to display the license ID.
- *SilkWorm Multiprotocol Router Model AP7420:* Provide the switch WWN. Use the **switchShow** command to display the switch WWN.
- *All other SilkWorm switches:* Provide the switch WWN. Use the **wwn** command to display the switch WWN.

Document Feedback

Because quality is our first concern at Brocade, we have made every effort to ensure the accuracy and completeness of this document. However, if you find an error or an omission, or you think that a topic needs further development, we want to hear from you. Forward your feedback to:

documentation@brocade.com

Provide the title and version number and as much detail as possible about your issue, including the topic heading and page number and your suggestions for improvement.

Fabric OS Administrator's Guide

The following updates in this chapter are for the *Fabric OS Administrators Guide*, part number: 53-1000239-01:

- [“Global Changes” on page 1-1](#)
- [“Replace Activating Ports on Demand Section” on page 1-3.](#)
- [“Add Configuring Dynamic Ports on Demand Section” on page 1-5](#)
- [“Add To Show Switches in Access Gateway Mode Section” on page 1-10](#)
- [“Update the List of Daemons that are Automatically Restarted Table” on page 1-11](#)
- [“Replace Second Paragraph in the Setting the Password History Section” on page 1-11](#)
- [“Update the Port Information Table” on page 1-11](#)
- [“Update Checking Connected Switches Section” on page 1-12](#)
- [“Update the Section II Contents List” on page 1-12](#)

Global Changes

This section explains the global changes required to support hardware specific instructions:

- [“Updates for the Brocade 5000 Switch” on page 1-1](#)
- [“Updates for SilkWorm 4012, 4016, 4018, 4020, and 4024 Switches” on page 1-1](#)

Updates for the Brocade 5000 Switch

Add the Brocade 5000 everywhere that the SilkWorm 4100 switch is mentioned.

Updates for SilkWorm 4012, 4016, 4018, 4020, and 4024 Switches

Add the SilkWorm 4012, 4016, 4018, 4020, and 4024 everywhere that the SilkWorm 200E switch is mentioned, except as specified in the following sections:

- [“On page 18-1, in the section SilkWorm 3250, 3850, 3900, 24000, and 48000 \(FC2-16 Port Blades\), add the following:”](#)
- [“On page 18-3, in the section Configuring External Ports, add the following tables:”](#)

On page 18-5, in the section *Switches with Goldeneye ASIC*, add the following note:



Note

For SilkWorm 4012, 4016, 4018, 4020, and 4024 embedded switches, check with your service provider for the extended ISL mode table.

On page 18-3, in the section *Configuring External Ports*, add the following tables:

SilkWorm 4012

The number of ports that can be configured at various distances is summarized in [Table 1-1](#). Note that for the SilkWorm 4012, exact distances (rather than set, incremental distances) are used.

Table 1-1 SilkWorm 4012

Speed (Gbit/sec)	Number of Ports Allowed at Distance (km)			
	1 Port	Up to 2 Ports	Up to 3 Ports	Up to 4 ports
1	318 km	170 km	120.6 km	96 km
2	159 km	85 km	60.3 km	48 km
4	79.5 km	42.5 km	30.15 km	24 km

SilkWorm 4016

The number of ports that can be configured at various distances is summarized in [Table 1-2](#). Note that for the SilkWorm 4016, exact distances (rather than set, incremental distances) are used.

Table 1-2 SilkWorm 4016

Speed (Gbit/sec)	Number of Ports Allowed at Distance (km)					
	1 Port	Up to 2 Ports	Up to 3 Ports	Up to 4 ports	Up to 5 ports	Up to 6 ports
1	242 km	112 km	82 km	67 km	58 km	52 km
2	121 km	56 km	41 km	33.5 km	29 km	26 km
4	60.5 km	28 km	20.5 km	16.75 km	14.5 km	13 km

SilkWorm 4018

The number of ports that can be configured at various distances is summarized in [Table 1-3](#). Note that for the SilkWorm 4018, exact distances (rather than set, incremental distances) are used.

Table 1-3 SilkWorm 4018

Speed (Gbit/sec)	Number of Ports Allowed at Distance (km)			
	1 Port	Up to 2 Ports	Up to 3 Ports	Up to 4 ports
1	206 km	114 km	83.3 km	68 km
2	103 km	57 km	41.6 km	34 km
4	51.5 km	28.5 km	20.8 km	17 km

SilkWorm 4020

The number of ports that can be configured at various distances is summarized in [Table 1-4](#). Note that for the SilkWorm 4020, exact distances (rather than set, incremental distances) are used.

Table 1-4 SilkWorm 4020

Speed (Gbit/sec)	Number of Ports Allowed at Distance (km)					
	1 Port	Up to 2 Ports	Up to 3 Ports	Up to 4 ports	Up to 5 ports	Up to 6 ports
1	138 km	80 km	69 km	51 km	45.2 km	40.6 km
2	69 km	40 km	34.5 km	25.5 km	22.6 km	20.3 km
4	34.5 km	20 km	17.25 km	12.5 km	11.3 km	10.3 km

SilkWorm 4024

The number of ports that can be configured at various distances is summarized in [Table 1-5](#). Note that for the SilkWorm 4024, exact distances (rather than set, incremental distances) are used.

Table 1-5 SilkWorm 4024

Speed (Gbit/sec)	Number of Ports Allowed at Distance (km)							
	1 Port	Up to 2 Ports	Up to 3 Ports	Up to 4 ports	Up to 5 ports	Up to 6 ports	Up to 7 ports	Up to 8 ports
1	38 km	30 km	27.2 km	26 km	25.2 km	24.4 km	24.28 km	24 km
2	19 km	15 km	13.6 km	13 km	12.6 km	12.2 km	12.14 km	12 km
4	9.5 km	7.5 km	6.8 km	6.5 km	6.3 km	6.1 km	6.07 km	6 km

Replace *Activating Ports on Demand* Section

Replace the Activating Ports on Demand section beginning on page 2-19 with the following section:

Activating Ports on Demand

The SilkWorm 4900 model can be purchased with 32, 48, or 64 licensed ports. As your needs increase, you can activate unlicensed ports (up to a maximum of 64 ports) by purchasing and installing the Brocade Ports on Demand optionally licensed product.

The Brocade 5000 and SilkWorm 4100 models can be purchased with 16, 24, or 32 licensed ports. As your needs increase, you can activate unlicensed ports (up to the maximum of 32 ports) by purchasing and installing the Brocade Ports on Demand optionally licensed product.

The SilkWorm 200E model can be purchased with 8 ports and no E_Port, 8 ports with full fabric access (SilkWorm 210E), and 16 ports with full fabric access (SilkWorm 240E). If you purchase the SilkWorm 200E with 8 ports enabled, you can activate unlicensed ports in 4-port increments up to 16 ports by purchasing and installing the Brocade Ports on Demand optional licensed product. You can also purchase an E_Port license upgrade if your switch does not yet support full fabric access.

Table 1-1 shows the ports that are enabled by default and the ports that can be enabled after you install the first and second Ports on Demand licenses for each switch type.

Table 1-1 Ports Enabled with Ports on Demand Licenses

Enabled Ports	SilkWorm 200E	SilkWorm 4100	SilkWorm 4900	Brocade 5000 Switch
Ports enabled without Ports on Demand license (default)	0–7	0–15	0–31	0–15
Ports enabled when you install first Ports on Demand license	8–11	16–23	32–47	16–23
Ports enabled when you install second Ports on Demand license	12–15	24–31	48–63	24–31

Ports on Demand is ready to be unlocked in the switch firmware. Its license key might be part of the licensed Paper Pack supplied with switch software, or you can purchase the license key separately from your switch vendor. You might need to generate a license key from a transaction key supplied with your purchase. If so, launch an Internet browser and go to the Brocade Web site at <http://www.brocade.com>. Click **Products**> **Software Products**> **Software License Keys** and follow the instructions to generate the key.

Each Ports on Demand license activates the next group of eight ports in numerical order. Before installing a license key, you must insert transceivers in the ports to be activated. Remember to insert the transceivers in the lowest group of inactive port numbers first. For example, if only 16 ports are currently active and you are installing one Ports on Demand license key, make sure to insert the transceivers in ports 16 through 23. If you later install a second license key, insert the transceivers in ports 24 through 31. For details on inserting transceivers, see the switch's *Hardware Reference Manual*.

After you install a license key, you must enable the ports to complete their activation. You can do so without disrupting switch operation by using the **portEnable** command on each port. Alternatively, you can disable and reenabling the switch to activate ports.

To activate Ports on Demand

1. Connect to the switch and log in.
2. *Optional:* To verify the current states of the ports, use the **portShow** command.
In the **portShow** output, the Licensed field indicates if the port is licensed.
3. Install the Brocade Ports on Demand license.
For instructions, see “[Managing Licenses](#)” on page 1-8.
4. Use the **portEnable** command to enable the ports.
5. *Optional:* Use the **portShow** command to check the newly activated ports.

If you remove a Ports on Demand license, the licensed ports will become disabled after the next platform reboot or the next port deactivation.

Add *Configuring Dynamic Ports on Demand* Section

Add the new section below “[Configuring Dynamic Ports on Demand](#)” after the *Activating Ports on Demand* section on page 2-19.

Configuring Dynamic Ports on Demand

The SilkWorm 4016, 4018, 4020, and 4024 switches support blade modules for blade server chassis. These switches support the Dynamic Ports on Demand (POD) feature. The Dynamic POD feature automatically assigns POD licenses from a pool of available licenses based on the server blade installation.

How Ports are Assigned to Licenses

The Dynamic POD feature only detects and assigns ports to a POD license if the server blade is installed with an HBA present. A server blade that does not have a functioning HBA is treated as an inactive link during initial POD port assignment.

The Dynamic POD feature assigns the ports to the POD license as they come online. Typically, assignments are sequential, starting with the lowest user port number. However, variations in the equipment attached to the ports can cause the ports to take different amounts of time to come online. This means that the port assignment order is not guaranteed.

If the switch detects more active links than allowed by the current POD licenses, then some ports will not be assigned a POD license. Ports that do not receive a POD assignment have a state of *No Sync* or *In Sync*; these ports are not allowed to progress to the online state. Ports that cannot be brought online because insufficient POD licenses have a state of *(No POD License) Disabled*. (Use the **switchShow** command to display the port states.)

To allocate licenses to a specific port instead of automatically assigning them as the ports come online, reserve a license for the port using the **licensePort** command described in “[Managing Licenses](#)” on [page 1-8](#). The port receives a POD assignment if any are available.

After a port is assigned to the POD set, the port is licensed until it is manually removed from POD port set using the **licensePort --release** command. When a port is released from its POD port set (Base, Single, or Double), it creates a vacancy in that port set.

Displaying the Port License Assignment

Use the **licensePort --show** command to display the available licenses, the current port assignment of those licenses, and the POD method state (dynamic or static).

To display the port licenses

1. Connect to the switch and log in.
2. Enter the **licensePort --show** command.

```
switch:admin> licenseport --show
24 ports are available in this switch
Full POD license is installed
Static POD method is in use
24 port assignments are provisioned for use in this switch:
    12 port assignments are provisioned by the base switch license
    12 port assignments are provisioned by a full POD license
24 ports are assigned to installed licenses:
    12 ports are assigned to the base switch license
    12 ports are assigned to the full POD license
Ports assigned to the base switch license:
    1, 2, 3, 4, 5, 6, 7, 8, 17, 18, 19, 20
Ports assigned to the full POD license:
    0, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23
```

The example above shows output from a switch has manually assigned POD licenses.

Activating Dynamic Ports on Demand

If the switch is in the Static POD mode, then activating the Dynamic POD will erase any prior port license assignments the next time the switch is rebooted. The *static* POD assignments become the initial Dynamic POD assignments. After the Dynamic POD feature is enabled, use the **licensePort** command to customize the POD license associations.

Log in to the switch with a user account that has the Admin role to enable or disable the Dynamic PODs feature. This feature is supported on the SilkWorm 4016, 4018, 4020, and 4024 switches only.

To enable Dynamic Ports on Demand

1. Connect to the switch and log in.
2. Enter the **licensePort --method** command with the **static** option to change the license assignment method to dynamic.

```
switch:admin> licenseport --method static
The POD method has been changed to static.
Please reboot the switch now for this change to take effect.
```

3. Enter the **reboot** command to restart the switch.

```
switch:admin> reboot
```

4. Enter the **licensePort --show** command to verify that the switch started the Dynamic POD feature.

```
switch:admin> licenseport --show
24 ports are available in this switch
Full POD license is installed
Dynamic POD method is in use
24 port assignments are provisioned for use in this switch:
    12 port assignments are provisioned by the base switch license
    12 port assignments are provisioned by a full POD license
8 ports are assigned to installed licenses:
    8 ports are assigned to the base switch license
    0 ports are assigned to the full POD license
Ports assigned to the base switch license:
    1, 2, 5, 6, 8*, 21, 22, 23
Ports assigned to the full POD license:
    None
Ports not assigned to a license:
    0, 3, 4, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

16 license reservations are still available for use by unassigned ports
1 license assignment is held by an offline port (indicated by *)
```

Disabling Dynamic Ports on Demand

Disabling the Dynamic POD feature (changing the POD method to *static*), erases any prior port license associations and/or assignments the next time the switch is rebooted.

To disable Dynamic Ports on Demand

1. Connect to the switch and log in.
2. Enter the **licensePort --method** command with the **static** option to change the license assignment method to dynamic.

```
switch:admin> licenseport --method static
The POD method has been changed to static.
Please reboot the switch now for this change to take effect.
```

3. Enter the **reboot** command to restart the switch.

```
switch:admin> reboot
```

4. Enter the **licensePort --show** command to verify that switch started the Static POD feature.

```
switch:admin> licenseport --show
24 ports are available in this switch
Full POD license is installed
Static POD method is in use
24 port assignments are provisioned for use in this switch:
    12 port assignments are provisioned by the base switch license
    12 port assignments are provisioned by a full POD license
24 ports are assigned to installed licenses:
    12 ports are assigned to the base switch license
    12 ports are assigned to the full POD license
Ports assigned to the base switch license:
    1, 2, 3, 4, 5, 6, 7, 8, 17, 18, 19, 20
Ports assigned to the full POD license:
    0, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23
```

Managing Licenses

This section explains how to allocate licenses by reserving and releasing POD assignments to specific ports. Disabled ports are not candidates for automatic license assignment by the Dynamic POD feature. Persistently Disable an otherwise viable port to prevent it from coming online, and thereby preserving a license assignment for another port.

Before you can re-assign a license, you must disable the port and release the license.

Reserving a License

Reserving a license for a port assigns a POD license to that port regardless if the port is online. That license will not be available to other ports that come online before the specified port.

Log in to the switch with a user account that has the role Admin to reserve and release licenses.

To reserve a port license

1. Connect to the switch and log in.
2. Enter the **licensePort --show** command to verify that there are port reservations still available.

```
switch:admin> licenseport --show
24 ports are available in this switch
Full POD license is installed
Dynamic POD method is in use
24 port assignments are provisioned for use in this switch:
    12 port assignments are provisioned by the base switch license
    12 port assignments are provisioned by a full POD license
10 ports are assigned to installed licenses:
    10 ports are assigned to the base switch license
    0 ports are assigned to the full POD license
Ports assigned to the base switch license:
    1*, 2*, 3*, 4*, 5*, 6*, 8*, 21, 22, 23
Ports assigned to the full POD license:
    None
Ports not assigned to a license:
    0, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
```

3. If port reservations are available, then enter the **licensePort --reserve** command to reserve a license for the port.

```
switch:admin> licenseport -reserve 0
```

4. If all port reservations are assigned, then select a port to release its POD license. You must disable the port first by entering **portdisable <port num>**.
5. Enter the **licensePort --release** command to remove the port from the POD license.

```
switch:admin> licenseport -release 0
```

6. Enter the **licensePort --show** command to verify that there is an available port reservation.

```
switch:admin> licenseport --show
24 ports are available in this switch
Full POD license is installed
Dynamic POD method is in use
24 port assignments are provisioned for use in this switch:
    12 port assignments are provisioned by the base switch license
    12 port assignments are provisioned by a full POD license
10 ports are assigned to installed licenses:
    10 ports are assigned to the base switch license
    0 ports are assigned to the full POD license
Ports assigned to the base switch license:
    1*, 2*, 3*, 4*, 5*, 6*, 8*, 21, 22, 23
Ports assigned to the full POD license:
    None
Ports not assigned to a license:
    0, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
```

7. Enter the **switchEnable** command to bring the switch back online.

```
switch:admin> switchenable
```

Releasing a Port

Releasing a port removes it from the POD set; the port will appear as unassigned until it comes back online. Persistently disabling the port will ensure that the port cannot come back online and be automatically assigned to a POD assignment.

To release a port from a POD set

1. Connect to the switch and log in.
2. Enter the **switchDisable** command to take the switch offline.

```
switch:admin> switchdisable
```

3. Enter the **switchShow** command to verify that the switch state is offline.

4. Enter the **licensePort --release** command to remove the port from the POD license.

```
switch:admin> licenseport -release 0
```

5. Enter the **licensePort --show** command to verify that the port is no longer assigned to a POD set.

```
switch:admin> licenseport --show
24 ports are available in this switch
Full POD license is installed
Dynamic POD method is in use
24 port assignments are provisioned for use in this switch:
    12 port assignments are provisioned by the base switch license
    12 port assignments are provisioned by a full POD license
10 ports are assigned to installed licenses:
    10 ports are assigned to the base switch license
    0 ports are assigned to the full POD license
Ports assigned to the base switch license:
    1*, 2*, 3*, 4*, 5*, 6*, 8*, 21, 22, 23
Ports assigned to the full POD license:
    None
Ports not assigned to a license:
    0, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
```

6. Enter the **switchEnable** command to bring the switch back online.

```
switch:admin> switchenable
```

7. Enter the **switchShow** command to verify that the switch state is now online.

Add To Show Switches in Access Gateway Mode Section

Add the new section [“To show switches in Access Gateway mode”](#) after the *To verify fabric connectivity section* on page 2-24.

To show switches in Access Gateway mode

1. Connect to the switch and log in.
2. Enter the **agShow** command.

```
switch:admin> agshow
Worldwide Name           Ports  Enet IP Addr  Firmware  Local/Remote  Name
-----
10:00:00:05:1e:02:1d:b0  16     10.32.53.4    v5.2.1    local         ag_01
10:00:00:05:1e:03:4b:e7  24     10.32.60.95   v5.2.1    local         ag_02
10:00:00:05:1e:35:a2:58  20     10.32.53.180  v5.2.1    remote        ag_03
```

This command displays all the switches in Access Gateway mode in the fabric.

Update the *List of Daemons that are Automatically Restarted Table*

Remove the Evmd row shown below from the Table 2-3 on page 2-34. Evmd is not restarted on failure.

Table 2-3 List of Daemons that are Automatically Restarted

Evmd	Event Monitor Daemon (Port and Switch SCNs, firmwareDownload, configDownload).
------	--

Replace Second Paragraph in the *Setting the Password History Section*

Replace the second paragraph in [“Replace Second Paragraph in the Setting the Password History Section”](#) on page 3-15 with the following paragraph. The behavior was incorrectly described.

“Specify the number of past password values that are disallowed when setting a new password. Allowable password history values range between 1 and 24. The default value is 1, which means both the current and previous passwords cannot be reused. The value 2 indicates that the current and two previous passwords cannot be used (and so on, up to 24 passwords).”

Update the *Port Information Table*

On page 4-6 in Table 4-6: Port Information, the port number for TCP NTP should be 123 (not 37).

Update *Checking Connected Switches* Section

On page 8-5 and 8-6, replace the Recommended Firmware Version table (Table 8-2) with the following note:



Note

Refer to the *Fabric OS Compatibility* section of the *Brocade Fabric OS Release Notes*, for the recommended firmware version.

On page 8-6 add the **SilkWorm 200E (and Brocade 5000) switch and the SilkWorm 4012, 4016, 4018, 4020, and 4024 embedded switches to the third paragraph as follows:**

If Brocade 5000, SilkWorm 200E, 3250, 3850, 3900, 4012, 4016, 4018, 4020, 4024, 4100, 4900 or 7500 models are adjacent and you start firmware downloads on them at same time, there might be traffic disruption.

Update the Section II Contents List

On the Section II page, delete the last bulleted item, a reference to Chapter 22. This chapter is now in a standalone document, entitled, “iSCSI Gateway Service Administrator's Guide.”

Update the *About Extended Link Buffer Allocation* section

On page 18-5 and 18-6, add the **SilkWorm 200E, 4012, 4016, 4018, 4020, and 4024** as follows:

- Update the section title to: **SilkWorm 200E, 4012, 4016, 4018, 4020 4100, 4900, 7500, and 48000 (FC4-16, FC4-16IP, FC4-32, FC4-48, and FR4-18i Port Blades)**

- Update the list of switches as follows:
 - SilkWorm 200E
 - SilkWorm 4012
 - SilkWorm 4016
 - SilkWorm 4018
 - SilkWorm 4020
 - SilkWorm 4024
 - SilkWorm 4100
 - SilkWorm 4900
 - SilkWorm 7500
 - SilkWorm 48000 using the following port blades:
 - FC4-16
 - FC4-16IP
 - FC4-32
 - FC4-48
 - FR4-18i

Fabric OS Command Reference

The following updates in this chapter are for the *Fabric OS Command Reference*, part number: 53-1000240-01:

- [“New Commands in v5.2.1” on page 2-2](#)
- [“Commands Updated in v5.2.1” on page 2-9](#)
- [“Commands Deprecated” on page 2-59](#)
- [“Updates for 5.2.0” on page 2-59](#)

New Commands in v5.2.1

Add the following commands that are new in Fabric OS v5.2.1 to the *Fabric OS Command Reference* as indicated below:

- Add the “ag” command after *ad* on page 2-14.
- Add the “licensePort” after *licenseIDRemove* on page 2-334.
- Add “portcfgnport” after *portcfgLPort* on page 2-465.

ag

Enables and manages the Access Gateway mode to perform AG specific operations.

Synopsis

```

ag --show
ag --modeshow
ag --modeenable
ag --modedisable
ag --mapshow [N_Port]
ag --mapset <N_Port> <F_Ports>
ag --mapadd <N_Port> <F_Ports>
ag --mapdel <N_Port> <F_Ports>
ag --failovershow [N_Port]
ag --failoverdisable <N_Port>
ag --failoverenable <N_Port>
ag --failbackshow [N_Port]
ag --failbackdisable <N_Port>
ag --failbackenable <N_Port>

```

Description Use this command to enable and disable Access Gateway mode, to display the current configuration and state, to configure and display the F_Port to N_Port mapping, and to configure N_Port failover and failback policies. AG only supports embedded switch platforms that use the Goldneye ASIC.

Operands This command has the following operands:

--show	Displays the N_Ports and F_Ports that are currently online, whether they have failover enabled, and displays their mapping.
--modeshow	Displays current mode of the switch, either an Access Gateway mode or a native Fibre channel switch (FOS) mode.
--modeenable	Enables the Access Gateway mode for a switch.
--modedisable	Disables the Access Gateway mode for a switch.
--mapshow [N_Port]	Displays the F_Ports that are mapped to a given N_Port. Current F_Ports are the lists of F_Ports online through the specified N_Port. N_Port is optional and if used, it displays the F_Ports that are mapped to the specified N_Port only.
--mapset <N_Port F_Ports>	Maps F_Ports to a specific N_Port to the fabric. Any F_Port can be mapped to only one N_Port. F_Ports are enabled only if the N_Port is online and NPIV is enabled on the fabric port that is connected to Access Gateway.
--mapadd <N_Port> <F_Ports>	Adds F_Ports to existing N_Port. The traffic for the configured F_Ports to be routed to the fabric through the specified N_Port when the F_Port comes online. An F_Port can be mapped to only one N_Port. Specify the N_Port number to which the F_Ports are to

	be mapped. This command overwrites the existing mapping for the N_Port. Specify the list of F_Port numbers to add to the existing specified F_Port to N_Port mapping. The F_Port numbers must be separated by semicolons.
--mapdel <N_Port> <F_Ports>	Removes the specified F_Ports from the N_Port mapping. Specify the N_Port number to which the F_Ports are currently mapped. Specify the list of F_Port numbers to remove from the specified F_Ports to N_Port mapping. The F_Port numbers must be separated by semicolons.
--failovershow [N_Port]	Displays the failover policy for the N_Port. Use this command with the N_Port parameter to see if the failover for this N_Port is enabled or not. If an N_Port failure occurs when the failover policy is enabled, all F_Ports mapped to the failed N_Port will failover to another N_Port connected to the same fabric, and then those F_Ports are re-enabled.
--failoverdisable <N_Port>	Disables the failover policy for an N_Port.
--failoverenable <N_Port>	Enables the failover policy for an N_Port. When the failover policy is enabled for an N_Port and failure occurs on that port, all F_Ports mapped to the failed N_Port will failover to another N_Port connected to the same fabric, and then those F_Ports are re-enabled.
--failbackshow [N_Port]	Displays the failback policy for the N_Port (s).
--failbackdisable <N_Port>	Disables the failback policy for an N_Port.
--failbackenable <N_Port>	Enables the failback policy for an N_Port.

Examples

To display Access Gateway information:

```
switch:admin> ag --show
Name           : switch
NodeName       : 10:00:00:05:1e:35:10:57
Number of Ports : 16
IP Address(es) : 10.115.74.54
Firmware Version : v5.2.1.v5.2.x_maint_061106_2
N_Ports        : 3
F_Ports        : 8
Attached N_Port information:
  Port  PortID      PortWWN          FO FB  IP Addr      F_Ports
-----
      2   0x020600  20:06:00:05:1e:34:15:c6  1  1   10.115.74.200  0;1;
      3   0x020500  20:05:00:05:1e:34:15:c6  1  1   10.115.74.200  5;6;
     15   0x060700  20:07:00:05:1e:34:15:c6  1  1   10.115.74.59   9;10;11;12;
-----
Attached F_Port information:
  Port  PortID      Port WWN          N_Port
-----
      0   0x429c02  10:00:00:00:c9:3f:7d:4a  2
      1   0x429c01  21:00:00:e0:8b:a8:68:58  2
      5   0x429B01  21:00:00:e0:8b:88:92:e8  3
      6   0x429B02  21:00:00:e0:8b:88:68:58  3
-----

Note: ag --show always shows the current online information.
```

To display all the F_Ports that are mapped to a given N_Port:

```
ST2:admin> ag --mapshow

N_Port  Configured_F_Ports    Current_F_Ports    Failover  Failback
-----
      2         0;1;                 0;1;              1         1
      3         5;6;                 5;6;              1         1
     15         9;10;11;12;         9;10;11;12;      1         1
-----

ST2: admin> ag --mapshow 15

-----
N_Port2                                : 15
Failover (1=enabled/0=disabled)       : 1
Failback (1=enabled/0=disabled)       : 1
Current F_Ports                        : 9;10;11;12;
Configured F_Ports                     : 9;10;11;12;
-----
```

See Also [portcfgnport](#), [portcfgnpivport](#)

licensePort

Manages the Dynamic Ports on Demand (POD) license assignment.

Synopsis `licensePort --release portnum`
`licensePort --reserve portnum`
`licensePort --show`
`licensePort --method selection`

Description Use this command to manage the Dynamic Ports on Demand license assignments. In the Dynamic POD method, the ports are assigned to a POD license in order to come online until they equal the number of online licensed ports. This command provides the mechanism to make adjustments to the dynamic assignments to adjust to specific site requirements. These options are used in the case where there are more online ports than the purchased POD licenses can support.

Operands This command has the following operands:

<code>--release <i>portnumber</i></code>	Releases a license assignment from a port when the switch is using the Dynamic Ports on Demand method. This option can only be applied to a port that is offline.
<code>--reserve <i>portnumber</i></code>	Use this option to reserve a license assignment for a port when the switch is using the Dynamic Ports on Demand method. This option can only be applied to a port that is offline. The portnumber is the number of the port to assign or remove from a POD license.
<code>--show</code>	Use this option to display the Ports on Demand license assignments.
<code>--method <i>selection</i></code>	Use this option to select the method for Ports on Demand. Use the selection option to select the method as dynamic or static.

Examples

To release and reserve a port from a Dynamic POD license assignment:

```
sw5:admin> licensePort -release 5
```

To reserve a Dynamic POD license assignment for a port:

```
sw5:admin> licensePort -reserve 5
```

To change the POD license method to the Dynamic method:

```
sw5:admin> licensePort -method dynamic
```

To display the Ports on Demand license assignments:

```
sw5:admin> licensePort -show
20 ports are available in this switch
1 POD license is installed
Dynamic POD method is in use
15 port assignments are provisioned for use in this switch:
10 port assignments are provisioned by the base switch license
5 port assignments are provisioned by the first POD license
* 5 more assignments are added if the second POD
license is installed
15 ports are assigned to installed licenses:
10 ports are assigned to the base switch license
5 ports are assigned to the first POD license
Ports assigned to the base switch license:
0, 1, 2, 3, 4, 5, 6, 7, 15, 16
Ports assigned to the first POD license:
8, 9, 17, 18, 19
Ports assigned to the second POD license:
10, 11, 12, 13, 14
[Note: these ports cannot be activated due to an insufficient
number of installed POD licenses. Use licensePort -release
to allow these ports to be reassigned.]
Ports not assigned to a license:
None
0 license reservations are still available for use by unassigned ports
```

See Also [licenseAdd\(1m\)](#), [licenseRemove\(1m\)](#), [licenseIdShow\(1\)](#), [licenseHelp\(1\)](#)

Commands Updated in v5.2.1

The commands in this section were changed to support the new Access Gateway mode and DPOD features.

- Replace the “agshow” command.
- Replace the “configure” command.
- Replace the “fwConfigure” command.
- Replace the “fwShow” command.
- Replace the “ipAddrSet” command.
- Replace the “ipaddrshow” command.
- Replace the “portCfgShow” command.
- Replace the “portshow” command.
- Replace the “supportSave” command.
- Replace the “switchshow” command.

agshow

Displays the Access Gateway information registered with the fabric.

Synopsis `agshow [ag_name] | [--local]`

Description This command displays the details of the F_Ports and the configured N_Ports in the Access Gateway connected. The lines of display show:

Name	The name of the Access Gateway.
Ports	The number of ports in the Access Gateway.
Enet IP Addr	The IP address of the Access Gateway.
Firmware	The version of the Access Gateway firmware running on Access Gateway.
Local/Remote	Describes whether the Access Gateway is registered to this fabric locally or remotely.
Nodename	The WWN of the given Access Gateway.
N-Port ID(s)	The port ids of the N_Ports configured in the given Access Gateway.
N-Ports	The number of N_Ports currently configured and that are online in the given Access Gateway.
F-Ports	The number of F_Ports online in the given Access Gateway.

Attached F-Port information

This gives information on the F_Ports that are connected to the Access Gateway.

Note

NPIV capability should be enabled on the ports connected to the Access Gateway. Use portCfgNPIVPort to enable NPIV capability on the specific port.

Operands This command has the following operands:

<i>ag_name</i>	The name of an Access Gateway registered locally or remotely with this fabric. Give this option to get the information for that particular Access Gateway. This operand is optional.
--local	Give this option to list the information of locally registered Access Gateways.

Examples To display the Access Gateway information registered with the fabric.

```
switch:admin> agshow WT_Stealth

Name           : WT_Stealth
NodeName       : 10:00:00:05:1e:34:e4:bd
N-Port ID(s)   : 0x010200
Number of Ports : 16
IP Address(es) : 10.202.90.231
Firmware Version : v1.0.0
N-Ports       : 1
F-Ports       : 2
Attached F-Port information :
  PortID      Port WWN
  -----
  0x010208    10:00:00:00:c9:3f:7c:86
  0x01020a    10:00:00:00:c9:3f:7c:b9
```

To display the locally registered Access Gateways:

```
switch:admin> agshow --local

Name           Ports  Enet IP Addr  Firmware  Local/Remote
-----
WT_Stealth     16     10.202.90.231 v1.0.0    local
```

To display all registered Access Gateways:

```
switch:admin> <agshow>

Name           Ports  Enet IP Addr  Firmware  Local/Remote
-----
WT_Stealth     16     10.202.90.231 v1.0.0    local
WT_Stealth1    16     10.202.90.232 v1.0.0    remote
```

See Also portCfgNPIVPort

configure

Changes system configuration settings.

Synopsis `configure`

Description Use this command to change the following system configuration settings for the switch:

- “Switch Fabric Settings”
- “Virtual Channel Settings”
- “F_Port Login Parameters”
- “Zoning Operation Parameters”
- “RSCN Transmission Mode”
- “Arbitrated Loop Parameters”
- “System Services Settings”
- “Portlog Events Enable/Disable Settings”
- “Application Attributes”

Note

If executed on an enabled switch, only the application attribute can be configured. To access all parameters controlled by this command, you must disable the switch using the `switchDisable` command.

Note

The execution of this command is subject to Admin Domain restrictions that may be in place.

The **configure** configure command is navigated using a series of hierarchical menus. Each top-level menu and its associated submenus consist of a text prompt, a list of acceptable values, and a default value (in brackets).

Use the following options to control input:

- | | |
|-------------------------------|---|
| Return | When entered at a prompt with no preceding input, accepts the default value (if applicable) and moves to the next prompt. |
| Interrupt (Ctrl-C) | Aborts the command immediately and ignores all changes made. |
| End-of-file (Ctrl-D) | When entered at a prompt with no preceding input, terminates the command and saves changes made. |

Switch Fabric Settings

There are several settings that control the overall behavior and operation of the fabric. Some of these, such as the domain, are assigned automatically by the fabric and might differ from one switch to another in the fabric. Other parameters, such as the BB credit or the time-out values, can be changed for specific applications or operating environments but must be in agreement among all switches to allow formation of the fabric.

The Switch Fabric Settings are as follows:

Table 2-1 Configure Command Fabric Parameters

Field	Type	Default	Range
Table 2-1 Domain	number	1	varies
R_A_TOV	number	10000	E_D_TOV * 2 to 120000
E_D_TOV	number	2000	1000 to R_A_TOV / 2
WAN_TOV	number	0	0 to R_A_TOV / 4
MAX_HOPS	number	7	7 to 19
Data Field Size	number	2112	256 to 2112
Sequence Level Switching	boolean	0	0 or 1
Disable Device Probing	boolean	0	0 or 1
Suppress Class F Traffic	boolean	0	0 or 1
Switch PID Format	number	1	1 to 2
Per-frame Route Priority	boolean	0	0 or 1
Long Distance Fabric	boolean	0	0 or 1
BB Credit	number	16	1 to 27
Insistent Domain ID Mode	boolean	no	yes/no
BALDE_FAULT_ON_HWERRMSK	Hex	0x0	0x0-0xffff

Descriptions of the switch fabric setting fields are as follows:

Domain	The domain number uniquely identifies the switch in a fabric. This value is automatically assigned by the fabric. The range of valid values varies depending on the switch model and other system parameter settings.
R_A_TOV	The resource allocation time out value (R_A_TOV) is displayed in milliseconds. This variable works with the variable E_D_TOV to determine switch actions when presented with an error condition. Allocated circuit resources with detected errors are not released until the time value has expired. If the condition is resolved prior to the time out, the internal time-out clock resets and waits for the next error condition.
E_D_TOV	Error detect time out value (E_D_TOV) is displayed in milliseconds. This timer is used to flag a potential error condition when an expected response is not received (an acknowledgment or reply in response to packet receipt, for example) within the set time limit. If the time for an expected response exceeds the set value, then an error condition occurs.
WAN_TOV	Wide area network time-out value (WAN_TOV) displays in milliseconds. This timer is the maximum frame time out value for a WAN, if any, interconnecting the Fibre Channel islands.
MAX_HOPS	Maximum hops (MAX_HOPS) is an integer that denotes the upper limit on the number of hops a frame might have to traverse to reach any destination port from any source port across the fabric.

The R_A_TOV, E_D_TOV, WAN_TOV, and MAX_HOPS configuration parameters are inter-related. Assigning a specific value to one or more of these parameters can change the range of allowed values that can be assigned to the other parameters. As a result, the user might not be able to set all the values within the range displayed against each parameter. To reduce problems, the configuration utility validates the modified parameter values and prompts the user to re-enter some values, if the validation check fails.

- Data Field Size** The data field size specifies the largest possible value, in bytes, for the size of a type 1(data) frame. The switch advertises this value to other switches in the fabric during construction of the fabric as well as to other devices when they connect to the fabric. Setting this to a value smaller than 2112 might result in decreased performance.
- Sequence-Level Switching**
When sequence-level switching is set to 1, frames of the same sequence from a particular source are transmitted as a group. When this feature is set to 0, frames are transmitted interleaved among multiple sequences.

Under normal conditions, sequence-level switching should be disabled for better performance. However, some host adapters have performance issues when receiving interleaved frames from multiple sequences. When there are such devices attached to the fabric, sequence-level switching should be enabled.
- Disable Device Probing**
When disable device probing is set to 1, devices that do not register with the Name Server will not be present in the Name Server data base. Set this mode only if the switch's N_Port discovery process (PLOGI, PRLI, INQUIRY) causes an attached device to fail.
- Suppress Class F Traffic**
By default, the switch can send Class F frames. When this option is turned on, Class F traffic is converted to Class 2 traffic before being transmitted.
- Switch PID Format** The formats are as follows:
- 0 Native PID Format (16 based, 16 port format), for fabrics with legacy low-count port switches.
 - 1 Core PID Format (0 based, 256 port format), preferred mode for mixed fabrics with legacy and new switches.
 - 2 Extended Edge PID Format (16 based, 256 port format), used in mixed fabrics with legacy and new switches to avoid the need to reboot host systems when static PID binded is used.
- Per-frame Route Priority**
In addition to the eight virtual channels used in frame routing priority, support is also available for per-frame-based prioritization when this value is set. When Per-frame Route Priority is set to 1, the virtual channel ID is used in conjunction with a frame header to form the final virtual channel ID.
- Long Distance Fabric**
When this mode is set to 1, ISLs in a fabric can be up to 100 km long. The exact distance level is determined by the per-port configuration on the E_Ports of each ISL. Both E_Ports in an ISL must be configured to run the same long-distance level; otherwise, the fabric will be segmented.

A Brocade Extended Fabrics license is required to set this mode.

BB Credit The buffer-to-buffer (BB) credit represents the number of buffers available to attached devices for frame receipt. The range of allowed values varies depending on other system settings (see Unicast-only Operation).

Insistent Domain ID Mode

When this mode is set, the switch attempts to acquire from the fabric the domain number programmed in its "Switch Fabric Settings", failing which the switch will segment from the fabric.

BALDE_FAULT_ON_HWERRMSK

In the case of non fatal HW ASIC data parity errors, you can shutdown the slot blade or CP blade (if dual core switch) using this new "BLADE_FAULT_ON_HWERRMSK" in the configure menu. Also, an external error log message is generated.

Virtual Channel Settings

The switch enables fine-tuning for a specific application by configuring the parameters for eight virtual channels. The first two virtual channels are reserved for switch internal functions and are not available for modification.

The default virtual channel settings have already been optimized for switch performance. Changing the default values can improve switch performance but can also degrade performance. Do not change these settings without fully understanding the effects of the changes.

The Virtual Channel Settings are as follows:

Table 2-2 Configure Command Virtual Channel Settings

Field	Default	Range
VC Priority 2	2	2 to 3
VC Priority 3	2	2 to 3
VC Priority 4	2	2 to 3
VC Priority 5	2	2 to 3
VC Priority 6	3	2 to 3
VC Priority 7	3	2 to 3

VC Priority specifies the class of frame traffic given priority for a virtual channel.

F_Port Login Parameters

Specify the F_Port login parameters to limit the number of virtual port logins. These are switch-wide parameters applicable to all N_Port ID virtualization (NPIV) ports in the switch.

Table 2-3 F_Port Login Parameters

Field	Type	Default	Range
Maximum logins per switch	Number	15*ports	1 to 126*ports
Maximum logins per port	Number	126	1 to 255

Zoning Operation Parameters

The Zoning Operation Parameter field is as follows:

Disable NodeName Zone Checking

Specify 1 to disable using node WWN when specifying nodes in the zone database, or specify 0 to enable using node WWN when specifying nodes in the zone data. The default value is 0. This value must be set to 1 for interoperability.

RSCN Transmission Mode

The RSCN Transmission Mode fields are described in table.

Table 2-4 RSCN Transmission Modes

Field	Type	Default	Range
End-device RSCN Transmission Mode	number	1	0 to 2
Domain RSCN to End-device for switch IP address or name change	number	0	0 to 1

End-device RSCN Transmission Mode

Values are as follows:

- 0 RSCN only contains single PID
- 1 RSCN contains multiple PIDs
- 2 Fabric addresses RSCN

Domain RSCN to End-device for switch IP address or name change

Values are as follows:

- 0 Disabled. No domain RSCN is sent to the end-device for the switch IP address or name change.
- 1 Enabled. Domain RSCN is sent to the end-device for the switch IP address or name change.

Arbitrated Loop Parameters

The Arbitrated Loop Setting fields are described in the table.

Table 2-5 Configure Command Arbitrated Loop Settings

Field	Default	Range
Send FAN frames?	1	0 or 1
Enable CLOSE on OPEN received?	4	0 to 4
Always send RSCN?	0	0 or 1

Descriptions of the Arbitrated Loop Parameter fields are as follows:

Send FAN frames? Specifies that fabric address notification (FAN) frames be sent to public loop devices to notify them of their node ID and address. When set to 1, frames are sent; when set to 0, frames are not sent.

Enable CLOSE on OPEN received?

If this is set, a CLS is returned immediately to an OPN if no buffers are available. This is required for TachLite.

Always send RSCN? Following the completion of loop initialization, a remote state change notification (RSCN) is issued when FL_Ports detect the presence of new devices or the absence of preexisting devices. When set to 1, an RSCN is issued upon completion of loop initialization, regardless of the presence or absence of new or pre-existing devices.

System Services Settings

The System Services Settings are shown in the table.

Table 2-6 Configure Command System Services Parameters

Field	Default	Range
rstatd	Off	On/Off
rusersd	Off	On/Off
telnetd	On	On/Off

Descriptions of the system service settings are as follows:

rstatd Dynamically enables or disables a server that returns information through remote procedure calls (RPC) about system operation information. The protocol provides for a wide-range of system statistics; however, only the Ethernet interface statistics (see **ifModeShow**) and system up time(see **upTime**) are supported.

The retrieval of this information is supported by a number of operating systems that support RPC. Most UNIX-based systems (HP-UX, Irix, Linux, Solaris, and so on.) use the RUP and RSYSINFO commands to retrieve the information. Refer to your local system documentation for the appropriate usage of the these or equivalent commands.

rusersd Dynamically enables or disables a server that returns information about the user logged into the system through remote procedure calls (RPC). The information returned includes user login name, system name, login protocol or type, login time, idle time, and remote login location (if applicable).

The retrieval of this information is supported by a number of operating systems that support RPC. On most UNIX-based systems (HP-UX, Irix, Linux, Solaris, and so on.) the command to retrieve the information is rusers. Refer to your local system documentation for the appropriate usage of this or an equivalent command.

telnetd Used to enable or disable the telnet interface to a switch, including sectelnet. If you are using SSH to manage a switch, you can disable the telnet interface for greater security. The default value is on (telnet enabled).

Portlog Events Enable/Disable Settings

Port events can be disabled from logging. The default is enabled (on). When disabled, this event is not logged by portlog.

Use the following special input:

- | | |
|-------------------------------|---|
| Return | When entered at a prompt with no preceding input, accepts the default value (if applicable) and moves to the next prompt. |
| Interrupt (Ctrl-C) | Aborts the command immediately and ignores all changes made. |
| End-of-file (Ctrl-D) | When entered at a prompt with no preceding input, terminates the command and saves changes made. |

Application Attributes

Application HTTP, SNMP, and RPCd attributes are configurable; by default, all three attributes are enabled. Refer to the table for the application attributes that can be changed.

Table 2-1 Configurable Application Attributes

Application	File	Type	Default	Range
ssl	Certificate File	string	not set	varies
	CA Certificate File	string	not set	varies
	Length of crypto key	number	128	40, 56, 128
http	HTTP Enabled	boolean	Yes	Yes/No
	Secure HTTP Enabled	boolean	Off	On/Off
snmp	SNMP Security Level	number	0	0, 1, 2
rpcd	RPCd Enabled	boolean	On	On/Off
	Secure RPCd Callback	boolean	Off	On/Off
cfgload	Secure Config Upload and Download	boolean	Off	On/Off

Note

The secure protocols must not be enabled before setting SSL attributes correctly.

Examples To modify configuration settings on a switch:

```

switch:admin> configure
Configure...
Fabric parameters(yes, y, no, n): [no] yes
Domain:(1..239) [1]
R_A_TOV: (4000..120000) [10000]
E_D_TOV: (1000..5000) [2000] 5000
WAN_TOV: (0..30000) [0] 0
MAX_HOPS: (7..19) [7]
Data field size: (256..2112) [2112]
Sequence Level Switching: (0..1) [0] 1
Disable Device Probing: (0..1) [0]
Switch PID Format: (1..2) [1]
Per-frame Route Priority: (0..1) [0]
BB credit: (1..16) [16]

Insistent Domain ID Mode (yes, y, no, n): [no]
Virtual Channel parameters(yes, y, no, n): [no] yes
VC Priority 2: (2..3) [2]
VC Priority 3: (2..3) [2]
VC Priority 4: (2..3) [2]
VC Priority 5: (2..3) [2]
VC Priority 6: (2..3) [3]
VC Priority 7: (2..3) [3]

Switch Operating Mode (yes, y, no, n): [no] yes
Interoperability Mode: (0..1) [0]
Zoning Operation parameters (yes, y, no, n): [no] yes
Disable NodeName Zone Checking: (0..1) [0]
RSCN Transmission Mode (yes, y, no, n): [no] yes
End-device RSCN Transmission Mode
(0 = RSCN with single PID, 1 = RSCN with multiple PIDs, 2 = Fabric RSCN): (0..2) [0]
Arbitrated Loop parameters(yes, y, no, n): [no] yes
Alternate BB credit: (0..1) [0]
Send FAN frames?: (0..1) [1]
Enable CLOSE on OPEN received?: (0..1) [0]
Always send RSCN?: (0..1) [0]
Do Not Allow AL_PA 0x00?: (0..1) [0]
System services(yes, y, no, n): [no] yes
rstatd(on, off): [off]
rusersd(on, off): [off]
telnetd (on, off): [on]
Portlog events enable (yes, y, no, n): [no] yes
start(a switch start or re-start event      ) (on, off): [on]
disable(a port is disabled                    ) (on, off): [on]
enable(a port is enabled                      ) (on, off): [on]
ioctl(a port I/O control is executed)        ) (on, off): [on]
Tx(a frame is transmitted)                   ) (on, off): [off]
Tx1(a frame is transmitted, class 1          ) (on, off): [on]
Tx2(a frame is transmitted, class 2          ) (on, off): [on]
Tx3(a frame is transmitted, class 3          ) (on, off): [on]
Rx(a frame is received                        ) (on, off): [on]
Rx1(a frame is received, class 1             ) (on, off): [on]
Rx2(a frame is received, class 2             ) (on, off): [on]
Rx3(a frame is received, class 3             ) (on, off): [on]
stats(port status or statistics               ) (on, off): [on]
(continued on next page)

```

```

scn(a state change notification ) (on, off): [on]
pstate(a port changes physical state ) (on, off): [on]
reject(a received frame is rejected ) (on, off): [on]
busy(a received frame is busied ) (on, off): [on]
ctin(a CT based request is received ) (on, off): [on]
ctout(a CT based response is transmitted ) (on, off): [on]
errlog(a message is added to the error log ) (on, off): [on]
loopscn(a loop state change notification ) (on, off): [on]
create(a task is created ) (on, off): [on]
start(a switch start or re-start event ) (on, off): [on]
disable(a port is disabled ) (on, off): [on]
enable(a port is enabled ) (on, off): [on]
ioctl(a port I/O control is executed) ) (on, off): [on]

Tx(a frame is transmitted) ) (on, off): [off]
Tx1(a frame is transmitted, class 1 ) (on, off): [on]
Tx2(a frame is transmitted, class 2 ) (on, off): [on]
Tx3(a frame is transmitted, class 3 ) (on, off): [on]
Rx(a frame is received ) (on, off): [on]
Rx1(a frame is received, class 1 ) (on, off): [on]
Rx2(a frame is received, class 2 ) (on, off): [on]
Rx3(a frame is received, class 3 ) (on, off): [on]
stats(port status or statistics ) (on, off): [on]
scn(a state change notification ) (on, off): [on]
pstate(a port changes physical state ) (on, off): [on]
reject(a received frame is rejected ) (on, off): [on]
busy(a received frame is busied ) (on, off): [on]
ctin(a CT based request is received ) (on, off): [on]
ctout(a CT based response is transmitted ) (on, off): [on]
errlog(a message is added to the error log ) (on, off): [on]
loopscn(a loop state change notification ) (on, off): [on]

create(a task is created ) (on, off): [on]
start(a switch start or re-start event ) (on, off): [on]
disable(a port is disabled ) (on, off): [on]
enable(a port is enabled ) (on, off): [on]
ioctl(a port I/O control is executed) ) (on, off): [on]
Tx(a frame is transmitted) ) (on, off): [off]
Tx1(a frame is transmitted, class 1 ) (on, off): [on]
Tx2(a frame is transmitted, class 2 ) (on, off): [on]
Tx3(a frame is transmitted, class 3 ) (on, off): [on]
Rx(a frame is received ) (on, off): [on]
Rx1(a frame is received, class 1 ) (on, off): [on]
Rx2(a frame is received, class 2 ) (on, off): [on]
Rx3(a frame is received, class 3 ) (on, off): [on]
stats(port status or statistics ) (on, off): [on]
scn(a state change notification ) (on, off): [on]
pstate(a port changes physical state ) (on, off): [on]
reject(a received frame is rejected ) (on, off): [on]
busy(a received frame is busied ) (on, off): [on]
ctin(a CT based request is received ) (on, off): [on]

ctout(a CT based response is transmitted ) (on, off): [on]
errlog(a message is added to the error log ) (on, off): [on]
loopscn(a loop state change notification ) (on, off): [on]

create(a task is created ) (on, off): [on]

(continued on next page)

```

```

errlog(a message is added to the error log ) (on, off): [on]
debug(generic debug info ) (on, off): [on]
nbrfsm(neighbor state transition ) (on, off): [on]
timer(timer ) (on, off): [on]
sn(speed negotiation state ) (on, off): [on]

fcin(fc input ) (on, off): [on]
fcout(fc output ) (on, off): [on]
read(fc read ) (on, off): [on]
write(fc write ) (on, off): [on]
err(fc error ) (on, off): [on]
frame(fc frame payload ) (on, off): [on]
nsRemQ(inter-sw NS query ) (on, off): [on]
nsRemR(inter-sw NS response ) (on, off): [on]
rscn(RSCN ) (on, off): [on]
state(fc state ) (on, off): [on]
xalloc(alloc an exchange ) (on, off): [on]
xfree(free an exchange ) (on, off): [on]
xerr(exchange error ) (on, off): [on]
xstate(exchange state ) (on, off): [on]
seq(sequence ) (on, off): [on]
seqst(sequence state ) (on, off): [on]
iu(iu ) (on, off): [on]
payload( frame payload ) (on, off): [on]
zone(zone request/response ) (on, off): [on]
cmd(fss command log ) (on, off): [on]
event(fss event log ) (on, off): [on]
msg(fss message log ) (on, off): [on]

switch(switch driver log ) (on, off): [on]

ficonq(ficon queue and ELS measurements ) (on, off): [on]

routing(switch/blade drivers routing logs ) (on, off): [on]

Committing configuration...done.

```

See Also [agtCfgDefault](#), [agtCfgSet](#), [agtCfgShow](#), [configDefault](#), [configShow](#), [ipAddrSet](#), [portCfgLongDistance](#), [switchDisable](#), [switchEnable](#),¹

1.

fwConfigure

Displays and modifies the Fabric Watch configuration.

Synopsis `fwconfigure [--enable --port portNumber] | [--disable --port portNumber]`

Description Use this command to display and modify threshold information for the Fabric Watch configuration. Switch elements monitored by Fabric Watch are divided into classes, which are further divided into areas. Each area can include multiple thresholds. In addition, the command can be used to disable or enable all thresholds associated with a given port.

Note

This command requires a Fabric Watch license.

Not all platforms support fans or power supplies. If you attempt to configure values for these items, the “ERROR: No threshold available” error message is displayed.

The Fabric Watch classes and areas are provided in the table.

Table 2-7 fwConfigure Fabric Watch Classes and Areas

Class	Area
Environmental	Temperature Fan* Power Supply*
SFP	Temperature RXP TXP Current Voltage
Port	Link failure Sync loss Signal loss Protocol error Invalid words Invalid CRCS RX Performance TX Performance State Changes
Fabric	E_Port downs Fabric reconfigure Domain ID changes Segmentation changes Zone changes Fabric<->QL Fabric logins SFP state changes
E_Port	Same as Port class
F/FL_Port (Optical)	Same as Port class

Table 2-7 fwConfigure Fabric Watch Classes and Areas

Class	Area
AL_PA Performance Monitor	Invalid CRCS
EE Performance Monitor	Invalid CRCS RX Performance TX Performance
Filter Performance Monitor	Customer Defined
Security	Telnet Violations HTTP Violations API Violations RSNMP Violations WSNMP Violations SES Violations MS Violations Serial Violations Front Panel Violations SCC Violations DCC Violations Login Violations Invalid Timestamps Invalid Signatures Invalid Certificates SLAP Failures SLAP Bad Packets TS Out of Sync No-FCS Incompatible Security DB Illegal Command
Resource	Flash

Note

The execution of this command is subject to Admin Domain restrictions that may be in place.

In Access Gateway mode, only the following classes are supported. F/FL Port (Copper) class is supported only on Embedded platforms.

Table 2-1 Access Gateway Mode

Class	Area
Environmental	Temperature Fan* Power Supply*
SFP	Temperature RXP TXP Current Voltage
Port	Link failure Sync loss Signal loss Protocol error Invalid words Invalid CRCs RX Performance TX Performance State Changes
Fabric	E_Port downs Fabric reconfigure Domain ID changes Segmentation changes Zone changes Fabric<->QL Fabric logins SFP state changes
FFL_Port (Optical)	Same as Port class
FFL_Port (Copper)	Same as Port class
Resource class	Flash area
EE Performance Monitor	Invalid CRCS RX Performance TX Performance
Filter Performance Monitor	Customer Defined
Resource	Flash

Note

Not all platforms support fans or power supplies. If you attempt to configure values for these items the following displays: "ERROR: No threshold available."

Operands This command has the following optional operands:

--enable --port *portNumber*

Enables all thresholds associated with a certain port.

--disable --port *portNumber*

Disables all thresholds associated with a certain port.

Note

This command requires a Fabric Watch license.

Examples To configure thresholds in Fabric OS mode:

```
switch:admin> fwconfigure
 1 : Environment class
 2 : SFP class
 3 : Port class
 4 : Fabric class
 5 : E-Port class
 6 : F/FL Port (Optical) class
 7 : Alpa performance Monitor class
 8 : EE performance Monitor class
 9 : Filter performance Monitor class
10 : Security class
11 : Resource class
12 : Quit
Select a class => : (1..12) [1] 1

 1 : Temperature
 2 : Fan
 3 : Power Supply
 4 : return to previous page
Select an area => : (1..4) [4] 1

Index ThresholdName                Status      CurVal
      LastEvent                    LastEventTime LastVal      LastState
=====
  1  envTemp001                      enabled     33 C
      started 10:28:59 on 02/01/2000  0 C      Informative
  2  envTemp002                      enabled     34 C
      started 10:28:59 on 02/01/2000  0 C      Informative
  3  envTemp003                      enabled     36 C
      started 10:28:59 on 02/01/2000  0 C      Informative
  4  envTemp004                      enabled     35 C
      started 10:28:59 on 02/01/2000  0 C      Informative
  5  envTemp005                      enabled     36 C
      started 10:28:59 on 02/01/2000  0 C      Informative

 1 : refresh
 2 : disable a threshold
 3 : enable a threshold
 4 : advanced configuration
 5 : return to previous page
Select choice => : (1..5) [5]

switch:admin> fwConfigure --disable --port 1
```

Examples To configure thresholds in Access Gateway mode:

```

ST3:admin> fwconfigure

 1 : Environment class
 2 : SFP class
 3 : Port class
 4 : F/FL Port (Optical) class
 5 : Resource class
 6 : quit
Select a class => : (1..6) [6] 1

 1 : Temperature
 2 : Fan
 3 : Power Supply
 4 : return to previous page
Select an area => : (1..4) [4] 1

Index ThresholdName                Status      CurVal
  LastEvent                LasteventTime  LastVal    LastState
=====
 1   envTemp001                enabled      23 C
    inBetween   Sat Oct 7 10:01:53 2006    21 C      In_Range
 2   envTemp002                enabled      24 C
    inBetween   Sat Oct 7 10:01:53 2006    21 C      In_Range

 1 : refresh
 2 : disable a threshold
 3 : enable a threshold
 4 : advanced configuration
 5 : return to previous page
Select choice => : (1..5) [5] 5

```

See Also [fwClassInit](#), [fwConfigReload](#), [fwShow](#)

fwShow

Displays the thresholds monitored by Fabric Watch.

Synopsis `fwshow [--port --persistence] | [--disable --port]`

Description Use this command to display the thresholds monitored by Fabric Watch. This command also displays the port persistence time and ports with all thresholds disabled.

In Access Gateway mode, only the following class thresholds are supported. F/FL Port (Copper) class threshold is supported only on Embedded platforms.

Table 2-8 Access Gateway mode classes

Class
Environmental
SFP
Port
Fabric
F/FL_Port (Optical)
F/FL_Port (Copper)
Resource

Note

This command requires a Fabric Watch license.

Note

The execution of this command is subject to Admin Domain restrictions that may be in place.

Operands The operands are as follows:

--port --persistence Displays the time that a port must be persistently in a state before being marked as such.

--disable --port Displays the ports that have all associated thresholds disabled.

Examples To display thresholds and port persistence time:

```
switch:user> fwshow
 1 : Show class thresholds
 2 : Detail threshold information
 3 : Show console message level
 4 : Show port persistence time
 5 : Quit
Select an item => : (1..3) [3] 1

 1 : Environment class
 2 : SFP class
 3 : Port class
 4 : Fabric class
 5 : E-Port class
 6 : F/FL Port (Optical) class
 7 : Alpa Performance Monitor class
 8 : End-to-End Performance Monitor class
 9 : Filter Performance Monitor class
10 : Security class
11 : Resource class
12 : Quit
Select an item => : (1..12) [11] 1

 1 : Temperature
 2 : Fan
 3 : Power Supply
 4 : return to previous page
Select an area => : (1..4) [4] 2

=====
Name                Label                Last value
-----
envFan001            Env Fan 1            2576 RPM
envFan002            Env Fan 2            2518 RPM
envFan003            Env Fan 3            2481 RPM

switch:user> fwshow
 1 : Show class thresholds
 2 : Detail threshold information
 3 : Show port persistence time
 4 : Quit
Select an item => : (1..3) [3] 2
Enter Threshold Name : [] envFan001

(continued on next page)
```

```

Env Temperature 1:

Monitored for:      1283 (21 mins)
Last checked:     10:50:21 on 02/01/2000

Lower bound:       0 C
Upper bound:       75 C
Buffer Size:       10

Value history:     33 C

Disabled? No
Locked? No

Raw history:       38 C
                  38 C
                  38 C
Flags: 0x          40 TRIGGERED

Counter:
  Access via: Function call
  Address: 0x100155a8
  Argument: 0x00000001

  Previous: 0x00000026 (38)
  Current: 0x00000026 (38)

Events:
  Style: Triggered
  Event 0 occurred 1 time, last at 16:30:17 on 12/09/2011
  Event 1 occurred 10 times, last at 16:49:02 on 12/09/2011
  * Event 5 occurred 1 time, last at 16:30:23 on 12/09/2011

Callbacks:
  No callbacks are registered.

switch:user> fwshow --port --persistence
FW: current port persistence time = 18s
switch:user>

switch:user> fwShow --disable --port

Port      Threshold Status
=====
1         disabled
switch:user> fwshow --port --persistence
FW: current port persistence time = 18s
switch:user> fwShow --disable --port
Port      Threshold Status
=====
1         disabled

```

See Also [fwClassInit](#), [fwConfigReload](#), [fwConfigure](#), [fwSet](#)

ipAddrSet

Sets the IP address details for a switch or control processor (CP).

Synopsis `ipaddrset [-cp number][-sw number]`

Description Use this command to set the IP addresses on the switch or CP. The command's usage varies depending on whether it is being used on a chassis-based system or non chassis-based switch

On a chassis-based system, if no option is provided, the command prints the usage. To set the CP IP address use **-cp**, to set the switch IP address use **-sw**. When setting the switch, the command prompts for the Ethernet IP address, Ethernet subnetmask, Fibre Channel IP address, and Fibre Channel subnetmask. When setting the CP, the command prompts for the Ethernet IP address, Ethernet subnetmask, host name, and Gateway IP address.

Valid switch and CP numbers depend on the platform from which the command is being run.

Note

The execution of this command is subject to Admin Domain restrictions that may be in place.

Operands This command has the following operands on a chassis-based system:

-cp <i>number</i>	Valid options include:
0	Sets the Ethernet IP address, Ethernet subnetmask, gateway IP address, and host name of CP0.
1	Sets the Ethernet IP address, Ethernet subnetmask, gateway IP address, and host name of CP1.
-sw <i>number</i>	Valid options include:
0	Sets the Ethernet IP address, Ethernet subnetmask, Fibre Channel IP address, and Fibre Channel subnetmask of logical switch 0.
1	Sets the Ethernet IP address, Ethernet subnetmask, Fibre Channel IP address, and Fibre Channel Subnetmask of logical switch 1.

Examples To set the IP address details for switch number 1 on a chassis-based system:

```
switch:admin> ipaddrset -sw 1
Ethernet IP Address [192.168.166.148]:
Ethernet Subnetmask [255.255.255.0]:
Fibre Channel IP Address [none]:
Fibre Channel Subnetmask [none]:
Committing configuration...Done.
OK.
```

To enable DHCP on a non-chassis-based system:

```
switch:admin>> ipaddrset
Ethernet IP Address [192.168.74.102]:
Ethernet Subnetmask [255.255.255.0]:
Fibre Channel IP Address [220.220.220.2]:
Fibre Channel Subnetmask [255.255.0.0]:
Gateway IP Address [192.168.74.1]:
DHCP [Off]: on
```

See Also [ipAddrShow](#)

ipaddrshow

Displays the IP address information for a switch or control processor (CP).

Synopsis `ipaddrshow [-cp cp_number] | [-sw sw_number]`

Description Use this command to display the IP addresses configured in the system.

The **-cp** option displays the CP IP address and the **-sw** option displays the switch IP addresses. For switches, the command displays the Ethernet IP address, Ethernet subnetmask, Fibre Channel IP address, and Fibre Channel subnetmask. For CPs, the command displays the Ethernet IP address, Ethernet subnetmask, host name, and gateway IP address.

Note

The execution of this command is subject to Admin Domain restrictions that may be in place.

Operands This command has the following operands:

-cp *cp_number* For dual-CP systems, this specifies the CP card number to display (0 or 1).

-sw *sw_number* For dual-domain systems, this specifies the switch number to display (0 or 1).

If no operands are specified, the command displays all the IP addresses configured in the system. For non chassis-based switches, this command ignores all operands.

Examples To display the IP address for logical switch 0:

```
switch:admin> ipaddrshow -sw 0
Ethernet IP Address: 192.168.166.147
Ethernet Subnetmask: 255.255.255.0
Fibre Channel IP Address: 0.0.0.0
Fibre Channel Subnetmask: 0.0.0.0
```

Examples To set the IP address details for switch number 1 on a chassis-based system.:

```
switch:admin> ipaddrset -sw 1
Ethernet IP Address [192.168.166.148]:
Ethernet Subnetmask [255.255.255.0]:
Fibre Channel IP Address [none]:
Fibre Channel Subnetmask [none]:
Committing configuration...Done.
OK.
```

To enable DHCP on a non-chassis-based system:

```
switch:admin>> ipaddrset
Ethernet IP Address [192.168.74.102]:
Ethernet Subnetmask [255.255.255.0]:
Fibre Channel IP Address [220.220.220.2]:
Fibre Channel Subnetmask [255.255.0.0]:
Gateway IP Address [192.168.74.1]:
DHCP [Off]: on
```

See Also [ipAddrSet](#)

portCfgShow

Displays port configuration settings.

Synopsis `portcfgshow [slot][port]`

OR

`portcfgshow [arp | fciptunnel <all | tunnel_id> [-ipsec] | ipif | iproute | iscsi | mode] [slot][ge]port`

Description Use this command to display the current configuration of a port. If no operand is specified, this command displays port configuration settings for all ports on a switch, except gigabit Ethernet (GbE) ports. Additionally, use this command to display specific FCIP parameters configured for a gigabit Ethernet port, such as address resolution protocol (ARP) entries, IP routes, IP interfaces, FCIP tunnels, and mode. Information varies with the switch model and port type.

The following configuration information displays:

Speed	Displays as 1G, 2G, 4G or AN (when in auto speed negotiation mode). This value is set by the portCfgSpeed command.
Trunk Port	Displays as ON when port is set for trunking or blank (..) when trunking is disabled on the port. This value is set by the portCfgTrunkPort command.
Long Distance	Displays the following: blank (..)Long distance mode is off LE The link is up to 10 km LM The link is up to 25 km L1 The link is up to 50 km L2 The link is up to 100 km LD The distance is determined dynamically LS The distance is determined statically be user input This value is set by the portCfgLongDistance command.
VC Link Init	Displays as blank (..) when the long-distance link initialization option is turned off and ON when it is turned on for long distance mode. This value is set by the portCfgLongDistance command.
Locked L_Port	Displays as ON when port is locked to L_Port only or blank (..) when L_Port lock mode is disabled (and it behaves as a U_Port). This value is set by the portCfgLPort command.
Locked G_Port	Displays as ON when port is locked to G_Port only or blank (..) when G_Port lock mode is disabled (and it behaves as a U_Port). This value is set by the portCfgGPort command.
Disabled E_Port	Displays as ON when port is not allowed to be an E_Port or blank (..) when the port is allowed to function as an E_Port. This value is set by the portCfgEPort command.
ISL R_RDY Mode	Displays as ON when the port has ISL R_RDY mode enabled or blank (..) when the port is ISL R_RDY mode disabled. This value is set by the portCfgISLMode command.

RSCN Suppression	Displays as ON when the port has RSCN suppression enabled or blank (..) when the port has RSCN suppression disabled. This value is set by the portCfg rscnsupr command.
Persistent Disable	Displays as ON when the port is persistently disabled. This value is set by the portCfgPersistentDisable command.
Mirror Port Mode	Displays as ON when the port has Mirror Port Mode enabled or blank (..) when the port has the Mirror Port Mode disabled. This value is set by the portCfg mirrorport command.
NPIV capability	Displays as ON when the port has N_Port ID Virtualization (NPIV) enabled or blank (..) when the port has the NPIV capability disabled. This value is set by the portCfgNPIVPort command. It is enabled by default for Condor-based ports and disabled by default for Bloom-based ports.

Note

The execution of this command is subject to Admin Domain restrictions that may be in place.

Operands

This command has the following operands:

arp	Displays address resolution protocol (ARP) table.
fciptunnel	Displays FCIP tunnels on this GbE port. Possible optional args include: all , which displays all FCIP tunnels; <i>tunnel_id</i> , which displays the specified FCIP tunnel; - ipsec , which displays IKE and IPsec policy information on IPsec-enabled tunnels.
ipif	Displays the IP interface.
iproute	Displays the IP route.
mode	Displays mode of a GbE port.
<i>slotnumber</i>	For bladed systems only, specifies the slot number of the port to display, followed by a slash (/).
<i>portnumber</i>	Specifies the port number to display, relative to its slot for bladed systems. Use switchShow to display a list of valid ports. This operand is optional; if omitted, this command displays information for all ports.

Examples To display the configuration settings for a switch:

```
switch:user> portcfgshow

Ports of Slot 2   0  1  2  3   4  5  6  7   8  9 10 11   12 13 14 15
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
Speed            AN AN AN AN  AN AN AN AN  AN AN AN AN  AN AN AN AN
Trunk Port       ON ON ON ON  ON ON ON ON  ON ON ON ON  ON ON ON ON
Long Distance    .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
VC Link Init     .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
Locked L_Port    .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
Locked G_Port    .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
Disabled E_Port  .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
ISL R_RDY Mode   .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
RSCN Suppressed  .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
Persistent Disable.. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
NPIV capability  ON ON ON ON  ON ON ON ON  ON ON ON ON  ON ON ON ON
Mirror Port      .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..

Ports of Slot 2   16 17 18 19  20 21 22 23  24 25 26 27  28 29 30 31
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
Speed            AN AN AN AN  AN AN AN AN  AN AN AN AN  AN AN AN AN
Trunk Port       ON ON ON ON  ON ON ON ON  ON ON ON ON  ON ON ON ON
Long Distance    .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
VC Link Init     .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
Locked L_Port    .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
Locked G_Port    .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
Disabled E_Port  .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
ISL R_RDY Mode   .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
RSCN Suppressed  .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
Persistent Disable.. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
NPIV capability  ON ON ON ON  ON ON ON ON  ON ON ON ON  ON ON ON ON
Mirror Port      .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..

Ports of Slot 7   0  1  2  3   4  5  6  7   8  9 10 11   12 13 14 15
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
Speed            AN AN AN AN  AN AN AN AN  AN AN AN AN  AN AN AN AN
Trunk Port       ON ON ON ON  ON ON ON ON  ON ON ON ON  ON ON ON ON
Long Distance    .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
VC Link Init     .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
Locked L_Port    .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
Locked G_Port    .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
Disabled E_Port  .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
ISL R_RDY Mode   .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
RSCN Suppressed  .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
Persistent Disable.. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..
NPIV capability  ON ON ON ON  ON ON ON ON  ON ON ON ON  ON ON ON ON
Mirror Port      .. .. .. ..  .. .. .. ..  .. .. .. ..  .. .. .. ..

where AN:AutoNegotiate, ..:OFF, ?:INVALID
```

To display the configuration settings for a port:

```
switch:user> portcfgshow 2/16
Area Number:          144
Speed Level:          AUTO
Trunk Port            ON
Long Distance         OFF
VC Link Init          OFF
Locked L_Port         OFF
Locked G_Port         OFF
Disabled E_Port       OFF
ISL R_RDY Mode        OFF
RSCN Suppressed       OFF
Persistent Disable    OFF
NPIV capability       ON
Mirror Port           OFF
```

To display the configuration settings for a port with agmode enabled:

```
SW4016_5311:admin> portcfgshow
Ports of Slot 0    0  1  2  3    4  5  6  7    8  9 10 11    12 13 14 15
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
Speed              AN AN AN AN    AN AN AN AN    AN AN AN AN    AN AN AN AN
Locked N_Port      .. .. .. ..    .. .. .. ..    .. .. ON ON    .. ON ON ON
Persistent Disable.. .. .. ..    .. .. .. ..    .. .. .. ..    .. .. .. ..
NPIV capability    ON ON ON ON    ON ON ON ON    ON ON ON ON    ON ON ON ON

      where AN:AutoNegotiate, ..:OFF, ??:INVALID,
      SN:Software controlled AutoNegotiation.
```

See Also [portCfg](#), [portCfgEPort](#), [portCfgGPort](#), [portCfgLongDistance](#), [portCfgLPort](#), [portCfgNPIVPort](#), [portCfgSpeed](#), [portCfgTrunkPort](#)

portshow

Displays the status of the specified port.

Synopsis `portshow [slot] fport`

OR

`portshow [arp | fcipunnel [-perf | -params| -ipsec] <all fItunnel_id> | ipif | iproute | iscsi| mode] [slot] [ge port]`

Description Use this command to display general or switch and port-specific status information for the specified port. **portshow** with operands other than *slot* or *ge port* will display information specific to the operand given. This will vary with the switch model and port type. See the OPERANDS section for details.

`portshow [slot] [ge] port` will display the following general information, followed by three columns of counters.

portName	Name assigned to the port by the command of the same name.
portHealth	Current health of the port (Fabric Watch license required).
Authentication	Authentication type and associated parameters, if applicable, used on the port at port online or when enabling security, whichever occurs last. States include: None No authentication was done. FCAP FCAP authentication was done. DHCHAP DH-CHAP authentication was done. It also displays the DH group and hash used for authentication.
portDisableReason	The reason that a port has been disabled, if it has not been disabled by portDisable or portCfgPersistentDisable .
portCFlags	Port control flags.
portFlags	Bit map of port status flags, including information on the type of port, whether it is fully online, and whether logins have been accepted on it.
portType	Port type and revision numbers.
portState	Port SNMP state: Online Up and running. Offline Not online; “portPhys” field gives details. Testing Running diagnostics. Faulty Failed diagnostics. Persistently Disabled Persistently disabled.
portPhys	Physical port states include: No_Card No interface card present. No_Module No module (GBIC or other) present.

No_Light	Module is not receiving light.
No_Sync	Receiving light but out of sync.
In_Sync	Receiving light and in sync.
Laser_Flt	Module is signaling a laser fault.
Port_Flt	Port marked faulty.
Diag_Flt	Port failed diagnostics.
Lock_Ref	Locking to the reference signal.
portScn	Last State Change Notification for port.
port generation number	Port generation number for the last offline state change.
portId	24-bit port ID.
portIfId	User port's interface ID.
portWwn	Port's World Wide Name.
portWwn of device(s) connected	World Wide Port Names of connected devices.
Distance	The port's long-distance level. In case of LD mode, the user configured desired distance and actual distance also are displayed. see portCfgLongDistance .
portSpeed	The port's fixed speed (1, 2, or 4-Gbit/sec) or negotiated speed (N1, N2, N4 Gbit/sec or AN).
EX_Port Mode	The port is configured as an EX_Port. None of the EX_Port information is displayed if the port is not configured as an EX_Port.
Fabric ID	The fabric ID assigned to this EX_Port; therefore, it is the fabric ID of the edge fabric attached to this EX_Port.
Front Phantom	Information on the front phantom domain presented by this EX_Port. This information includes the preferred (if not active) or actual (if active) domain ID for the front domain and the WWN of the front domain.
Pr Switch Info	Information on the principal switch of the edge fabric attached to this EX_Port. This information includes the domain ID and WWN of the principal switch.
BB XLate	Information on the xlate (translate) phantom domain presented at this port. This information includes the preferred (if not active) or actual (if active) domain ID for the xlate phantom domain and the WWN of the xlate phantom domain. The xlate phantom domain connected at this port is in the same fabric as the router and represents the edge fabric connected to the EX_Port.
Authentication Type	If the EX_Port is connected to an edge switch with no security, then the authentication is displayed as "None". If the edge switch is in secure mode, and

assuming the DH-CHAP passwords are configured both on the router and the edge switch, the security type is displayed as “DH_CHAP”. DH-CHAP is the only supported authentication type.

DH Group If the EX_Port is connected to an edge switch with no security, then the value is “N/A”. If the edge switch is in secure mode, then the value, 0 through 4, is displayed and is the negotiated value with the edge fabric. This value is not user configurable.

Hash Algorithm If the EX_Port is connected to an edge switch with no security, then the value is “N/A”. If the edge switch is in secure mode, then the hash algorithm type, MD5 or SHA-1, is displayed and is the negotiated value with the edge fabric. This value is not user configurable.

Edge fabric’s primary WWN

If the EX_Port is connected to an edge switch with no security, then the value is “N/A”. The WWN of the primary FCS is displayed when the edge fabric is secure and the primary FCS is online. A value of “No Primary” is displayed if the edge fabric is in secure mode but there is no primary FCS.

Edge fabric’s version stamp

If the EX_Port is connected to an edge switch with no security, then the value is “N/A”. The version stamp, in string format, specifies the version of the security database in the fabric and all switches must be the same, or else the port is disabled.

After the general information, there are three columns of counters. The first column displays interrupt statistics:

Interrupts	Total number of interrupts.
Unknown	Interrupts that are not counted elsewhere.
Lli	Low-level interface (physical state, primitive sequences).
Proc_rqrd	Frames delivered for embedded N_Port processing.
Timed_out	Frames that have timed out.
Rx_flushed	Frames requiring translation.
Tx_unavail	Frames returned from an unavailable transmitter.
Free_buffer	Free buffer available interrupts.
Overrun	Buffer overrun interrupts.
Suspended	Transmission suspended interrupts.
Parity_err	Central memory parity errors.
2_parity_err	Secondary Tx parity errors.
CMI_bus_err	Control message interface errors.

The second column displays link error status block counters.

The third column displays the number of F_RJTs and F_BSYs generated. For L_Ports, the third column also displays the number of loop initialization protocols (LIPs) received, number of LIPs transmitted, and the last LIP received.

Note

The execution of this command is subject to Admin Domain restrictions that may be in place.

Operands

This command has the following operands:

arp	Displays ARP table. Use this operand to display IP addresses, corresponding MAC addresses, and flags.
fcipunnel	Displays FCIP tunnel IDs, remote and local IP addresses, remote and local WWNs, compression status, FCIP fastwrite state for the tunnel endpoint, Tape Pipelining status, Uncommitted bandwidth rate, SACK status, Minimum Retransmit time, Keepalive Timeout, Maximum Retransmissions, tunnel status, tunnel uptime. You must specify all to display all FCIP tunnels or <i>tunnel_id</i> to display the specified FCIP tunnel. Additional options include: -perf Displays additional performance information. -params Displays connection parameter information. -ipsec Displays IKE and IPSec policy information on IPSec-enabled tunnels.
ipif	Displays the IP interface, IP address, netmask, and MTU.
iproute	Displays the IP address, mask, gateway, metrics, and flags.
iscsi	Displays GbE port WWN and iSCSI Sessions.
mode	Displays the mode of the GbE port.
<i>slot</i>	For bladed systems only, specify the slot number of the port to be configured, followed by a slash (/).
[ge]port	Specify the port number to be displayed, relative to its slot for bladed systems. See switchShow for a list of valid ports.

Examples To display the state of a port:

```

switch:user> portshow 0
portName:
portHealth: OFFLINE

Authentication: None
portDisableReason: None
portCFlags: 0x1
portFlags: 0x4001          PRESENT U_PORT LED
portType: 4.1
portState: 2      Offline
portPhys: 2      No_Module
portScn: 0
port generation number: 0
portId: 010000
portIfId: 43020020
portWwn: 20:00:00:60:69:00:02:53
portWwn of device(s) connected:

Distance: normal
portSpeed: N2Gbps

LE domain: 0
Interrupts:      0          Link_failure: 0          Frjt:      0
Unknown:         0          Loss_of_sync: 0          Fbsy:     0
Lli:             0          Loss_of_sig: 0
Proc_rqrd:      0          Protocol_err: 0
Timed_out:      0          Invalid_word: 0
Rx_flushed:     0          Invalid_crc: 0
Tx_unavail:     0          Delim_err: 0
Free_buffer:    0          Address_err: 0
Overrun:        0          Lr_in:      0
Suspended:      0          Lr_out:     0
Parity_err:     0          Ols_in:    0
2_parity_err:  0          Ols_out:   0
CMI_bus_err:    0

Port part of other ADs: Yes

```

To display IP interfaces on a GbE port:

```

switch:admin> portshow ipif ge0
GE Port 0/ge0
Interface      IP Address      NetMask      MTU
-----
0              192.168.255.20  255.255.255.0  1500
1              192.168.255.21  255.255.255.0  1500
2              192.168.255.22  255.255.255.0  1500
3              192.168.255.23  255.255.255.0  1500
4              192.168.255.28  255.255.255.0  1500
5              192.168.255.26  255.255.255.0  1500
6              192.168.255.27  255.255.255.0  1500

```

To display the connection parameter information on an FCIP tunnel on a GbE port:

```
switch:admin> portshow fcip tunnel gel 0 -params
Port: gel
-----
Tunnel ID 0
Remote IP Addr 192.168.255.200
Local IP Addr 192.168.255.100
Remote WWN Not Configured
Local WWN 10:00:00:05:1e:35:16:b9
Compression on
Fastwrite off
Tape Pipelining off
Uncommitted bandwidth, minimum of 1000 Kbps (0.001000 Gbps)
SACK on
Min Retransmit Time 100
Keepalive Timeout 10
Max Retransmissions 8
Status : Active
Uptime 18 minutes, 36 seconds
FC control traffic TCP connection:
  Local 192.168.255.100:4112, Remote 192.168.255.200:3225
Runtime parameters:
  Send MSS 1448 Bytes
  Sender stats:
    smoothed roundtrip 10 ms, variance 13
    peer advertised window 7499776 Bytes
    negotiated window scale (shift count) 9
    congestion window 99345 Bytes
    slow start threshold 1073725440 Bytes
    operational mode: slow start
    0 packets queued: TCP sequence# NXT(1143470523)
    0 packets in-flight
    Send.Unacknowledged(TCP sequence# 1143470523) recovery:
      retransmit timeout 100 ms, duplicate ACKs 0
      retransmits 0 (max retransmits 8)
    loss recovery: fast retransmits 0, retransmit timeouts 0
  Receiver stats:
    advertised window 7499776 Bytes (max 7499776)
    negotiated window scale (shift count) 9
    0 packets queued: TCP sequence# NXT(3863763167)
    0 out-of-order packets queued (0 lifetime total)

[Output Truncated]
```

To display the connection IPSec information on an FCIP tunnel on a GbE port:

```
switch:admin> portshow fcip tunnel 8/ge0 -ipsec
Port: ge0
-----
Tunnel ID 3
Remote IP Addr 192.175.5.200
Local IP Addr 192.175.5.100
Remote WWN Not Configured
Local WWN 10:00:00:05:1e:37:00:20
Compression off
Fastwrite on
Tape Pipelining on
Uncommitted bandwidth, minimum of 1000 Kbps (0.001000 Gbps)
SACK on
Min Retransmit Time 100
Keepalive Timeout 80
Max Retransmissions 9
Status : Active
Uptime 1 day, 23 hours, 24 minutes, 46 seconds

IKE Policy 7
-----
Authentication Algorithm: MD5
Encryption: 3DES
Perfect Forward Secrecy: off
Diffie-Hellman Group: 1
SA Life (seconds): 200000

IPSec Policy 7
-----
Authentication Algorithm: AES-XCBC
Encryption: 3DES
SA Life (seconds): 1500000

Pre-Shared Key 1234567890123456
```

To display the ARP entries:

```
switch:admin> portshow arp ge0
GE Port 0/ge0
IP Address      Mac Address      Flags
-----
192.168.255.25  00:01:02:03:04:60  Permanent, Resolved,
```

To display IP routes on a GbE port:

```
switch:admin> portshow iproute ge0
GE Port 0/ge0
IP Address      Mask             Gateway          Metric  Flags
-----
192.168.255.0   255.255.255.0   192.168.255.20   0       Interface,
192.168.255.0   255.255.255.0   192.168.255.21   0       Interface,
192.168.255.0   255.255.255.0   192.168.255.22   0       Interface,
192.168.255.0   255.255.255.0   192.168.255.23   0       Interface,
192.168.255.0   255.255.255.0   192.168.255.28   0       Interface,
192.168.255.0   255.255.255.0   192.168.255.26   0       Interface,
192.168.255.0   255.255.255.0   192.168.255.27   0       Interface,
172.16.123.231  255.255.0.0     192.168.255.25   1
```

To display iSCSI Port WWN and Sessions:

```
switch:admin> portshow iscsi 2/ge0
GE Port 2/ge0
Port WWN                Sessions
-----
50:06:06:9e:40:09:a2:00      0
```

See Also [authUtil](#), [portCfg](#), [portCfgLongDistance](#), [portLoginShow](#), [portName](#), [switchShow](#)

supportSave

Saves RASLOG, TRACE, [supportShow](#), core file, FFDC data, and other support information.

Synopsis `supportsave [-n][-c][-u user_name -p password] -h host_ip -d remote_dir [-R]`

Description Use this command to collect RASLOG, TRACE, [supportShow](#), core file, FFDC data and other support information to a remote FTP location. On a dual CP system, the local and remote CP's information will be saved. **SupportShow** information is available on Active and Standby CPs. If no operands are specified, this command goes into interactive mode. To reduce the chance of missing the correct trace dump, [supportSave](#) retrieves old (the existing dump before the command) and new (the dump triggered by the command) trace dumps.

The core files and panic dumps remain on the switch after the command. The FFDC data will be removed after the command.

If there are BP blades installed in the switch, it also retrieves support file (as a .tar.gz file) from each slot.

Operands The operands are as follows:

-c Uses the FTP parameters saved by the command [supportFtp](#). This operand is optional; if omitted, specify the FTP parameters through command line options or interactively. To display the current FTP parameters, run [supportFtp](#) (on a dual-CP system, run [supportFtp](#) on the active CP).

Note

The **-c** operand is mutually exclusive with **-u**, **-p**, **-h**, and **-d**.

-n	Does not prompt for confirmation. This operand is optional; if omitted, you are prompted for confirmation.
-u <i>user_name</i>	Specifies the user name for the FTP server. This operand is optional; if omitted, anonymous FTP is used.
-p <i>password</i>	Specifies the password for the FTP server. This operand is optional; if omitted, anonymous FTP is used.
-h <i>host_ip</i>	Specifies the IP address for the FTP server.
-d <i>remote_dir</i>	Specifies the remote directory for the FTP server.
-R	Removes all core files on the CP and BP. It is exclusive with all other options.

Examples To save RASLOG, TRACE, **supportShow**, and other support information to an FTP server in non-interactive mode:

```
switch:admin> supportsave

This command collects RASLOG, TRACE, supportShow, core file, FFDC data and
other support information and then transfers them to an FTP server. Only
the local CP's and BP's information is saved and supportShow information
is only available on the Active CP. This operation can take several
minutes.

NOTE: supportSave transfers existing trace dump file first, then
automatically generates and transfers the latest one. There will be two trace
dump files transferred after this command.
OK to proceed? (yes, y, no, n): [no]

Host IP: 192.168.1.1

User Name: admin
Password:*****
Remote Directory: tmp

Saving support information for switch:routing1, module:RASLOG...
...Save_files/routing1-S6-200508280151-RASLOG.ss:  28.00 B    9.35 B/s

Saving support information for switch:routing1, module:TRACE_OLD...
..._files/routing1-S6-200508280151-old-tracedump.dmp:  12.00 MB    1.92 MB/s

Saving support information for switch:routing1, module:TRACE_NEW...
..._files/routing1-S6-200508280151-new-tracedump.dmp:  12.00 MB    1.91 MB/s

Saving support information for switch:routing1, module:SUPPORTSHOW...
.....
.....
.....
...rtSave_files/routing1-S6-200508280159-supportShow:  6.36 MB    1.35 MB/s

Saving support information for switch:routing1, module:Zone_Log...
...supportSave_files/routing1-S6-200508280207-Zone_Log.ss:  27.71 kB    9.23 kB/s

Saving support information for switch:swd76, module:Zone_Log...
/tmp/supportSave_files/swd76-S6-200508280207-Zone_Log.ss:  48.16 kB    16.02 kB/s

(continued on next page)
```

```
Saving support information for switch:routing1, module:RCS_Log...
...supportSave_files/routing1-S6-200508280207-RCS_Log.ss:    4.65 kB    1.55 kB/s

Saving support information for switch:swd76, module:RCS_Log...
...supportSave_files/swd76-S6-200508280208-RCS_Log.ss:    9.05 kB    3.02 kB/s

Saving support information for switch:routing1, module:NS_evlog...
.../supportSave_files/routing1-S6-200508280208-NS_evlog.ss:    1.62 kB  551.19 B/s

Saving support information for switch:swd76, module:NS_evlog...
/tmp/supportSave_files/swd76-S6-200508280208-NS_evlog.ss:    2.72 kB  928.95 B/s

Saving support information for switch:routing1, module:FSPF_Log...
...e_files/routing1-S6-200508280208-FSPF_Log.ss:    2.04 kB  694.31 B/s

Saving support information for switch:routing1, module:CORE_FFDC...
No core or FFDC data files found!

Saving support information for switch:routing1, module:CHKCONFIG...
...e_files/routing1-S6-200508280208-CHKCONFIG.ss:    1.04 kB  694.31 B/s

Saving support information for switch:routing1, module:CONSOLE...
...e_files/routing1-S6-200508280208-CONSOLE:    64 kB  694.31 B/s

Saving support information for switch:routing1, module:CHKRPM...
...e_files/routing1-S6-200508280208-CHKRPM.ss:    10.04 kB  694.31 B/s

Saving support information for switch:routing1, module:DIAGLOG...
...rtSave_files/routing1-S6-200508280207-DIAGLOG.ss:    195.34 kB    64.62 kB/s

Saving support information for switch:routing1, module:VARLOGTIME...
/tmp/supportSave_files/routing1-S6-200508280208-VARLOGTIME:    451.00 B    150.55 B/
s

Saving support information for switch:routing1, module:BURNINSTAT...
...ortSave_files/routing1-S6-200508280208-BURNINSTAT:    81.00 B    27.01 B/s

Saving support information for switch:routing1, module:BURNINERR...
...ave_files/routing1-S6-200508280208-BURNINERR.ss:    11.99 kB    3.99 kB/s

Saving support information for switch:routing1, slot 3...
slot 3 support file transfer done

Saving support information for switch:routing1, slot 9...
slot 9 support file transfer done
```

To save RASLOG, TRACE, and [supportShow](#), core file, FFDC data, and other support information to an FTP server in interactive mode on a dual CP system:

```
switch:admin> supportsave
```

This command will collect RASLOG, TRACE, supportShow, core file, FFDC data and other support information and then transfer them to a FTP server. Only the local CP's and BP's information will be saved and supportShow information is only available on the Active CP. This operation can take several minutes.

NOTE: supportSave transfers existing trace dump file first, then automatically generates and transfers the latest one. There will be two trace dump files transferred after this command.

OK to proceed? (yes, y, no, n): [no]

Host IP: 192.168.1.1

User Name: admin

Password:*****

Remote Directory: tmp

Saving support information for switch:routing1, module:RASLOG...

...Save_files/routing1-S6-200508280151-RASLOG.ss: 28.00 B 9.35 B/s

Saving support information for switch:routing1, module:TRACE_OLD...

..._files/routing1-S6-200508280151-old-tracedump.dmp: 12.00 MB 1.92 MB/s

Saving support information for switch:routing1, module:TRACE_NEW...

..._files/routing1-S6-200508280151-new-tracedump.dmp: 12.00 MB 1.91 MB/s

Saving support information for switch:routing1, module:SUPPORTSHOW...

.....

...rtSave_files/routing1-S6-200508280159-supportShow: 6.36 MB 1.35 MB/s

Saving support information for switch:routing1, module:Zone_Log...

...supportSave_files/routing1-S6-200508280207-Zone_Log.ss: 27.71 kB 9.23 kB/

Saving support information for switch:swd76, module:Zone_Log...

/tmp/supportSave_files/swd76-S6-200508280207-Zone_Log.ss: 48.16 kB 16.02 kB/

Saving support information for switch:routing1, module:RCS_Log...

...supportSave_files/routing1-S6-200508280207-RCS_Log.ss: 4.65 kB 1.55 kB/s

Saving support information for switch:swd76, module:RCS_Log...

...supportSave_files/swd76-S6-200508280208-RCS_Log.ss: 9.05 kB 3.02 kB/s

Saving support information for switch:routing1, module:NS_evlog...

.../supportSave_files/routing1-S6-200508280208-NS_evlog.ss: 1.62 kB 551.19 B/s

Saving support information for switch:swd76, module:NS_evlog...

/tmp/supportSave_files/swd76-S6-200508280208-NS_evlog.ss: 2.72 kB 928.95 B/s

(continued on next page)

```
Saving support information for switch:routin1, module:FSPF_Log...
...e_files/routin1-S6-200508280208-FSPF_Log.ss:    2.04 kB  694.31 B/s

Saving support information for switch:routin1, module:CORE_FFDC...
No core or FFDC data files found!

Saving support information for switch:routin1, module:CHKCONFIG...
...e_files/routin1-S6-200508280208-CHKCONFIG.ss:    1.04 kB  694.31 B/s

Saving support information for switch:routin1, module:CONSOLE...
...e_files/routin1-S6-200508280208-CONSOLE:    64 kB  694.31 B/s

Saving support information for switch:routin1, module:CHKRPM...
...e_files/routin1-S6-200508280208-CHKRPM.ss:    10.04 kB  694.31 B/s

Saving support information for switch:routin1, module:DIAGLOG...
...rtSave_files/routin1-S6-200508280207-DIAGLOG.ss:  195.34 kB  64.62 kB/s

Saving support information for switch:routin1, module:VARLOGTIME...
/tmp/supportSave_files/routin1-S6-200508280208-VARLOGTIME: 451.00 B  150.55 B/s

Saving support information for switch:routin1, module:BURNINSTAT...
...ortSave_files/routin1-S6-200508280208-BURNINSTAT:   81.00 B   27.01 B/s

Saving support information for switch:routin1, module:BURNINERR...
...ave_files/routin1-S6-200508280208-BURNINERR.ss:   11.99 kB   3.99 kB/s

Saving support information for switch:routin1, slot 3...
slot 3 support file transfer done

Saving support information for switch:routin1, slot 9...
slot 9 support file transfer done
```

See Also [supportShow](#)

switchBeacon

Sets switch beaconing mode on or off.

Synopsis `switchbeacon [mode]`

Description Use this command to enable or disable switch beaconing mode.

When beaconing mode is turned on, the port LEDs flash amber, left to right and right to left, from port 0 to the highest port number, and then back to port 0. The beaconing mode continues until you turn it off. Beaconing mode can be used to locate a failing unit.

The beaconing LED pattern continues until you turn it off. Beaconing mode takes over the port LEDs. Other commands are still executable and functional. The normal flashing LED pattern (associated with an active, faulty or disabled port for example) is suppressed and only the beaconing pattern is shown. However, if diagnostic frame-based tests (like [portLoopbackTest](#), [crossPortTest](#), and [spinSilk](#)) are executed, two patterns are interleaved. The diagnostic test flickers the LEDs green and the beaconing mode runs the LEDs amber at the same time.

Use the [switchShow](#) command to display the status of beaconing.

Note

The execution of this command is subject to Admin Domain restrictions that may be in place.

Operands This command has the following operand:

mode Specify 1 to enable beacon mode or 0 to disable beacon mode. This operand is optional.

If no operand is specified, the current value is displayed.

Examples To turn beaconing mode on:

```
switch:admin> switchbeacon 1
```

To turn beaconing mode off:

```
switch:admin> switchbeacon 0
```

See Also [switchShow](#)

switchshow

Displays switch and port status.

Synopsis `switchshow [-portcount] [-iscsi]`

Description Use this command to display switch and port status information. Information might vary by switch model: for instance, number of ports and domain ID values.

Note

For all Bloom and Bloom 2-based platforms, private device targets are displayed in `switchShow`. For Condor or Goldeneye-based platforms, private device targets are not displayed in `switchShow`.

The output displays switch summary information followed by port summary information. Switch summary information is as follows:

switchName	The switch's symbolic name.
switchType	The switch's model and revision numbers.
switchState	The switch's state: online, offline, testing, or faulty.
switchMode	The switch's operation mode: native, interop, or Access Gateway.
switchRole	The switch's role: principal, subordinate, or disabled.
switchDomain	The switch's domain ID: 0-31 or 1-239.
switchId	The switch's embedded port D_ID.
switchWwn	The switch's World Wide Name (WWN).
switchBeacon	The switch's beaconing state (on or off).
bladeBeacon	The blade's beaconing state (on or off).
zoning	Displays (in brackets) the name of the active zone when agmode is disabled.
FC Router	The FC Router's state (on or off)
FC Router BB Fabric ID	The backbone fabric ID for FC routing.

The switch summary is followed by one-line description for non-EX_Ports and one or two lines for Ex_Ports:

Area	Part of the 24-bit Address Identifier, which consists of domain, area number, and optional AL_PA. Area column is only displayed for non-slot based platforms.
Index	Index will follow Area up to 255. Then it will continue to the maximum port of the platform. Index is to identify the port number relative to the switch. Index column is only displayed for slot-based platforms.
Slot	Slot number; 1-4 and 7-10.
Port	Port number; 0-15, 0-31 or 0-47.
Address	The 24-bit Address Identifier. Address column is only displayed for slot-based platforms.
Media Type	Media types include:

	--	no module present
	sw	shortwave laser
	lw	longwave laser
	cu	copper
	id	serial ID
Speed		The speed of the port:
	1/8G	125 Mbit/sec
	1/4G	250 Mbit/sec
	1/2G	500 Mbit/sec
	1G	1 Gbit/sec fixed transfer speed
	N1	1 Gbit/sec negotiated transfer speed
	2G	2 Gbit/sec fixed transfer speed
	N2	2 Gbit/sec negotiated transfer speed
	4G	4 Gbit/sec fixed transfer speed
	N4	4 Gbit/sec negotiated transfer speed
	AN	Auto negotiating
	UN	Unknown
Port State		Port state information:
	No_Card	No interface card present.
	No_Module	No module (GBIC or other) present.
	Mod_Val	Module validation in process.
	Mod_Inv	Invalid module.
	No_Light	Module not receiving light.
	No_Sync	Module receiving light but out of sync.
	In_Sync	Module receiving light and in sync.
	Laser_Flt	Module signaling a laser fault.
	Port_Flt	Port marked faulty.
	Diag_Flt	Port failed diagnostics.

	Lock_Ref	Locking to the reference signal.
	Testing	Running diagnostics.
	Offline	Connection not established (for virtual ports only).
	Online	Port is up and running.
Proto		Protocol support by GE port.
	ISCSI	Ports support ISCSI.
	FCIP	Ports support FCIP.
comment		The comment field is blank, or displays:
	Disabled	Port is disabled.
	Bypassed	Port is bypassed (loop only).
	Loopback	Port is in loopback mode.
	E_Port	Fabric port; displays WWN and name of attached switch. If the port is configured as EX_Port, the WWN of the attached switch is the same as the router.
	F_Port	Point-to-point port; displays WWN of attached N_Port.
	G_Port	Point-to-point but not yet E_Port or F_Port.
	L_Port	Loop port; displays number of NL_Ports.
	EX_Port	Router port; displays WWN of the attached edge switch.
	Mirror Port	The port is a mirror port.
	(Trunk master)	Port is the master port in a group of trunking ports.
	(Trunk port, master is port #x)	Port is configured as a trunking port; the master port is port #x.
	(upstream)	E_Port is an upstream path toward the principal switch of the fabric.
	(downstream)	E_Port is a downstream path away from the principal switch of the fabric.
	Persistently Disabled	This port has been disabled using portCfgPersistentDisable .
	FICON Persistent DID	This port has been disabled since the switch could not obtain its configuration domain ID during the fabric reconfiguration when ficonMode was enabled. See ficonMode help page for more information.
	Fabric ID conflict	Two different fabrics have been assigned the same fabric ID (EX_Ports

only).

Fabric ID oversubscribed

One fabric has been assigned two different fabric IDs (EX_Ports only).

If a port is configured as a long distance port, the long distance level is displayed in the format of Lx, where x represents the long distance level number. See **portCfgLongDistance** for the level description.

Note

The port state for disabled E_Ports display as In_Sync when the port is the interswitch link (ISL) between a SilkWorm 48000 and a SilkWorm 24000. If the ISL is between a SilkWorm 48000 and a SilkWorm 4100 or 200E, the disabled E_Port displays as No_Sync.

Operands

The operand is as follows:

- portcount** Causes the **switchShow** command to display the number of ports on the switch.
- iscsi** Causes the **switchShow** command to display the number of ports on the iSCSI sessions associated with GE ports in a switch.

Examples

To display the port count:

```
switch:admin> switchshow -portcount
ports= 64
```

To display GE ports with iSCSI sessions:

```
switch:admin> switchshow -iscsi
Ports of Slot 1  ge0 ge1 ge2 ge3  ge4 ge5 ge6 ge7
-----+-----+-----+-----+-----+-----+-----+-----
Sessions          0  0  0  0      0  0  0  0
```

Note

When a port is configured as an N_Port and is online, **switchShow** displays its type as an N_Port. Also, **switchShow** displays WWN of the of the border switch attached to this N_Port as a 24-bit Port Identifier assigned to this port by the enterprise fabric.

To display switch information:

```

top_4a3_a10:admin> switchshow
switchName:    top_4a3_a10
switchType:    42.1
switchState:   Online
switchMode:    Native
switchRole:    Subordinate
switchDomain:  3
switchId:      fffc03
switchWwn:     10:00:00:60:69:e2:09:be
AD Feature:    Not Active
Current AD:    0
zoning:        ON (bot_cfg)
switchBeacon:  OFF
blade4 Beacon: OFF
blade8 Beacon: OFF
FC Router:     OFF
FC Router BB Fabric ID: 1

Index Slot Port Address Media Speed State      Proto
=====
[output truncated]
 80  8  0  035000  id  N4  Laser_Flt  Disabled (Persistent)
 81  8  1  035100  --  N4  No_Module  Disabled (Persistent)
 82  8  2  035200  --  N4  No_Module  Disabled (Persistent)
 83  8  3  035300  --  N4  No_Module  Disabled (Persistent)
 84  8  4  035400  --  N4  No_Module  Disabled (Persistent)
 85  8  5  035500  --  N4  No_Module  Disabled (Persistent)
 86  8  6  035600  id  N4  No_Light  Disabled (Persistent)
 87  8  7  035700  id  N4  No_Sync  Disabled (Persistent)
 88  8  8  035800  id  N1  Online    F-Port  10:00:00:00:c9:25:3d:43
 89  8  9  035900  id  N2  Online    E-Port  10:00:00:60:69:90:52:a8
"Term_7"
 90  8 10  035a00  --  N4  No_Module  Disabled (Persistent)
 91  8 11  035b00  id  N4  No_Light  Disabled (Persistent)
 92  8 12  035c00  --  N4  No_Module  Disabled (Persistent)
 93  8 13  035d00  --  N4  No_Module  Disabled (Persistent)
 94  8 14  035e00  id  N2  Online    F-Port  10:00:00:00:00:04:00:00
 95  8 15  035f00  id  N2  Online    F-Port  10:00:00:00:00:02:00:00
208  8 16  03d000  --  --  Offline
[output truncated]
216  8 24  03d800  --  --  Online    VE-Port  10:00:00:60:69:e2:0c:00
"bot_4a3_a10" (upstream)
217  8 25  03d900  --  --  Online    VE-Port  10:00:00:60:69:e2:0c:00
"bot_4a3_a10"
218  8 26  03da00  --  --  Online    VE-Port  10:00:00:60:69:e2:0c:00
"bot_4a3_a10"
219  8 27  03db00  --  --  Online    VE-Port  10:00:00:60:69:e2:0c:00
"bot_4a3_a10"
220  8 28  03dc00  --  --  Online    VE-Port  10:00:00:60:69:e2:0c:00
"bot_4a3_a10"
221  8 29  03dd00  --  --  Online    VE-Port  10:00:00:60:69:e2:0c:00
"bot_4a3_a10"
222  8 30  03de00  --  --  Online    VE-Port  10:00:00:60:69:e2:0c:00
"bot_4a3_a10"
223  8 31  03df00  --  --  Online    VE-Port  10:00:00:60:69:e2:0c:00
"bot_4a3_a10"
      8  ge0          id  1G  Online  FCIP
      8  ge1          id  1G  Online  FCIP

```

To display **switchShow** with agmode enabled:

```
switch:admin> switchshow
switchName:      switch
switchType:      34.0
switchState:     Online
switchMode:      Access Gateway Mode
switchWwn:       10:00:00:05:1e:35:10:57
switchBeacon:    OFF

Area Port Media Speed State      Proto
=====
 0  0  id  N2  Online  F-Port  10:00:00:00:c9:3f:7d:4a 0x060702
 1  1  id  N2  Online  F-Port  21:01:00:e0:8b:a8:68:58 0x060701
 2  2  id  N2  Online  F-Port  21:01:00:e0:8b:a8:92:e8 0x060703
 3  3  id  N2  No_Light Disabled (N_Port Login in progress)
 4  4  id  N2  No_Light Disabled (N_Port Login in progress)
 5  5  id  N2  Online  F-Port  21:00:00:e0:8b:88:92:e8 0x060708
 6  6  id  N2  Online  F-Port  21:00:00:e0:8b:88:68:58 0x060709
 7  7  id  N2  No_Light Disabled (N_Port Login in progress)
 8  8  id  N4  No_Light Disabled (N_Port Login in progress)
 9  9  id  N2  Online  F-Port  10:00:00:00:00:02:00:00 0x060706
10 10  id  N2  Online  F-Port  10:00:00:00:00:04:00:00 0x060707
11 11  id  N2  Online  F-Port  10:00:00:00:00:03:00:00 0x060705
```

See Also [portCfgLongDistance](#), [switchDisable](#), [switchEnable](#), [switchName](#)

Commands Deprecated

No commands were deprecated for v5.2.1.

The following commands were deprecated for v5.2.0:

- The **auditShow** command is deprecated in this release. Remove the command and any references to it. Note that equivalent functionality is available using the **auditcfg -show** command.

Updates for 5.2.0

Update the sITest command

Update the supported platform list in the **sITest** command as follows:

The **sITest** command is supported only on SilkWorm 200E, 4012, 4100, and 48000 platforms.

Note that the SilkWorm 4900 is not supported.

Fabric OS Message Reference

The following updates in this chapter are for the *Fabric OS Message Reference*, part number 53-1000242-01.

Replace and update the chapters as described in the following sections:

- [“Updates to the Introduction Chapter”](#) on page 3-2
- [“New Chapter, AG System Messages”](#) on page 3-2

Updates to the *Introduction* Chapter

Add the following row to the System Modules Descriptions table on page 1-15.

AG	Access Gateway mode messages of the Fabric OS.
----	--

New Chapter, AG System Messages

Add a new chapter titled AG System Messages after the Introduction and before the AUTH System Messages; it contains all the new messages for the feature, Brocade Access Gateway mode.

AG-1001

Message

```
<timestamp>, [AG-1001], <sequence-number>,, ERROR, <system-name>,
N_Port <port> is connected to a fabric port that does not support NPIV
```

Probable Cause

Indicates that the fabric port to which Access Gateway is connected does not support NPIV.

Recommended Action

Enable NPIV on the port connected to the Access Gateway using the **portCfgNpivPort** command on the fabric switch. Refer *Fabric OS Command Reference Manual* for more information on this command.

Severity

ERROR

AG-1002

Message

```
<timestamp>, [AG-1002], <sequence-number>,, WARNING, <system-name>,
Unable to find alternate N_Port during fail over for N_Port <port>
```

Probable Cause

Indicates that the F_Ports could not be failed over because no other N_Ports are configured or that the fabric was unstable during the failover attempt.

Recommended Action

Verify whether or not other N_Ports are configured.

If the message persists, run **supportFtp** to set up automatic FTP transfers; then run the **supportSave** command and contact your switch service provider.

Severity

WARNING

AG-1003

Message

```
<timestamp>, [AG-1003], <sequence-number>,, WARNING, <system-name>,
Not able to fail over N_Port <port>. Fail over across different
fabric is not supported.
```

Probable Cause

Indicates that an F_Port could not be failed over to another N_Port because no other N_Ports were connected to the same fabric as N_Port that went offline.

Recommended Action

Connect two or more N_Ports to the same fabric and then enable failover on these N_Ports using the **ag --failoverenable** command.

Severity

WARNING

AG-1004

Message

```
<timestamp>, [AUTH-1004], <sequence-number>,, ERROR, <system-name>,
Invalid response to fabric login (FLOGI) request from the fabric for
N_Port <port>.
```

Probable Cause

Indicates that the fabric sent an invalid response to FLOGI ELS of the specified N_Port.

Recommended Action

Verify the fabric switch's configuration.

If the message persists, run **supportFtp** to set up automatic FTP transfers; then run the **supportSave** command and contact your switch service provider.

Severity

ERROR

AG-1005

Message

```
<timestamp>, [AUTH-1005], <sequence-number>,, WARNING, <system-
name>, FDISC response dropped because F_Port <port> is offline.
```

Probable Cause

Indicates that the F_Port that connects to the host is offline.

Recommended Action

Verify the configuration of the host connected to the specified F_Port.

Severity

WARNING

AG-1006

Message

```
<timestamp>, [AG-1006], <sequence-number>,, WARNING, <system-name>,
FLOGI request was not received from F_Port <port>. Port is being disabled
```

Probable Cause

Indicates that the F_Port that connects to the host did not send FLOGI request for 10 times E_D_TOV. F_Port is disabled.

Recommended Action

Verify the HBA driver configuration of the host connected to the specified F_Port. Access Gateway supports Fabric mode connectivity only.

Check Gigabit Interface Converter (GBIC) and other connecting cables and re-enable the F_Port using the **portEnable** command.

Severity

WARNING

AG-1007

Message

```
<timestamp>, [AG-1007], <sequence-number>,, WARNING, <system-
name>, FLOGI response not received for the N_Port <port> connected
to fabric
```

Probable Cause

Indicates the N_Port which is connected to the fabric switch is not online. The N_Port has been disabled.

Recommended Action

Check the connectivity between the Access Gateway N_Port and the fabric switch port.

Severity

WARNING

AG-1008

Message

```
<timestamp>, [AG-1008], <sequence-number>,, WARNING, <system-name>,
Invalid PLOGI response from the fabric on the N_Port <port>
```

Probable Cause

Indicates that the fabric switch management server did not accept the login (PLOGI) request sent by the Access Gateway from the specified N_Port.

Recommended Action

Verify the configuration on the fabric switch that is connected to the Access Gateway.

If the message persists, run **supportFtp** to set up automatic FTP transfers; then run the **supportSave** command and contact your switch service provider.

Severity

WARNING

AG-1009

Message

```
<timestamp>, [AG-1009], <sequence-number>, , WARNING, <system-name>,
FLOGI sent from N-Port <port> failed
```

Probable Cause

Indicates that the fabric login (FLOGI) request sent to the fabric switch from the Access Gateway failed.

Recommended Action

Verify the configuration of the fabric switch.

If the message persists, run **supportFtp** (as needed) to set up automatic FTP transfers; then run the **supportSave** command and contact your switch service provider.

Severity

WARNING

AG-1010

Message

```
<timestamp>, [AG-1010], <sequence-number>, , WARNING, <system-name>,
PLOGI sent from N-Port <port> failed
```

Probable Cause

Indicates an internal problem with the Secure Fabric OS.

Recommended Action

Verify the configuration of the fabric switch.

If the message persists, run **supportFtp** (as needed) to set up automatic FTP transfers; then run the **supportSave** command and contact your switch service provider.

Severity

WARNING

AG-1011

Message

```
<timestamp>, [AG-1011], <sequence-number>, , WARNING, <system-name>,
FDISC sent from N-Port <port> failed
```

Probable Cause

Indicates that the discover F_Port service parameters (FDISC) request sent to the fabric switch from the Access Gateway failed.

Recommended Action

Verify the configuration of the fabric switch.

If the message persists, run **supportFtp** (as needed) to set up automatic FTP transfers; then run the **supportSave** command and contact your switch service provider.

Severity

WARNING

AG-1012

Message

```
<timestamp>, [AG-1012], <sequence-number>, , WARNING, <system-name>,
FDISC sent from N-Port <port> failed
```

Probable Cause

Indicates that the N_Port logout request sent to the fabric switch from the Access Gateway failed.

Recommended Action

Verify the configuration of the fabric switch.

If the message persists, run **supportFtp** (as needed) to set up automatic FTP transfers; then run the **supportSave** command and contact your switch service provider.

Severity

WARNING

AG-1013

Message

```
<timestamp>, [AG-1013], <sequence-number>, , INFO, <system-name>,
Failing over all F_Ports mapped to N_Port <port> to other N_Port(s)
```

Probable Cause

Indicates that the F_Ports were failed over to another N_Port(s) that is connected to the same fabric.

Recommended Action

Run the **ag --mapshow** command to display the updated F-Port to N-Port mapping.

Severity

INFO

AG-1014

Message

```
<timestamp>, [AG-1014], <sequence-number>, , INFO, <system-name>,
Failing back F_Ports to mapped to N_Port <port>
```

Probable Cause

Indicates that the N_Port is back online and the F_Ports have been failed back to the N_Ports to which they were mapped.

Recommended Action

Run the **ag --mapshow** command to display the updated F-Port to N-Port mapping.

Severity

INFO

Fabric OS MIB Reference

The following updates in this chapter are for the *Fabric OS MIB Reference*, part number 53-1000241-01. Replace and update the content as described in the following sections:

- [“Updates to the Introduction” on page 4-2](#)
- [“Updates to the MIB-II \(RFC1213-MIB\)” on page 4-3](#)
- [“Updates to the FibreAlliance MIB Objects” on page 4-4](#)

Updates to the *Introduction*

Add the “[Using Access Gateway with Brocade MIBs](#)” on page 4-2 of this document to the Introduction chapter on page 1-8 after the *SilkWorm 7500 / FR4-18i and Brocade MIBs* section.

Using Access Gateway with Brocade MIBs

Brocade Access Gateway supports the following MIBs:

Table 4-1 Access Gateway MIB Support

MIB Name	Supported	Description
MIB-2	Yes	Updated to support Access Gateway in v5.2.1.
Entity-MIB	Yes	
HA MIB	Yes	
SW-MIB	No	Disabled in Access Gateway because the conventions are specific to fabric switches.
FA-MIB	Yes	The connUnitSnsTable is not supported because a switch in Access Gateway does support name server services.
FE-MIB	No	Disabled in Access Gateway because the conventions are specific to fabric switches.
CPQ-Rack MIB	Limited	Supported on embedded switches only.

Updates to the *MIB-II (RFC1213-MIB)*

Update the default section of both sysDescr and sysObjectID in the System Groups section on page 2-9, with the following information.

sysDescr 1.3.6.1.2.1.1.1

Default The switch type. The default value is either **Fibre Channel Switch** or **Access Gateway**.

sysObjectID 1.3.6.1.2.1.1.2

Default The device type. The default value is either:

- Fibre Channel Switches:
iso.org.dod.internet.private.enterprises.bcsi.commDev.fibrechannel.fcSwitch.sw
- Brocade Access Gateway:
iso.org.dod.internet.private.enterprises.bcsi.commDev.fibrechannel.fcSwitch.sw

Updates to the *FibreAlliance MIB Objects*

Update the sections below as follows:

- Update the “[connUnitType 1.3.6.1.3.94.1.6.1.3](#)” section on page 8-10.
- Update the “[connUnitProduct 1.3.6.1.3.94.1.6.1.7](#)” section on page 8-11.
- Update the “[connUnitDomainId 1.3.6.1.3.94.1.6.1.11](#)” section on page 8-12.
- Update the “[connUnitPrincipal 1.3.6.1.3.94.1.6.1.13](#)” section on page 8-12.
- Update the “[connUnitInfo 1.3.6.1.3.94.1.6.1.21](#)” section on page 8-14.
- Update the “[connUnitPortIndex 1.3.6.1.3.94.1.10.1.2](#)” section on pages 8-19 through 8-20.
- Update the “[connUnitPortType 1.3.6.1.3.94.1.10.1.3](#)” section on page 8-20.
- Update the “[connUnitPortFCClassCap 1.3.6.1.3.94.1.10.1.4](#)” section on pages 8-20 through 8-21.
- Update the “[connUnitPortFCClassOp 1.3.6.1.3.94.1.10.1.5](#)” section on page 8-21.
- Update the “[connUnitPortFCId 1.3.6.1.3.94.1.10.1.11](#)” section on page 8-23.
- Update the “[connUnitPortNodeWwn 1.3.6.1.3.94.1.10.1.22](#)” section on page 8-27.
- Update the “[connUnitLinkTable 1.3.6.1.3.94.1.12](#)” section on pages 8-30 through 8-31.
- Update the “[connUnitSnsTable 1.3.6.1.3.94.5.2.1](#)” section on page 8-42.

connUnitType 1.3.6.1.3.94.1.6.1.3

The type of this connectivity unit.

Set to 4 for Fibre Channel switches or to 14 for Brocade Access Gateway.

connUnitProduct 1.3.6.1.3.94.1.6.1.7

The connectivity unit vendor's product model name.

This is the same as for sysDescr (set for as many as 79 bytes).

If the switch is in Access Gateway mode, the default value is Access Gateway.

connUnitDomainId 1.3.6.1.3.94.1.6.1.11

24-bit Fibre Channel address ID of this connectivity unit, right-justified with leading 0s if required. If this value is not applicable, return all bits to 1.

Set to the switch domain ID (as per FC-SW).

For a Brocade Access Gateway device, the value is hard coded as "11 11 11". A Brocade Access Gateways does not have a domain ID.

connUnitPrincipal 1.3.6.1.3.94.1.6.1.13

Indicates whether this connectivity unit is the principal unit within the group of fabric elements. If this value is not applicable, it returns “unknown.”

If the switch is principal, this is set to 3 (yes); otherwise, for a fabric switch it is set to 2 (no). For a Brocade Access Gateway device, since the switch is behaving as a device management tool and not a Fibre Channel switch, the value is set to 1 (unknown).

Values Possible values are:

- unknown (1)
- no (2)
- yes (3)

connUnitInfo 1.3.6.1.3.94.1.6.1.21

A display string containing information about this connectivity unit. This object value should be persistent between boots.

For a fabric switch set to sysDescr and read-only.

For a Brocade Access Gateway device set to “Access Gateway.”

connUnitPortIndex 1.3.6.1.3.94.1.10.1.2

Number of physical ports between 0 and *maximum number of system supported ports* in the connectivity unit (internal/embedded, external).

To determine the *maximum number of system supported ports*, use the SNMP GET command on swFcPortCapacity.

Each switch supports 0 to *maximum number of system supported ports*. The maximum number of supported ports is as follows:

Brocade 5000	32 ports
SilkWorm 3200, 3250	8 ports
SilkWorm 4012	12 ports
SilkWorm 200E, 3800, 3850	16 ports
SilkWorm 3900, 4100	32 ports
SilkWorm 4900	64 ports
SilkWorm 7500	32 ports
SilkWorm 12000	128 ports
SilkWorm 24000	128 ports
SilkWorm 48000	256 ports

connUnitPortType 1.3.6.1.3.94.1.10.1.3

The port type.

For EX_Port, VEX_Port and VE_Port, the port type will be shown as other. For a Brocade Access Gateway device, the port type can be either F_Port (f-port) or N_Port (n-port) only.

Values Possible values are:

- unknown (1)
- other (2)
- not-present (3)
- hub-port (4)
- n-port (5) End port for fabric.
- l-port (6) End port for loop.
- fl-port (7) Public loop.
- f-port (8) Fabric port.
- e-port (9) Fabric expansion port.
- g-port (10) Generic fabric port.
- domain-ctl (11) Domain controller.
- hub-controller (12)
- scsi (13) Parallel SCSI port.
- escon (14)
- lan (15)
- wan (16)
- ac (17) AC power line. (Not supported in Fabric OS v2.6.1.)
- dc (18) DC power line. (Not supported in Fabric OS v2.6.1.)
- ssa (19) Serial storage architecture. (Not supported in Fabric OS v2.6.1.)

connUnitPortFCClassCap 1.3.6.1.3.94.1.10.1.4

Bit mask that specifies the classes of service capability of this port. If this is not applicable, return all bits set to 0.

The bits have the following definition:

- unknown 0
- class-f 1
- class-one 2
- class-two 4
- class-three 8
- class-four 16
- class-five 32
- class-six 64

For an F_Port or FL_Port, this value is 0x000C. For a G_Port or E_Port, this value is 0x000D.

For a Brocade Access Gateway, both the F_Port and N_Port this value is 0x0008. An Access Gateway supports class-three services only, therefore the value is 8 for both port types.

connUnitPortFCClassOp 1.3.6.1.3.94.1.10.1.5

Bit mask that specifies the classes of service that are currently operational. If this is not applicable, return all bits set to 0. This object has the same definition as connUnitPortFCClassCap.

For an F_Port or FL_Port, this value is 0x000C. For a G_Port or E_Port, this value is 0x000D.

For a Brocade Access Gateway both the F_Port and N_Port this value is 0x0008. A Brocade Access Gateway supports class-three services only, therefore the value is 8 for both port types.

connUnitPortFCId 1.3.6.1.3.94.1.10.1.11

This is the assigned Fibre Channel ID of this port. This value is expected to be a Big Endian value of 24 bits. If this is a loop, then it is the AL_PA that is connected. If this is an E_Port, then it contains only the domain ID, left justified, 0 filled. If this port does not have a Fibre Channel address, return all bits set to 1.

For an F_Port, this is the Fibre Channel ID to which the connected N_port is assigned. For an FL_Port, this is the Fibre Channel ID of the FL_Port (alpha = 0). For a U or E_Port, this is similar to F_Port.

The FC ID is formatted “DD AA PP” (e.g., “02 00 02”). The Brocade Access Gateway port FC ID differs from a Fibre Channel switch. A Fibre Channel switch port FC ID has the same DD with a different AA value for each link. The Brocade Access Gateway “PP” is the port number for F_Ports and is always zero for N_Ports. Therefore the N_Port FC ID always appears as “DD AA 00” (e.g., “02 00 00”). On a Brocade Access Gateway the FC ID of different ports can have the same “AA” value but different “DD” values and vice versa.

connUnitPortNodeWwn 1.3.6.1.3.94.1.10.1.22

Not supported in Fabric OS v2.6.1.

The node World Wide Name of the port, if applicable; otherwise, an empty string.

All related ports in within a group should have the same node WWN value. The container is defined as the largest physical entity.

All ports on HBAs on a host will have the same node WWN. All ports on the same storage subsystem will have the same node WWN.

This is in IEEE Extended format and the extension contains the internal port number of each port.

The internal port number is 1 less than the port index. For **example**, if the switch has WWN 10:00:00:60:69:10:02:18, then port number 0 and 6 have WWN 20:00:00:60:69:10:02:18 and 20:06:00:60:69:10:02:18, respectively. However, the embedded port has WWN 10:00:00:60:69:10:02:18, the same as the switch.

The N_Ports on a Brocade Access Gateway are the WWN of the switch (i.e., it is the same as the connUnitId). The F_Ports are the WWN of the HBA host. If the F_Port is offline, the value of the WWN is zero (00:00:00:00:00:00:00:00).

connUnitLinkTable 1.3.6.1.3.94.1.12

A list of links known to this agent from this connectivity unit to other connectivity units: X is switch data and Y is other end.

The link table is intended to organize and communicate any information the agent has that might assist a management application to discover the connectivity units in the framework and the topology of their interconnect: the goal is to assist the management application by mapping the elements of the framework in addition to listing them.

With this goal, the agent should include as much as it possesses about any links from its own connectivity units to others, including links among its own units.

An agent should include partial information about links if it is not able to fully define them in accord with the following structure; however, the information must include either a nonzero `connUnitNodeId`—or a nonzero `connUnitPortWwn`—for each end of the link.

If the agent is able to discover links that do not directly attach to members of its agency and its discovery algorithm gives some assurance that the links are recently valid, it might include these links.

Link information entered by administrative action might be included even if not validated directly if the link has at least one endpoint in this agency, but it should not be included otherwise.

A connectivity unit should fill the table in as best it can. One of the methods to fill this in would be to use the RNID ELS command (ANSI document 99-422v0). This command queries a port for the information needed for the link table.

This table is accessed either directly, if the management software has an index value, or using `getNext`. The values of the indexes are not required to be contiguous. Each entry created in this table is assigned an index. This relationship is kept persistent until the entry is removed from the table or the system is reset. The total number of entries is defined by the size of the table.

For an entry to be considered valid, both the X (local) and the Y (remote) values need to have one valid value.

A Brocade Access Gateway has no ISLs (InterSwitch Links); therefore all F_Port and N_Port connections display in `ag --show` for online F_Ports. The following table shows the possible values for F_Ports and N_Ports on a Brocade Access Gateway:

connUnitSnsTable 1.3.6.1.3.94.5.2.1

This table contains an entry for each object registered with this port in the switch.

Implementation of the Connectivity Unit Service Tables group is mandatory for all systems.

A Brocade Access Gateway has no name server information; therefore this table is disabled.

Web Tools Administrator's Guide

The following updates in this chapter are for the *Web Tools Administrators Guide*, part number 53-0000194-01:

- [“Global Changes” on page 5-1](#)
- [“Add Using WebTools on a Brocade Access Gateway” on page 5-2](#)
- [“Replace the Activating Ports Section” on page 5-3](#)

Global Changes

This section explains the global changes required to support hardware specific instructions:

- [“Updates for the Brocade 5000 Switch” on page 5-1](#)
- [“Updates for SilkWorm 4012, 4016, 4018, 4020, and 4024 Switches” on page 5-1](#)

Updates for the Brocade 5000 Switch

Add the Brocade 5000 everywhere that the SilkWorm 4100 switch is mentioned.

Updates for SilkWorm 4012, 4016, 4018, 4020, and 4024 Switches

Add the SilkWorm 4012, 4016, 4018, 4020, and 4024 everywhere that the SilkWorm 200E switch is mentioned,

Add *Using WebTools on a Brocade Access Gateway*

Add the following new section titled “[Using Web Tools on a Brocade Access Gateway](#)” after *Working with Web Tools: Recommendations* on page 2-16.

Using Web Tools on a Brocade Access Gateway

When Access Gateway mode is enabled on switches managed through Web Tools, only a limited subset of menus and options related to device management are available. A switch in Access Gateway mode is considered a device management tool and not a fabric switch, therefore all fabric related options are disabled.

Replace the *Activating Ports* Section

Replace the “[Activating Ports](#)” section beginning on page 5-12.

Activating Ports

Brocade switches come with a preset number of ports enabled. Additional ports can be enabled using the Ports on Demand licenses and the Dynamic Ports on Demand feature (for supported switches only).

Ports on Demand is ready to be unlocked in the switch firmware. Its license might be part of the licensed Paper Pack supplied with switch software, or you can purchase the license separately from your switch vendor, who will provide you with a key to unlock it. You can install up to two Ports on Demand licenses on each switch.

[Table 5-1](#) shows the ports that are enabled by default and the ports that can be enabled after you install the first and second Ports on Demand licenses for each switch type, and the ports that can be enabled with the Dynamic PODs feature.

Table 5-1 Ports Enabled with POD Licenses and DPOD Feature

Switch Name	Enabled by Default	Enabled with Ports on Demand License(s)	Enabled with the Dynamic Ports on Demand Feature
SilkWorm 200E	0-7	8-11 12-15	Not supported
Brocade 5000 SilkWorm 4100	0-15	16-23 24-31	Not supported
SilkWorm 4016	0-7, 10-13	8, 9, 14, 15	Any available ports
SilkWorm 4018	2-11	12-17	Any available ports
SilkWorm 4020	0-7, 15, 16	8, 9, 17-19 10-14	Any available ports
SilkWorm 4024	1-8, 17-20	9-12, 21, 22 0, 13-16, 23	Any available ports
SilkWorm 4900	0-31	32-47 48-63	Not supported

For the SilkWorm 4018, 4016, 4020, and 4024 switches *only*, you can use the Dynamic Ports on Demand (DPOD) feature, which allows you to choose which ports to enable (instead of predefined sets of ports) after the POD license(s) is installed. Web Tools allows you only to enable or disable the DPOD functionality on a port. To configure DPOD, see the *Fabric OS Administrator's Guide*.

In the Port Management module, the *Licensed* attribute indicates whether a port is licensed (yes), whether it can be license (possible) because there are free licenses available (only applicable with the Dynamic POD feature), or whether it is not licensed and cannot be licensed because there is no available license.

After the license keys are installed, you must enable the ports. You can do so without disrupting switch operation, as described in “[Enabling and Disabling a Port](#)” on page 5-9. Alternatively, you can disable and reenble the switch to activate all ports as described in “[Enabling and Disabling a Switch](#)” on page 3-7.

To unlock a Ports on Demand license, you can use the supplied license key or generate a license key. If you need to generate a key, launch an Internet browser and go to the Brocade Web site at www.brocade.com. Click **Products > Software License Keys** and follow the instructions to generate the key.

To enable Ports on Demand

1. Install the Brocade Ports on Demand licensed product. For instructions, see [“Activating a License on a Switch”](#) on page 3-15.
2. Enable the ports as described in [“Enabling and Disabling a Port”](#) on page 5-9.

If you remove a Ports on Demand License, the licensed ports will become disabled after the next platform reboot or the next port deactivation.

To enable Dynamic Ports on Demand

You must be logged in as Admin to enable or disable the Dynamic PODs feature.

Note

The Dynamic PODs feature is supported on the SilkWorm 4018, 4020, and 4024 switches only. If you click the **Enable DPOD** button on an unsupported switch, an error message displays.

1. Click a port in the Switch View to launch the Port Management module (see [Figure 5-1 on page 5-5](#)).
2. Click the **FC Ports** or **GigE Ports** tab.
3. Click the switch or the slot that contains the port in the tree on the left side of the window.
4. Click the **Enable DPOD** button to enable the licensing mechanism to be dynamic. If the button says **Disable DPOD**, the licensing mechanism is already set to dynamic.

The existing POD associations and assignments are set as the initial Dynamic POD associations.

Two fields are displayed (see callout 2 in Figure 5-1) :

- Available Licenses indicate the number of free licenses. These can be allocated for any port.
- Total Licenses indicate the total number of licenses.

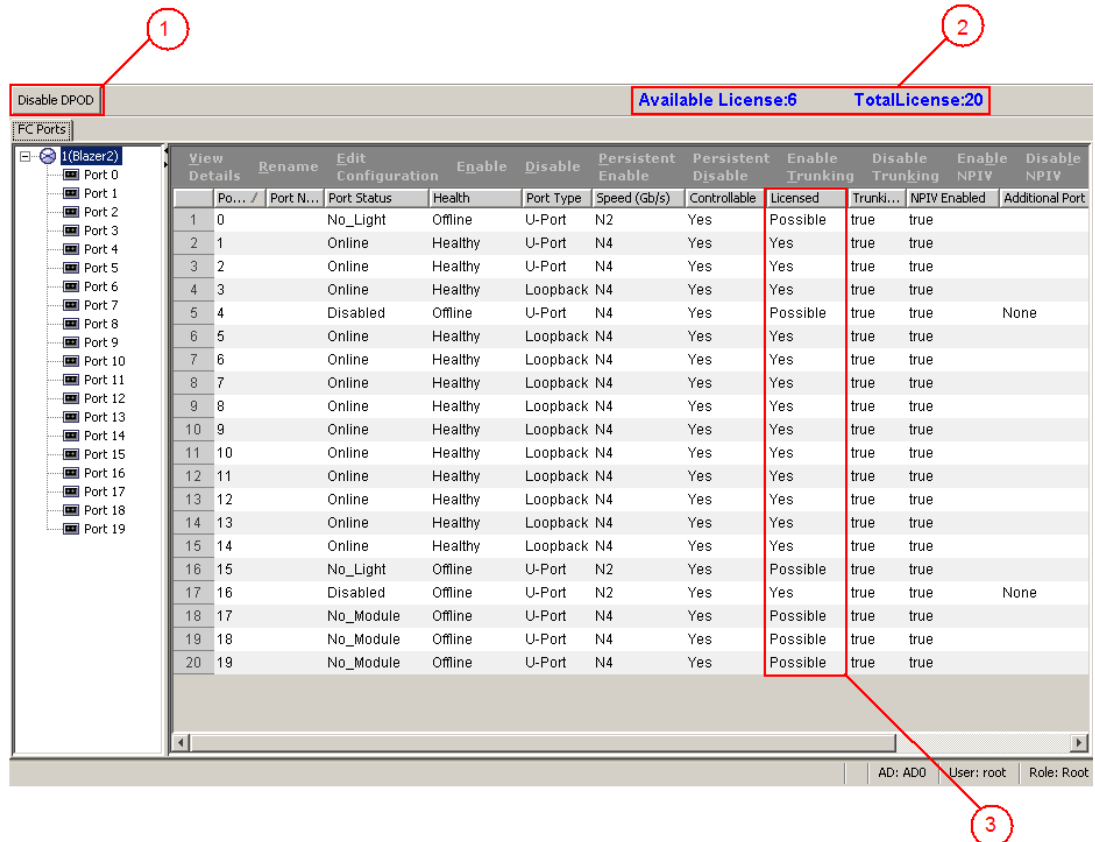


Figure 5-1 Enabling and disabling Dynamic Ports on Demand

To disable Dynamic Ports on Demand

Note

Disabling DPODs causes traffic disruption. Any prior port associations and assignments are lost the next time the switch is rebooted.

You must be logged in as Admin to enable or disable the Dynamic PODs feature.

1. Click a port in the Switch View to launch the Port Management module (see Figure 5-1 on page 5-5).
2. Click the **FC Ports** or **GigE Ports** tab.
3. Click the switch or the slot that contains the port in the tree on the left side of the window.
4. Click the **Disable DPOD** button (see callout 1 in Figure 5-1) to set the licensing mechanism to static. If the button displays Enable DPOD, the licensing mechanism is already set to static.

Reserving and Releasing Licenses On a Port Basis

You must be logged in as Admin to reserve and release licenses.

Note

If the Admin Domains feature is enabled, the Dynamic POD configuration is only applied to the ports if the switch is a member of the current Admin Domain.

The Dynamic PODs feature is supported on the SilkWorm 4018, 4020, and 4024 switches only.

You must disable the port or switch before reserving or releasing a license.

1. Click a port in the Switch View to launch the Port Management module (see Figure 5-1 on page 5-2).
2. Click the **FC Ports** or **GigE Ports** tab.
3. Click the switch or the slot that contains the port in the tree on the left side of the window. The License column identifies the port license status (see callout 3 in Figure 5-1):
 - If the port has a license allocated, the License field displays “Yes.”
 - If the port does not have a license allocated and there are no free licenses that can be allocated, the License field displays “No.”
 - If the port does not have a license allocated and there are licenses that can be allocated to the port, the License field displays “Possible.”

You can reserve or release a license on any port that has a license allocated.

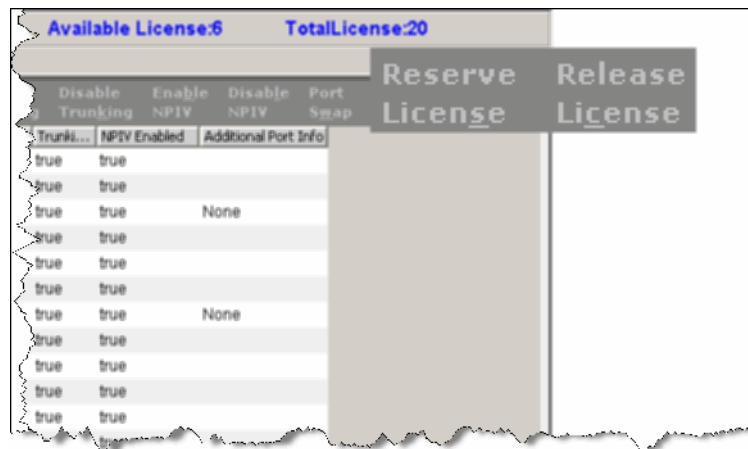


Figure 5-2 Reserving and Releasing Port Licenses

To reserve a license, click **Reserve License** in the Port Management Module (see Figure 5-2).

To release a license, click **Release License** in the Port Management Module (see Figure 5-2).

iSCSI Administrator's Guide

The following updates in this chapter are for the *iSCSI Administrators Guide*, part number 53-1000412-01.

Replace *iSCSI Target Gateway Scalability Guidelines* Table

On page A-1, replace the iSCSI Target Gateway Scalability Guidelines table with the following table.

Table A-1 iSCSI target gateway scalability guidelines

Object	Maximum
# iSCSI sessions per port	64
# iSCSI ports per FC4-16IP blade	8
# iSCSI blades in a switch	4
# iSCSI sessions per FC4-16IP blade	512
# iSCSI sessions per switch	1024
# TCP connections per switch	1024
# TCP connections per iSCSI session	2
# iSCSI sessions per fabric	4096
# TCP connections per fabric	4096
# iSCSI targets per fabric	4096
# CHAP entries per fabric	4096
# LUNs per iSCSI target	256
# Members per discovery domain	64
# Discovery domains per discovery domain set	4096
# Discovery domain sets	4

- On page 3-3, add the following sentence to the note:
The **fcLunQuery** command only gets addresses from targets that support the **ReportLuns** command.

Read Me First—SilkWorm 200E QuickStart Guide

The following updates in this chapter are for the *Read Me First—SilkWorm 200E QuickStart Guide*, part number 53-1000250-01.

Update the *Accessory Kit List*

- At the bottom of page 1, the list of items from the accessory kit that came with the switch is incorrect. Replace this list with the following:

These items are from the accessory kit that came with the switch:

- EZSwitchSetup CD, which includes a small mylar port ID label you can affix to the switch for Fixed Zoning
- Rubber mounting feet (use if you are planning to use the SilkWorm 200E as a standalone unit)
- One grounded 6 ft (2 m) power cord
- One RS-232 serial port, using a DB-9 connector
- SFP optical transceivers (if they were ordered with the switch)

